How to make a happy, well-adjusted child

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Baby talk

According to scientists at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig, whilst parents encourage their child to talk in all sorts of ways, it's sleep that helps the process of associating meanings to words that really matters. Scientists there found that babies as young as six to eight months were capable of making these associations rather than just perceiving words as random noise, and that this ability was as a direct result of the babies having a midday nap!

Your baby's first words are an important milestone in its development. From that moment, their language skills are of paramount importance, and for lots of reasons.

Very young children hold real word meanings in their long-term memory much earlier than had previously been thought and although the brain structures relevant for this type of memory are not fully developed, they are already coming into use.

The scientists introduced six to eight-month-old infants to 'fantasy objects' that they gave made-up names such as 'Bofel' or 'Zuser'. This was to ensure the babies couldn't access any existing knowledge. Objects that were the same type (but differed only in form or colour) were given the same names. By observing the infants reaction it was clear that they could not connect new objects of the same type with the corresponding name.

Because every new object or word pair was unknown and unique, the babies were unable to form a general relationship between them. However, their performance improved after a midday nap. In babies who fell asleep after the learning activity, the brain could differentiate between the right and wrong term for a new object.

The team say this shows they had consolidated their knowledge while they were asleep. Babies that stayed awake could not manage to do the same.

The duration of sleep was also important – a half-hour nap was not enough to see results, but those who slept for 50 minutes or more did show improved performance.

In the study, the babies received a lot of information they would normally pick up over a longer time period. But only during sleep, when the child's brain is disconnected from the outer world, can they filter and save essential information about the relationship between words and objects. Only during the interaction between exploration while awake and ordering processes while sleeping, can early cognitive and linguistic capabilities develop properly. So the moral of this story is that regular sleep periods make bright children!

Playing 'I spy' with your baby will also do wonders for its cognitive development. Children who are encouraged to interact with stimulating, brightly coloured environments develop far stronger brains than their peers – even before they've learned to speak.

Playing the game (and obviously helping them with the answers) when you go to the supermarket is a perfect opportunity because it's brightly lit with lots of things to look at and describe. For example, tell them 'broccoli is green, radishes are red, and tangerines are orange' is a really good start. This will help your child to connect the dots between language and environment and will lay the groundwork for a smooth running neural network. It also maximises their intelligence later in life.

A study conducted by neuroscience researchers investigating how the brain's circuit network develops over time at the Children's National Health System in Washington DC found that playing music (especially classical music) and introducing them to new people also provides a major boost to a baby's cognitive function.

Scores of studies have shown babies from lower-income families or impoverished backgrounds tend to have poorer cognitive development. While this can be due to many different factors – from higher rates of illness to poorer education – the researchers identified simple techniques that all families can use to improve their child's brain function, regardless of socio-economic status.

Brain development starts in the womb. Between 23 weeks and 37 weeks, the foetus starts to develop the initial structure of white matter, a crucial part of the brain that controls learning. Environmental experiences begin to have a meaningful role only after the baby is born.

Young children need an environment where there is novelty, new experiences and continuous active learning. An interesting environment provides opportunities to move and participate in physical exercise. Children who are exposed to new and different objects, opportunities for physical activity and interaction with playmates, do better. This type of setting challenges the child to continuously adapt to his or her surroundings in a social, physical and experiential manner. Exposing new-borns to classical music also helps with cognition, hearing and motor skills because it taps into multiple areas of the brain that work together collaboratively. Diffusion Tensor Imaging (DTI) reveals that professional musicians who began playing as children improved in intelligence later in life.

The more gibberish your baby talks, the better reader they might grow up to be!

Children start experimenting with vowel sounds at around two months and they pick up the basic sounds of their native language by the time they’re around six-months old. Most children say their first word by the time they are one and start to assemble (short) sentences around their second year of life. Reading starts at around four years.

Researchers at Florida State University think that children who are chattiest – even when they aren't really saying anything – might have particular literary leanings. They found that children with more complex babble as babies performed better when identifying specific letters in later reading tests.

Conversely, children with difficulties identifying letters were more likely to develop reading difficulties, but these are difficult to spot before the child is three to five years-old.

