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"WHY DO CHILDREN SKIP?" – PLAY AS AN EVOLUTIONARY SURVIVAL PROCESS



A few years ago, I was working in a nursery setting when I witnessed a young child running up to the nursery with his hood over his head pretending to be Batman. The sheer joyful, exuberance of the child superhero was a wonderful thing to observe. At this point the child's mum shouted, "*Get that off your head you'll mess your hair up!*"

At what point did we start prioritising nice hair over play? When did our society forget the wonderful joy of simply being a superhero with a coat hood? Perhaps more importantly, why did that parent not realise that her child was engaged in one of the most powerful developmental processes he would ever experience?

Now, I am not blaming the parent in this example. Very few people truly recognise just how vital play is for our children and, in fact, our society as a whole seems to undervalue play. In order to understand why play is so essential for our children we first need to ask some very important questions. Some of the questions may seem quite odd but once we understand these simple concepts, we begin to paint the most incredible picture of the power of play.

So, what is play for anyway?

One of the first questions we need to ask when trying to understand play is, "*Why do children skip?*". Ok so go with this for a moment. Seriously, why do they skip?

When you think about it, walking is the most effective and efficient means of movement for humans. There is an innate drive from birth to get children from the vulnerable, barely being able to move at all stage, through the highly inefficient crawling stage to competently walking. Young children are clearly more vulnerable than adults, so from an evolutionary perspective it makes sense for them to develop the ability to move efficiently as a matter of priority. Anyone working with younger children will see this incredible drive and the intense effort it takes for children to finally learn to walk. Once children are able to walk, they discard crawling as a means of movement because it is woefully inefficient and potentially very slow (try it for yourself sometime). Now obviously there are going to be times when walking is not fast enough, so pretty soon children move on to running. Toddlers will exhibit the half run, half "controlled fall" type of movement until they fully master running. So now we have fully developed two modes of movement that are perfectly efficient ways for our bodies to get from A to B. We have discarded all of the less efficient methods of moving (crawling, shuffling on bottoms, etc.) and are now complete as a human being. Job done. Why then do most children, without any adult telling them what to do, suddenly begin to skip?

Skipping is far less efficient than running or walking. It takes up more energy per step than walking and cannot approach the speed of running. On the surface it would seem like an utterly pointless (and quite silly) behaviour, especially as all previous ineffective movements have been abandoned as the child matures. Why would any rational person suddenly start using a pointless and inefficient type of movement? As a developmental step it makes no sense at all.

Can you imagine any human using skipping to escape from genuine danger?

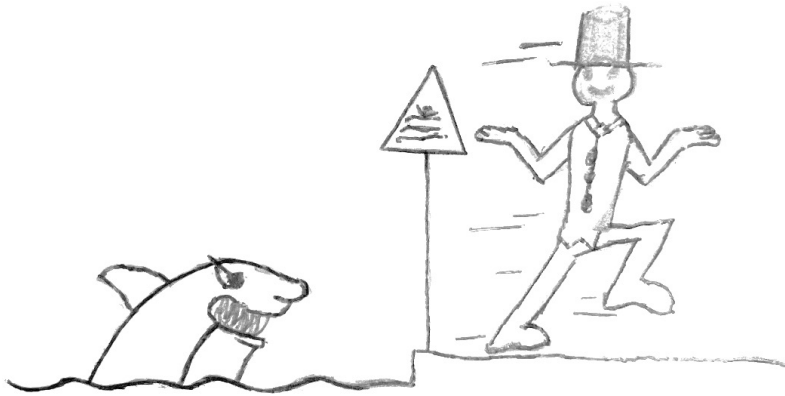


Figure 1.1 An adult skipping away from a shark drawn by F

The answer to this question teaches us the first important lesson about play. It would be easy to dismiss the answer as simply, “because it is fun”. Whilst this is obviously true it misses one of the most important points about the role of play.

If you observe a child skipping you will see that, beyond the big grin on their face, what makes the movement so inefficient is the additional jump on each step. The double jump renders the movement more difficult and consequently less effective. However, that double jump also makes the movement far better at building bone density in the child’s limbs. The bone density a child needs for becoming a healthy adult is formed during childhood and so if a child skips (or does other similar silly things) they will have stronger healthier bones in adult life. This can potentially prevent illnesses such as osteoporosis maybe 40 or 50 years later. Bone density is a key factor in life expectancy and intrinsically important for our adult health.