A study at Princeton University has confirmed that bilingual babies – that is, babies that grow up learning two different languages, for example when the parents speak different languages – can accurately process two languages from just 20 months of age.

Researchers found that infants growing up listening to two languages have the learning ability to make sense of both of them. Scientists think that they hear the switch between languages and that bilingual speech does not just blend into meaningless sound. By 20 months, bilingual babies already know something about the differences between words in two languages – they understand the difference between 'dog' (English) and 'chien' (French) and that they are two versions of the same thing. They instinctively know that these words belong to different languages.

Previous research has found that babies exposed to two languages have more highly developed intelligence before they've even uttered a word. The research shows that

teachers and carers should not be concerned that children growing up in bilingual families and learning to speak two languages will confuse those languages. They will however, end up smarter!

The Princeton study also confirms that bilingual babies monitor and control their languages. It also provides an explanation of why bilingual people show cognitive advantages throughout their lifetimes. The everyday listening experience in infancy – the back-and-forth processing of two languages – is likely to give rise to the cognitive advantages that have already been documented in both bilingual children and adults.

Princeton is one of a number of studies that prove being bilingual boosts intelligence.

Scientists already know that growing up in a home or environment where children listen to more than one spoken language can also improve their problem solving skills and memory. Researchers from the University of Washington, Seattle, found that this development starts by the time babies are 11 months old and ready to say their first words. The researchers conducted an experiment that found the area of the brain responsible for executive function is more developed among babies in a bilingual home than those brought up with just one language.

Executive function is the brain's control room – the place the rest of the brain is organised – leading to better learning capabilities, problem solving, memory and other skills.

During the tests, babies listened to words spoken in both Spanish and English – the two most common languages in America. In Britain, second or third generation immigrants may learn English alongside Asian languages and increasingly, East European languages. Even before they start talking, babies raised in bilingual households are getting practice at tasks related to executive function. This suggests that bilingualism shapes not only language development, but also cognitive development generally.

Babies raised listening to two languages seem to stay open to the sounds of other languages longer than their monolingual peers, which is a positive and highly adaptive thing for brains to do.

The University of Washington Institute of Learning and Brain Sciences (I-LABS) study was published in the journal *Developmental Science*.

Researchers at Anglia Ruskin University, UK, have also discovered that babies raised in bilingual families develop a supple mind that can divert attention to different tasks much easier than homes where just one language is spoken, and the effects can be seen in babies as young as seven months old.

They also found that those from bilingual homes are able to change their focus more quickly and more frequently than those from monolingual homes. When shown two pictures side by side, these babies were able to shift attention from one picture to another more frequently than monolingual babies – in fact, they were 33% faster redirecting their attention.

Bilingual environments may be more variable and unpredictable than monolingual environments – and therefore more challenging to learn in and babies can easily acquire multiple languages. The research suggests that babies in bilingual homes adapt to their more complex environment by seeking out additional information, suggesting the bilingual babies were exploring more of their environment'.

The findings were published in the journal *Royal Society Open Science*

Just talking to babies gives them advantages in life far beyond a larger vocabulary. Chatting to babies under the age of one will help them make friends and make them more intelligent because they will be better able to discover the world around them as they grow and develop.

There is some debate about how important this is and whether or not adults should use their normal voice. Speaking more slowly, using a sing-song voice, and using strange words are commonplace when talking to tiny tots, but this might be detrimental.

'Baby talk' is believed to help with developing early speech and language skills. These are associated with success in developing reading, writing, and interpersonal skills, both later in childhood and later in life.

Long before they can speak clearly, babies understand the general meaning of what you're saying. This bond is important in their development and happiness.

Other I-LABS advice includes:

- Having back-and-forth conversations in baby talk
- Imitate baby's vocalisations such as 'ba-ba' or 'goo-goo'
- Reinforce communication by smiling and mirroring facial expressions.
- Imitate baby's gestures as body language is important to their communication
- Smile often at the baby, especially when the child is engaged in baby talk
- Look at the baby as the tot makes noises

Parents who find their toddlers uncommunicative should consider taking them for walks in the countryside, or even the park, because young children are more talkative when walking in nature because it boosts their verbal skills. The distraction of trees, squirrels and flowers all help children develop better conversation skills. One possible explanation is that being outdoors amid greenery reduces stress and increases positive mood for both children and adults, which makes conversation easier. Another is that being outdoors might promote greater levels of attention between parents and children and encourages a greater sense of connection.