Skipping is not just about building bones though. The inefficient double jump is also making the cardiovascular system and respiratory system work harder, so the child is building and strengthening the heart and lungs they will need all the way through their adult life. Once again, a strong heart is intrinsically linked to life expectancy. Heart disease is one of the biggest killers in the UK and the healthy heart we need to survive as adults is built in childhood.

A strong respiratory system is the best defence against respiratory illness and airborne viruses and is another crucial aspect of life expectancy. Once again, we build our respiratory system in childhood. There are no second chances and our adult health and even life expectancy depend on the strong, healthy body that we build in our childhood through playful experiences like skipping.

It appears that this seemingly pointless behaviour is giving a child three essential aspects of life expectancy and an increased potential for lifelong physical health.

It cannot be merely a coincidence that children instinctively move in ways that are so counterintuitive and yet so beneficial for their physical development and health. Indeed, when we begin to look at the neuroscience of play, we see that far

from a coincidence it is the fundamental reason for the behaviour in the first place. We also begin to realise "fun" is not the cause of the skipping but merely a symptom of that wonderful behaviour.

Humans are not the only ones to enjoy play

Which brings us nicely on to another question. "If play is frivolous, as many people believe, why do all mammals play?"

So, we all know that mammals play. Anyone who has owned a dog or a cat will tell you that mammals play a lot, often when we least expect or even want them to. This seems like a good time then to introduce the latest addition to my family. I had never owned a dog, nor ever wanted to own a dog, but gradually over the years my resistance has been worn down and so finally last year I agreed to a puppy. For reasons that I won't go into here we decided to go for a half Border Collie, half Labrador cross-breed, affectionately known as a Borador. According to various websites Boradors are an ideal family dog combining the playful energy and intelligence of the Collie with the loyal obedience of the Labrador. The websites lied. He is a one dog force of nature, a whirlwind of destruction and quite possibly one of the four horsemen of the apocalypse. Introducing Marley the Borador.

What makes him so challenging? The fact is he appears to be completely controlled by two very basic drives. The drive to eat everything and the urge to play. When I say he will eat everything I don't mean "don't leave that sandwich unattended"; I mean he will eat the plaster off the walls if you let him. At time of writing



Figure 1.2

he has eaten two computer mice, a keyboard, three TV remotes, several shoes, a sleeping bag and a chair. When he is not eating, he wants to play. Every waking minute of every day he wants to play. Play for Marley involves running, chasing, pulling and shredding. He loves to chase balls or frisbees but won't bring them back to be thrown again. He loves rough and tumble play such as leaping on top of his family and wrestling with them. He loves biting. This last one is interesting. It was something that unnerved me at first, having no previous experience of owning dogs. He is not a small dog and appears quite terrifying when he is bearing down on you preparing to bite you. I initially worried that he was going to hurt a family member but then I realised something. Dogs have a bite force considerably stronger than a human, and even a puppy could bite with enough force to seriously injure us. And yet a Marley bite never breaks the skin. He bites with exactly enough force to apply firm pressure and a healthy dose of slobber.

Tickling rats unlocks the secrets of play?

This links into the work of a really interesting neuroscientist called Jaak Panksepp. Jaak had one of the best nicknames of any scientist ever, which was, "The Rat Tickler". He was fascinated by the fundamental drives and emotions that all mammals seem to share. Experimenting with young rats in his laboratory he observed play behaviours just like our dog Marley, wrestling and tussling, rolling over each other and running about. He then noticed similarities to the play enjoyed by his own children. He found that by tickling his rats he could elicit a positive response just like in his own children. Hence the nickname "The Rat Tickler" because it turns out rats enjoy a good tickle just like children and can even be heard to "giggle" if you listen with a special microphone.

According to Jaak, this behaviour, which is shared with all mammals, throws up another interesting question. The play behaviour itself could potentially make a mammal more vulnerable to predators. The rats who are tussling and wrestling are considerably less attentive to their surroundings and consequently more vulnerable. Why then are play behaviours so universal in all mammals if they pose a clear risk to survival? Our current understanding of evolution is pretty brutal. Behaviours that do not promote survival or in this case actively cause vulnerabilities quickly die out. Play as a behaviour has not only persisted over the last 200 million (ish) years that mammals have been on the planet but has actively thrived. Indeed, in Jaak Panksepp's experiments, rats that played lived longer than rats that did not.

Even more interesting was what happened when Jaak placed a female rat in a cage with two male rats, one of which had had lots of play and the other who had not. The female rat almost always chose the playful rat as a mate showing that playful behaviours were not only of benefit to the current generation of rats but desirable as a trait for future generations. In short, playful rats are sexier than non-playful ones! (Who knew?)

Now, as a play specialist this has never seemed to work in my favour but that's a different story. The fact is that all of these observations add up to an incredibly compelling argument for play. Why has play remained ingrained in mammal

behaviour over countless generations despite potentially creating short-term vulnerabilities? There is only one answer that fits, only one answer to explain why this odd, frivolous and sometimes silly behaviour is one of the most important behaviours that mammals (including humans) ever take part in. Play *MUST* have an evolutionary survival function that is so powerful it outweighs the short-term vulnerability it creates. Play is a fundamental biological imperative to turn vulnerable young organisms into strong healthy adults. It is an instinctive behaviour that “trains” young mammals in everything they need to survive in a hostile world.

So, when Marley bites us, or shreds yet another tea-towel or chases my children around the garden he is doing everything he needs in order to train and develop his growing body. He is developing the speed, stamina, balance, cardiovascular system, control and dexterity he needs to survive. When my cats (they are a whole different problem!) race up and down stairs at 2 a.m. they are training for hunting, evading other predators and finely honing their skills for survival. When a human child kicks a ball, climbs a tree or rolls down a hill they are doing exactly the same as Jaak Panksepp’s rats. They are building the strong healthy body and brain they need to survive and just like Jaak’s rats this could potentially have a direct effect on their life expectancy.

Now don’t get me wrong. I’m not saying that the only function of play is survival. There are after all several more chapters in this book where we will discuss other incredible and uniquely human functions of play. But as a starting point we need to understand play as a fundamental drive, innate in all mammals to help them survive. It is an essential developmental process, a biological imperative that is intrinsically linked to long-term health and life expectancy. In short, it is a fundamental building block for survival. Once we accept this as the starting point on our journey into play, we begin to see just how catastrophic it is when we restrict this process in our children and how vehemently we need to argue the case for play against those in our society who don’t value it. Without being melodramatic, if you have a school lunchtime where skipping, handstands and even in some cases running (I kid you not!) are banned, you are potentially reducing a child’s capacity for long-term bone health, heart health and even life expectancy, all in the name of short-term health and safety.

Daisy chains stop play...

There are schools in the UK that have now banned “running” at playtime. I don’t mean running with scissors or chainsaws, just simple running. This is restricting a fundamental urge in children that is intrinsically linked to health and well-being. I once worked in a school where they took this to the extreme and actually banned making daisy chains at lunchtime. The Head was convinced that dogs might have potentially urinated on the daisies causing instant death to all children who touched them. It is a well-known fact that millions of children die every year from “Daisy chain-related death” and if you could spare just £3 a month to help those poor children...

So, where does play sit in the brain?

The fact that Marley already knows the difference between “play” biting and real biting is due to the fact that he has been instinctively practising with those behaviours almost since birth. The key word here is “instinctive”. The rats in Jaak’s laboratories didn’t seem to be consciously aware they were playing (they are rats after all!), they just seemed to do it. On observing his rats, Jaak was therefore very keen to find out exactly where in the brain that urge to play sits. Now just to be clear, I am not condoning animal testing and find some of these experiments horrible. However, Jaak further experimented with his playful rats and by surgically disconnecting areas of rats’ brains he determined that play was not in the conscious upper brain but in a much more primitive system called the limbic system.