Researchers filmed conversations between three and four year-old children – the ages most children have a lot to say – and their parents as they explored Cardiff's Bute Park and Arboretum, as well as the park's indoor education centre. Both children and adults wore 'Go-Pro' video recorders on their heads to record their conversations. The researchers found that the conversations in the park were more responsive and flowed better than those recorded indoors.

It is not fully understood why there is significant improvement in conversation outdoors, but a possible explanation is that being outdoors amid greenery reduces stress and increases positive mood, making conversation easier. Another is that being outdoors may promote greater levels of attention between individuals and a greater sense of connection with others. The language children possess when they start school is highly predictive of later language competence and early scholastic and social success.

The research was published in the *Journal of Environmental Psychology*.

Babies only learn language via face-to-face conversation with real people – not from people on television. Talking to your child as much as possible, including when they are in the [rear-facing] pram, can help also them build better language skills. Babies and toddlers who face their parents have more face-to-face time with adults.

Children in rear-facing prams have the language advantage because their parent or carer is constantly engaging with them through chatter or song, directing their attention (and word identification) to objects, places and feelings, naturally interacting in a more intensive way by interpreting a child's babble and correcting their speech.

One hour a day in a rear-facing pram over three years adds up to over a thousand hours of extra language building. This level of verbal interaction can help children to develop a much larger vocabulary so that by the time they reach school age, their language skills are naturally more developed.

Words often need to be heard more than once to be understood and remembered and this isn't always possible in the classroom. When infant school children already understand the words, all they have to do is decode the letters. The sounds quickly fit the meaning, and the spelling of words are more easily remembered. A child who hasn't heard the word before has to learn two steps – the meaning *and* the decoding.

Parents who regularly read with their children boost the language skills of their offspring by eight months, increasing their ability to understand information.

Researchers at Newcastle University, in conjunction with the Nuffield Foundation, looked at studies from five countries: the USA, South Africa, Canada, Israel and China. They found receptive language (understanding), expressive language (where a child puts their thoughts into words such as vocabulary and grammar) and pre-reading skills (such as how words are structured), all improved. The most noticeable difference was with receptive language skills.

Socially disadvantaged children were found to experience more benefit than others and previous research has proved that children with delayed language development do worse at school and have poorer outcomes later in life.

Books on their own are not enough… reading *with* small children has a measurable and powerful effect.

Language development thrives from between the ages of two and four, according to Dr Amos Grunebaum, an American obstetrician and gynaecologist. Children's vocabulary, understanding and communication skills flourish between these ages. These skills are an essential foundation for how a child will interact with others and they significantly have an impact cognitive, social and emotional development and also their future lives in school and beyond.

By the time a child reaches its second birthday it should have mastered pointing to common objects – three body parts, familiar objects such as cup, or a dog or shoe. Most two years olds can follow a two step instruction, use more than 50 words (although half will be unintelligible) should be able to make phrases of two or more words, use simple plurals and personal pronouns and know the names of close friends and family.

Most three-year-olds will be able to follow two or three step commands and speak in three to four word sentences. They should now be much easier to understand and have a vocabulary of around 200 words. They should be inquisitive and asking questions – who, why, where, when, what – and be able to say their name, age and gender. They should also

be able to understand place words like 'in', 'on' and 'under' and be able to name a best friend. Their conversations will start to become more interactive and two-way.

As a child transitions to preschool, their understanding will become much more refined. They will begin to understand time words and order words – today, tomorrow, first, next. They will get better at following more complex instructions and should be able to hear and understand speech in a variety of settings.

They will start to name letters and numbers and be able to retell events and make simple conversation. Their personality will begin to shine through as they choose topics of conversation that interest them. Parents who join in conversation with babies can help improve their language development faster than simply talking when they are in the room.

Encouraging your children to count on their fingers and play number games WILL improve their maths skills.

Researchers at Sheffield Hallam and Bristol Universities have confirmed what many parents instinctively knew all along – counting on fingers and playing games with number symbols, like dominoes, card games and snakes & ladders, plays an important part in improving mathematical and quantitative skills.

The study shows that fingers provide children with a ‘bridge’ between different representations of numbers, which can be verbal, written or symbolic. These activities also involve motor skills in different parts of the brain and thus aid memory.

Combined finger and number games could be a useful tool for teachers to encourage children's understanding of numbers. Primary school children aged 6 to 7 years old who were encouraged to count on their fingers and play number symbol games like dominoes etc. did significantly better in mathematical and quantitative skills tests than those who just had typical maths lessons.

Researchers from Stanford University and others studied the brains of babies aged between five and eight months while they slept in an MRI machine. They found that parents who took it in turns to have 'conversations' with their babies were able to shape their future language abilities.

It may be that the brain's language networks may develop in two stages – in the womb developing processing networks to process sound, then, when they are a few months old, another network develops to understand more complex language. The quantity and quality of the language babies are exposed to has a significant affect on their future language abilities.

While in the womb, babies begin developing an auditory processing network which relates to the way the ears and brain work together to understand sound. Babies later go on to develop another network for understanding more complex sentences, vocabulary and the meaning of words in early childhood. Regions in each of the two language subnetworks activated together, suggesting they worked hand in hand.

Irrespective of the socioeconomic status of the parents or how often they engaged in conversation (rather than just speaking out loud) the interaction had an impact on brain activity. This is evidence of the role of vocal interactions rather than just overheard adult speech in the function of language networks in infancy.

The results highlight the importance of early life environments in shaping a child's brain function and development, and the need to support parents in providing enriching environments.

The findings were published in the *Journal of Neuroscience*.

Children are better at remembering new words and phrases after a quick nap.

Researchers from the University of Arizona's Department of Psychology, led by Michelle Sandoval, studied language skills in three-year-olds, found that children who napped after learning new verbs had a better understanding of the words when they were tested 24 hours later.

Pre-school children were chosen for the experiment because that is the age when they start napping less, and verbs were chosen because they are typically more difficult to learn and remember than simple nouns such as Mummy, bottle, and dog. Very young children already understand a lot about individual objects because they have clear boundaries. Verbs on the other hand, are not as easy to comprehend because they relate to all sorts of other information such as when and how.

The children were divided into two groups – habitual nappers, who already nap four or more days a week, and non-habitual nappers, who did not. Within each group, they were randomly assigned either a nap for at least 30 minutes after learning a new verb, or staying awake after learning a new verb.

They were then taught two made-up verbs – blicking' and 'rooping' – and shown a short film of two different actors performing separate actions which corresponded to each verb. 24 hours later, they were shown videos of two new actors performing the same actions and asked to point at which person was 'blicking' and which was 'rooping.' The tests revealed that children who napped within an hour of learning the verbs performed better than those who stayed awake, regardless of whether or not they usually napped.

The purpose of sleep is to give the brain a chance to collate new information and discard irrelevant information, which is why the very young, still engaged in rapid learning processes, should be allowed to sleep whenever they wish.

As with adults, some children need more sleep than others. More important is the total amount of sleep rather than the frequency of sleep. Preschool-age children should be getting 10 to 12 hours of sleep in a 24-hour period, regardless of whether it's all at night or a combination of night sleep and napping. We know there can be negative long-term consequences if children don't get enough sleep, so it's important to create opportunities for them to do so.

Introducing a regular evening bedtime routine when your baby is around three months old will give them a head-start in life. Getting them into a simple, soothing regime is helpful for everyone and will help prevent sleeping problems later on. It's also a great opportunity to have one-to-one time with your baby.

The ideal bedtime routine for babies is:

- Having a bath
- Changing into night clothes and a fresh nappy
- Brushing their teeth (if they have any)
- Putting them to bed

- Reading a bedtime story
- Dimming the lights to create a calm atmosphere
- Giving a goodnight kiss and cuddle
- Singing a lullaby or activating a wind-up musical mobile when you've put your baby to bed can also be calming.