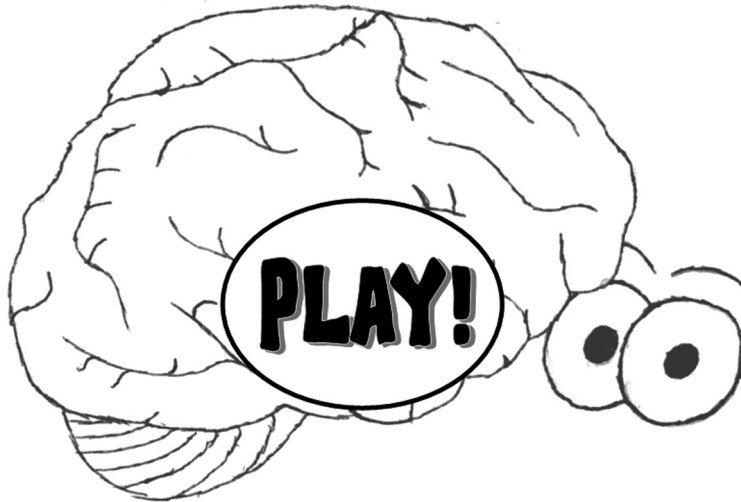


Figure 1.3 The limbic system

The limbic system is a collection of structures in the mid to lower brain that are responsible for a wide range of functions. Typically, they are involved in instinctive behaviours rather than conscious thought and are responsible for basic emotions and drives such as fear (more of that later) and also long-term memory. The limbic system is sometimes called the Paleomammalian cortex or the “mammal brain” because these structures are shared with all mammals. The urge to play is therefore an instinctive drive in the same part of our brain as other primal drives such as eating, sleeping and sex.

The knowledge of where play sits in the brain has huge significance for anyone working with children and is extremely important when it comes to understanding behaviour. Once again, the word “instinctive” becomes key. Play behaviours are not

upper brain, conscious thought-based drives - *"Oh, I see Jessica over there, I must go and play to improve my life expectancy!"*. Play urges are instantaneous, instinctive drives to do whatever seems most developmentally appropriate at any given time. They are also directly influenced by the environment. Different play behaviours are intrinsically linked to the environments that inspire them. This is massively important in terms of how we create enriched play environments for our children. The simplest example is space. If a child is in a large field their most obvious instinctive play behaviour would be to run. A slight hill might inspire rolling, a tree or any kind of obstacle would instinctively promote climbing. If you walk past a low wall on your way to nursery, chances are the child will want to walk along that wall to develop their balance. At no point is there too much in the way of conscious thought.

Balance is crucial for survival, our inner ear needs calibrating in early childhood to ensure we have good balance because without it we would be more susceptible to injuries. What does almost every child do to ensure they develop strong balance? They instinctively spin round until they feel dizzy and fall over. Marley inexplicably spins round with a death grip on his arch nemesis, his tail, for precisely the same reason. Children (and puppies) can afford to practise with balance because they are so much lower to the ground and sustain significantly less (if any) injury from falling. They also have more flexible bones than adults so are ideally suited to doing "practice" movements with a potential for falling because the danger is considerably less. When you are an adult falling hurts. However, if you have practised falling through play as a child you are able to mitigate some of that damage because you now know how to fall more safely. All of this from an instinctive behaviour that many adults dismiss as frivolous and often restrict?

Restricting the limbic system

This is the obvious problem. If adults do not see the inestimable value of those instinctive behaviours, they may restrict them. A child will instinctively run in an open space until an adult tells them to slow down. A child will instinctively climb, jump or roll until an adult tells them it is dangerous, or silly or not proper learning, or a hundred other adult reasons to restrict play. A child will instinctively test their limits until an adult tells them they will hurt themselves. The child will learn, but they will learn the adult's limits not their own.

Finding your own limits and testing your abilities through play

My son as a 4-year-old liked to jump off steps. He would start on the first step and then work his way up. This is a vital risk management technique that allows a child to find their limits and then push those limits as they develop their skill and confidence.