As your child gets older, it’s important to stick to a bedtime routine. Too much excitement and stimulation just before bed can wake your child up again, so try to spend time winding down and doing some calmer activities, like reading a bedtime story.

Try also to leave some time between your baby's feed and bedtime, because feeding and going to straight sleep will be linked in your baby's mind. If they wake in the night, they'll expect a feed to help them back to sleep.

The marshmallow test

The marshmallow test is a well-known part of social science research used to determine a child's ability to delay gratification, said to indicate success later in life. The original marshmallow test was conducted in the 1960s by researchers led by Professor Walter Mischel, then at Stanford University. Professor Mischel's original research is regarded as one of the most successful behavioural experiments of all time – beautiful in both it's design and simplicity.

He put a marshmallow in front of children aged three to five and said they could eat it when he left the room. But if they waited for 20 minutes, he said he would give them a second marshmallow.

Around a third of his subjects would eat the marshmallow immediately, a third would wait for his return so they could claim two marshmallows, and the rest would try to wait but give up at varying times. It was 14 years later, when his earliest subjects were leaving school, that Mischel was able to confirm a correlation between the test results and success in life.

The Stanford experiment discovered that it's not just the treat children care about, but also how authority figures view them.

The children who took the sweet straight away turned into teenagers who lacked self-esteem and experienced difficult relations with their peers. Those who waited for a second marshmallow turned out to be more socially competent, self-assertive and academically successful. The boys and girls who waited even scored an average of 210 points more in their school exams.

When the experiment was repeated, a group of preschool students were separated into two groups – one group was told their teacher would find out how long they waited for a sweet while the other group was told it was their classmates who would find out. Those in the 'teacher' group were found to wait twice as long, suggesting children made the decision to hold back as a way to boost their reputation.

The marshmallow test has been used to measure a child's ability for self-control by seeing how long they can delay gratification.

A new team, this time from the University of California, San Diego and led by psychology professor Gail Heyman, wanted to see if there was more to it than a child wanting a treat. The new research suggests that in addition to measuring self-control, the task may also be measuring another important skill – awareness of what other people value.

The test is a predictor of life success because it shows how much a child values how others view them, making a cost/benefit analysis that takes into account the possibility of getting a social reward in the form of a boost to their reputation.

The findings suggest that the desire to impress others is strong and can motivate human behaviour starting at a surprisingly young age. Children are good at making these kinds of inferences and they are constantly on the lookout for cues about what people around them value.

Most children have wild imaginations, but sometimes pretend play can take a turn for the worse, taking on a violent nature.

Although some parents may be concerned when their child make-believes fighting and killing, a new study suggests it is a way of 'rehearsing' for a real-world scenario, possibly linked to our ancestor's survival strategies.

Researchers from the University of Cambridge found that pretend aggression tends to surface when a child's playmate is considered to be bad-tempered by their peers. The researchers speculate that these scenarios arise in an attempt to stop playmates becoming angry by giving them a pretend situation in which to 'let off steam', or simply to keep them playing by appealing to their nature.

More than 100 children in China were observed while they were at school – all of whom were asked to play in pairs. Children partnered with another deemed to be bad-tempered by their peers were 45% more likely to introduce aggressive themes in play than those with partners who are known to control their aggression.

The children took it upon themselves to introduce the theme during playtime, which the researchers say suggests aggressive make-believe play actually helps children's social and emotional development.

If children have a friend who is easily angered, and if they haven't coped well with that behaviour, it is possible that they will look for ways to explore it through pretend play. This gives them a safe context in which to explore different ways of handling difficult situations next time they crop up in real life.

It is possible that children might be working out how to handle tricky situations through pretend play and for some children, this could actually be a way of developing their social and emotional skills.

Children, uninhibited by decades of conditioning, provide a more accurate indication of the natural human response to social situations. The responses of young children are less influenced by learned behaviours and less tainted by personal experiences because they are less exposed to social ideals.