When he got to the fifth step, I had serious misgivings about his safety and was about to stop him jumping when I realised that I needed to be very careful how I restricted him in this essential process. I decided to let him attempt one more jump. He jumped off the fifth step, landed, wobbled and then said, "I'll leave it there now" and then wandered off to do something else. Had I stopped him he would have been working to my limits and have no idea of his own. That one extra jump allowed him to discover his own limits and then move on. Now I know we have to keep the safety of our children as a priority, but we also need to balance their safety with essential development and just use a little common sense. More of this in a later chapter!

A good example of the instinctive nature of play is if a child finds themselves in a long thin space their instinct is to run because their limbic system needs them to build their speed, strength, stamina, etc. The problem arises in school because the best long thin spaces for running just happen to be corridors. If you observe any school corridor for long enough you will see further proof of the instinctive nature of play. At some point, at least one child (probably several) will do the "run-walk". The "run-walk" is that unique movement when a child attempts to run whilst appearing to walk. This odd stiff-legged movement is not to be confused with the "walk-run" which is when older adults run at the same speed as walking to give the illusion they are "hurrying"- notably when crossing roads!

This unique movement is a clear indication of conflict in the brain. The limbic system is urging the child to run whilst the upper brain, the more conscious brain, is telling the child that a grown-up has told them not to. The result is an odd movement somewhere in between. Some children are able to resist these limbic system urges and walk in corridors. Others simply can't. There are children who are reprimanded on a daily basis for running in corridors. Some children even become labelled as "badly behaved" for their inability to resist the urge to play. This is not negative behaviour but simply acting on the urges of their limbic system and being thwarted by an adult-based agenda that the millions of years-old limbic system has no concept of.

As a child I got the cane for running in a corridor. I know this shows how old I am, but I still remember the injustice of it. Being honest I did run into the deputy head's belly at speed, but it still feels unfair!

Restricting play as a punishment?



One of the ways some schools deal with this kind of behaviour is to place sanctions such as keeping a child in at break. Hopefully, you are beginning to see now how potentially damaging this is. A child who is trying to act on limbic system urges is now being further restricted by losing the one time when they could potentially act on those urges legitimately. This will not improve a child's behaviour and may be emotionally and developmentally damaging.

I understand the need to stop children running in corridors. I realise that children need to learn when it is appropriate to act on their limbic system and when it is not and there are always going to be genuine reasons to restrict children's play. Running and shouting with joy are wonderful childhood behaviours but not appropriate at a funeral for instance. The problem is that as a society we seem to have gone too far in restricting these vital instincts. It wouldn't matter that children can't run in a primary school corridor if their lunchtime was a vibrant time of exploration and freedom with free play being supported rather than restricted. It wouldn't matter that we don't let a 3-year-old climb on the furniture if there was a wide range of other things for them to climb or test themselves. The truth is that for many children this is no longer the case. Children are stumbling from one adult-based restriction to the next with the limbic system utterly thwarted for increasingly long periods of time. This is catastrophic for our current generation of children. The times when a child is able to play freely within an enriched environment, where they can freely explore and test their limits are becoming increasingly less. Correspondingly, those opportunities for building life-long health and even life expectancy have decreased massively for our children leaving us in a very precarious situation where children are statistically likely to have weaker bones, poorer cardiovascular systems and potentially shorter life expectancy than previous recent generations.

The incredible biochemistry of play

Now we are getting to the most fascinating aspect of that primal, limbic system urge to play. Think about other limbic system drives. Think about food for instance. Go on, imagine yourself eating your favourite cake or crisps. When you eat a bar of chocolate, or a curry or pizza it feels good. We don't question it - it just feels good. Why does food feel so good though? Quite simply because eating is a biological imperative that we need to survive. It is an all-consuming drive without which we would die. And the reason it feels so good is because the limbic system rewards us with a huge hit of positive biochemicals that make us feel great. Every similar survival process in the brain is rewarded by a whole cocktail of biochemicals simply to make us repeat that behaviour. And remember the urge to play is in the same part of the brain as food and sex.

So, what does this mean for our children? It means that when a child plays freely, they are fulfilling a fundamental biological imperative and are being rewarded with the most potent mix of biochemicals. Several potent biochemicals including benzodiazepines (of which Valium is an example) are produced naturally in a child's brain when they play. This means something really important about play. It means that when our children are running in the corridors, rolling down a hill or a hundred other play experiences, they can become literally stoned on play. This is not meant as a joke or an exaggeration. The biochemicals associated with play contain prescription-grade drugs that actually have a street value. Benzodiazepines are prescribed by doctors for anxiety, so if you were to squeeze children out and bottle those chemicals you could make a fortune selling on the black market. (Please never try this!)

The benefit of that cocktail of biochemicals is inestimable to the emotional well-being of our children and the problem is that we don't know how many of those chemicals (if any) are produced by sedentary behaviours such as watching screens. At time of writing the average screen time for a child in the UK was 7 hours a day. That represents a massive decline in those instinctive play behaviours and a corresponding decrease in the positive biochemicals produced. It is no coincidence that currently the mental health of our children is also declining.

Play - A powerful all-consuming drive



You would think that the urge to eat would take precedence as a survival trait, but how many times have we all witnessed children "forgetting" to come for lunch because they are so caught up in playing. When Marley steals yet another cushion, even his favourite treats will not coax him to release it because being chased around the garden is more important at that point than food. This anecdotally suggests that in the short term the drive to play is more powerful even than eating when it comes to the future survival of mammalian organisms. Obviously, as children become more hungry the urge to eat will reassert itself but the all-consuming urge to play is incredibly powerful.

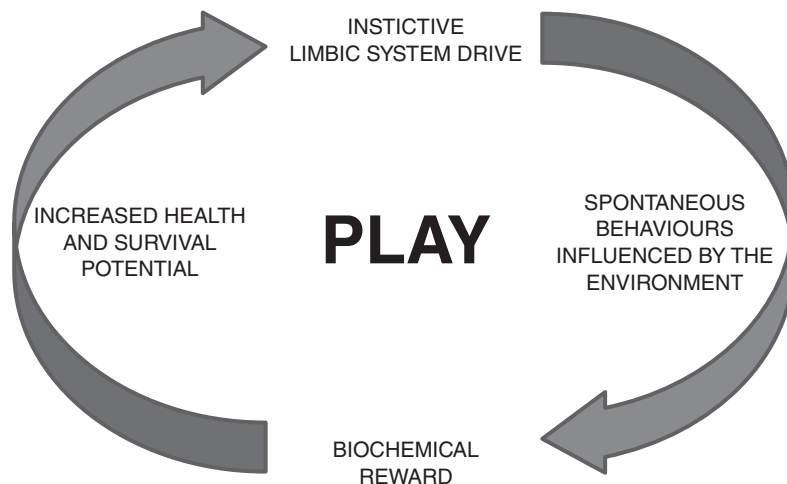


Figure 1.4

So, what does this look like in practice?

First, let's all make a point to prioritise play even more. Its apparently frivolous and unproductive nature means that it sometimes falls between the cracks especially in the face of learning outcomes and frameworks.

Two fascinating and utterly legendary play theorists, Gordon Sturrock and Perry Else, came up with a range of terminology to describe the process of play. Amongst other useful phrases, they came up with the term “Ludocentric”. “Ludo” means play and centric means “a priority” so any setting that takes deliberate steps to prioritise play is following a ludocentric approach.

The ludocentric approach can be profound and life-changing

I have a team of staff who work with vulnerable children across the UK. We work with children that have been through trauma, abuse and bereavement. We use the ludocentric approach as our fundamental pedagogy not because we believe it is a good way to support those children but because we believe it is the ONLY way to support children who have been through heart-breaking trauma to gain something of their childhood back and begin to heal.

A few years ago, I was working with a group of young children who had been through pretty severe trauma. These were children with very insecure attachments who had experienced a great deal of anxiety in their short lives. I am sure you can imagine the way these children looked at adults. The only way I can describe it is that their faces looked as if they had had such frightening experiences of adults that they were automatically expecting bad things to happen to them. Then we put on masks and superhero capes and ran around the outdoor area. No rules, no adult telling us what to do, just freely chosen joyful movements. The children became fascinated by the way their capes billowed in the wind as they ran. They began to smile and one child even laughed. He then immediately began to cough violently. After we had helped the child his social worker suggested that he had probably never laughed before. He was experiencing something through play that he had not experienced in any other aspect of his life.