Researchers from Harvard University discovered youngsters are willing to sacrifice their own happiness to punish others for bad behaviour. In fact, children are 24% more likely to allow punishment if the culprit will learn a moral lesson, rather than just out of revenge.

Exactly what drives people to punish others who have behaved badly has been debated by philosophers and psychologists for decades. Previous studies found that both retribution and teaching others a lesson are important factors but few studies looked at children.

Researchers played a video of a child tearing up another youngster's art work to 251 children aged four to seven. They were then asked to decide whether to punish the 'art destroyer' by taking away their iPad, in which case, they would have to make a personal sacrifice if they decided to punish them, as their own iPad would also be taken away.

The children were told that if they chose to punish the naughty child in an act of revenge, their iPad would be taken away, but the art destroyer would not be told why. 26% of the children decided to punish their naughty contemporaries.

Retribution is a driving force in young children's moral judgement – the children were 24% more likely to punish the badly behaved child if they understood the naughty child would learn a moral lesson about why their behaviour was unacceptable.

The opportunity to teach a wrongdoer a lesson motivates children to punish them for their actions. But even though the children wanted to see bad behaviour punished, they also wanted wrongdoers to learn from their mistakes. Children seem to have a desire for wrongdoers to receive punishment and also a desire to have them improve their behaviour for next time.

From research published in the journal *Nature Human Behaviour*.

Playing with numbers

So much for language, what about maths?

Researchers at the University of Copenhagen's Department of Nutrition, Exercise and Sports, led by associate professor Professor Jacob Wienecke, found that children become better at maths if their whole bodies are engaged in the learning process. This makes a lot of sense because more areas of the brain are involved and more neuronal connections are created which help to form more permanent memories.

The study was conducted over six weeks and involved 165 seven year-old children from three schools in Copenhagen, divided into three groups. The researchers were interested in finding out if different learning strategies improved the way children solved maths problems.

The first group were taught on the classroom floor, without tables and chairs. These children took part in problem solving activities that included using their bodies to make shapes such as triangles and numbers and using each other to solve addition or subtraction problems.

The second group of students employed fine motor skills, working independently or in small groups and using LEGO bricks to solve arithmetical problems and building models to solve geometric problems.

The third group – the control group – continued their usual maths classes using pencils, paper, rulers and the usual mathematical instruments.

After six weeks, all the children took a standardised fifty question national test. Those whose teaching engaged their whole bodies performed the best with a 7.6% improvement. This was twice the improvement as the second, fine motor skills group.

The study also found that children who already possessed above average maths skills benefited the most from using their bodies, but children whose maths skills had never been very good didn't gain very much additional benefit. Obviously, individual understanding must still be taken into consideration so that all children, regardless of their ability, can keep up.

But the team also discovered that children's maths skills improve if the way it's taught is tailored to each child's interests – and that could be their interest in aeroplanes or football or even a game of cops and robbers.

The Danish research was published in the journal *Frontiers in Human Neuroscience*.

It is possible of course that this method is just making learning more interesting. I can already see how it could be applied in science and chemistry and also in history. It would be interesting to find out how effective this would be if children used body movement to help them learn verbs?

What about letting children have a nap once they had learned a new mathematical rule? Better still, what about using both methods in both subjects? How effectively would these methods translate to other subjects?

Reading is a fundamental skill that plays a key part in all our lives.

Over a three year period, experts from the University of Malaga, Spain, examined the reading habits of more than 43,000 students, starting when they were aged 10–11. Parents were also interviewed about their own reading habits and how involved they were in their child's education.

They discovered that children who read quality books in their spare time went on to get higher marks in school as teenagers. The researchers found that children who read books on a daily basis also achieved higher literacy test results on average, equivalent to having had three more months of secondary school education under their belts. Three months of progress may sound comparatively small, but it equates to more than 10% of three academic secondary school years.

While reading has always been associated with higher literacy skills, The results confirm that it's not only whether or not young people read that matters – but rather *what* they read.

There were also positive effects on performance in other subjects, including maths. However, reading newspapers, magazines and comics did not have the same benefit, and even short stories only had a marginal effect.