Children need time, space and supportive adults to act freely on their play impulses. Make a point of talking about play at staff meetings and shift the focus from other adult-led agenda. Look at the times when play is restricted and ask ourselves does it really need to be restricted?

Look at our environment and remember that it will directly influence those instinctive play behaviours. Are our environments enriched (more on that later) and offer lots of opportunities for spontaneous play or are they static and uninspiring? Do we have a fantastic hill for rolling down, but children are not allowed to do so (or tree for climbing or puddles for splashing, etc)? Do we have a wonderful grass area (or school field) but children are not allowed on it for large parts of the year because of health and safety requirements? In short, can our children be children in our environment or are they constantly being told to be something else?

Reflective Question

Do we really need to stop this?

The children in nursery are having a fantastic time making dens and dressing up in old bits of material. Then it is snack time; 11 a.m. is always snack time so surely this is just one of those times when we regrettably have to interrupt play. Once we start prioritising play, however, we realise that maybe play is much more important than the timing of snack and it is perfectly acceptable to occasionally delay for a while to support positive play.

Look at those instinctive behaviours. Does our environment allow for children to explore those behaviours freely?

- Crawling
- Running
- Climbing
- Jumping
- Balancing
- Spinning
- Rolling
- Manipulating

Does the challenge inherent in those behaviours grow as our children grow? Basically, as our children get older and their abilities are honed, do we provide more advanced opportunities?

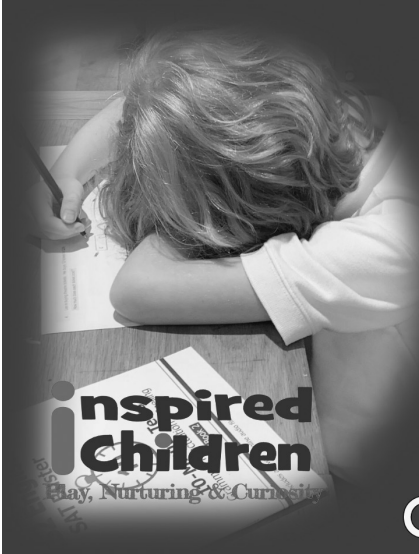
Are we as adults modelling those behaviours? Adults are always the most significant influence on a young child's development and well-being. By simply being playful ourselves we are helping support that incredibly powerful process in children.

Gravity can be tricky!



If you have a hill that children are able to roll down, this is absolutely fantastic for their development and should be encouraged. Why not, once in a while try rolling up the hill instead? This is a hilarious thing to try and genuinely challenging as you are fighting against gravity the whole time. We randomly tried this with a group of 4-year-olds and they were laughing so hard (especially at the adults doing it!).

Let's stop restricting play as a punishment. Please consider the child's emotional well-being when you are thinking of keeping them in at break or lunch. I have had all sorts of arguments with professionals who insist that keeping children in at break (or recess) is a valid behaviour technique.. What it actually does is restricts a fundamental neurological drive that supports children's physical health, emotional well-being and life expectancy, depriving the child of positive biochemicals that help combat anxiety. You wouldn't starve a child who misbehaves so why would we want to recreate the same biochemical situation by restricting play? As we will see from later chapters, restricting play will also have a huge negative impact on behaviour so the whole concept becomes utterly self-defeating and potentially damaging for children.



When children play, they produce a range of positive biochemicals similar to those produced when we eat. These biochemicals are essential for well-being and brain growth.

Starvation?

Depriving children of play is the biochemical equivalent of starving them.

Let our Children Play!

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Children
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American states Missouri, Florida, New Jersey and Rhode Island now legally mandate 20 minutes of recess daily for primary age (elementary) children, making it illegal to take away a child's break time regardless of behaviour.



Crucially, we need to re-look at our current practice with the knowledge that the play drive is essential, instinctive and that we restrict it at our peril. Instead of restricting or limiting play our priority should be to support and facilitate play. If problems arise due to the limits of our environment, our role is therefore to subtly redirect children's play rather than immediately curtailing those activities that can't take place because of those environmental limits. With the best will in the world we can't allow children to play in every circumstance in any way their brain wants them to. We are still the adults in this equation and sometimes we are going

to have to stop the child climbing the wobbly bookcase because it simply isn't safe. However, if we acknowledge that the climbing child is doing so, not because of negative behaviour or mischief, but because of a fundamental drive to climb then there is a world of difference between, "*Mina stop climbing that bookcase and come and do some colouring!*" and realising that if the limbic system needs to climb we should be helping Mina to climb by offering an alternative that is at least in the same ball park as climbing a wobbly bookcase!

Reflective Questions – Thinking about play

Think about your children. Do they get plenty of opportunities to explore free play? Do the adults in their life support and enable or restrict and limit? Are there things you could change to enable more opportunities for free play? Even simple things can have an impact, so it is always worth examining current methods to see if there are opportunities for more play. We worked with a school that stopped having a member of staff in the first aid room all lunchtime and instead gave them a portable first aid kit so they could be outside and support play more at lunchtime. Another school purchased huge doormats so the children could play on the field even when it was muddy. One nursery realising their children loved to dig provided trowels and actually dedicated a small section of the outdoors for digging holes and finding worms (or "*nakes*" as the children called them).

The most important thing we can do is to reflect on our role as adults. If we acknowledge that supporting play is one of the most important things we will ever do, we can subtly adjust our interactions with children to prioritise play. The way all of my staff are trained is to ask themselves a very simple question when interacting with children, "*Am I making play better?*"

If the answer to this question is "no" then we re-think and come up with something else. If the answer is "yes" then we keep doing what we are doing. It is a simple question that can have a huge impact on our children.

This means our levels of intervention can be flexible to meet the needs of our children and the situation. Sometimes "*making play better*" is the adult doing nothing at all. When children are fully engaged in play, they don't need an adult. Sometimes it might be providing more resources or even introducing a new idea if needed but never at the expense of play. By simply asking ourselves the question we are better able to support children to work with their brains and play. Nobody gets it right all the time. There have been times when I have "stepped in" when perhaps I shouldn't have. There have also been times when in hindsight a positive intervention would have helped children play. However, taking the time to ask ourselves the question, "*Am I making play better?*" means we will get it right a lot more of the time than adults who intervene without taking a moment to consider their impact on children's play.

Note for parents

We are only human. We cannot play with our children all the time and many of us lead very busy lives and are often too exhausted to even think about playing. However, knowing how important play is means maybe we can at least do a little bit more. Maybe we go to the park a little more, maybe we play out in the garden or just turn the TV off once in a while and give our children the time and space to play. It is not always easy, but it is worth it and even a little bit of extra play will help our children.

Finally, what we all need to do is acknowledge the unambiguous benefits of play and stop treating it like an optional extra to children's development. It is easy to say that play is good for children but maybe what we actually need to be saying is that play is profound, essential and life-changing. We need to be loud and proud about play and challenge those who think it frivolous or less important than other agenda. We need to acknowledge play, not merely as an extra value addition to a child's education and development but as a fundamental foundation for every aspect of a child's journey into adulthood. And, of course, we need to support our children to play because we know that it will profoundly affect their well-being and may even help them to live longer. We need to support play because it is quite literally a matter of life and death.

Chapter Summary

From the work of Jaak Panksepp we know that play is a primal drive seated in the limbic system of our brain shared with all mammals. My own observations of children (and dogs) over the last 30 years have repeatedly supported this, leaving me in no doubt as to how important play is. Play is a biological and evolutionary imperative that is the key mechanism for ensuring vulnerable children grow into strong healthy adults. It is an instinctive behaviour strongly influenced by the environment that will lead to children intrinsically doing whatever is most developmentally appropriate at any given time and this is regardless of the wishes of adults. Play is rewarded with the most potent mixture of biochemicals, including benzodiazepines that have a profound effect on a child's emotional well-being and make children want to repeat the behaviour.

When we stop children acting on their limbic system through play, we are undermining a fundamental cycle of development that has been evident in mammals for 200 million years and breaking a cycle of biochemical reward that potentially leads to a drop in life expectancy. Remember the chemicals of play are similar to those associated with eating food so if we constantly restrict children from playing freely, we are having the biochemical equivalent of starving them.