Researchers at University College London, concur that literacy skills are improved through practice, which means reading longer and more challenging texts. Age 11 to 14 is a pivotal developmental period for children.

Girls tend to read more books, short stories and newspapers, while boys often prefer comics and magazines. Children from advantaged backgrounds were also found to read both more and more varied types of text than others, so reading is particularly important for low-achievers. All parents should take an interest in what their children read.

The study was published in the Oxford Review of Education.

Research shows that girls typically score higher than boys in standardised literacy tests. The trend is seen as early as age 10 and continues until the age of 18.

It is known that women and men use their brains differently. Girls use both brain hemispheres for reading and writing, while boys typically rely on just one. Boys also exhibit more disruptive behaviours than girls in the classroom and are more likely to be inattentive and interrupt teachers. Sadly, reading and language are seen as feminine skills from a young age, which means boys are less likely than girls to push to improve these skills.

Boys and girls come out to play…

Log swings climbing frames and mud slides are rarely seen in children's playgrounds today. Instead, finely moulded plastic slides with rounded edges, where the chance of injury – not to mention litigation – is almost zero. Plank swings and steel merry-go-rounds have been removed and play spaces are covered with an impact absorbent rubber surfaces. But after decades spent trying to minimise risk and create a risk-free society, schools and councils are beginning to let children dabble with danger – under adult supervision of course.

The preoccupation with wellbeing – an edict of the nanny state intended to tackle anxiety and stress in youngsters – is leading children to believe normal emotional reactions to stress are signs of mental illness.

At the behest of the Department for Education (UK) thousands of teachers have been trained in ‘mindfulness’ – supposedly to encourage positive thinking, reduce stress and improve performance. But experts say lessons in wellbeing are making pupils MORE unhappy because they find it difficult to live up to the expectations presented to them by adults.

Professor Alan Smithers, director of the Centre for Education and Employment at Buckingham University, has called for the happiness programmes to be put under close scrutiny – I agree. Anyone can set up as a wellbeing consultant and the market has grown to industrial proportions. There is no regulation, no accepted standard, and a great risk that children will be referred for counselling without question. This has to stop!

Feeling stressed and anxious is not a mental health problem and it doesn’t do children any favours to be wrapped in cotton wool. Part of growing up is learning to take the knocks as well as the good things in life. One solution – turn the computer off and explore the great outdoors!

In Shoeburyness, Essex, Richmond Avenue Primary and Nursery School constructed a playground filled with what health & safety bosses might consider dangerous toys. Rough hewn wooden crates, loose bricks, work benches, hammers and saws fires, knives, tools, are all present in the space introduced by the school's board.

The reasoning behind this cornucopia of exploitive delight is that soft-edged, risk-free playgrounds create rule followers – and rule followers are unlikely to be rewarded in the future. Experts are beginning to realise that parents *should* expose their children to limited risk in an attempt to boost resilience and grit.

Children in more risky environments report being happier at school. Researchers from the University of Otago, New Zealand, asked eight schools to increase the element of 'risk' in their playgrounds, increasing the number of physical activities available as well as the number of tires and bricks to build with, and generally relaxing the rules.

After a year, 840 children, 635 parents and 90 teachers completed questionnaires regarding bullying. Children in the higher-risk environment reported being happier at school and playing with more children.

American landscape designer Meghan Talarowski compared British and US playgrounds and found the UK's riskier spaces attracted 55% more visitors, while children who visited were 16 to 18% more active.

People are beginning to realise the current measures to protect our children – such as forcing them to wear high-visibility jackets on school trips – are growing more unpopular. Children wrapped in cotton-wool are less able to cope with the bumps in the road and disappointments that are part of normal life.

Older children know what they want for Christmas, but choosing the right present for the very young can be tricky. Do you stick with the traditional choices – an action man for a boy and a doll for a girl – or do you challenge the stereotypes?

In recent years, some campaigners have called for an end to the practice of ‘gendering’ toys – particularly those aimed at girls.

Although toy manufacturers and advertisers do tend to promote gender-specific toys, questioning whether boys and girls really are attracted to specific types of toys is important to further our understanding of how gender norms develop. For example, do sex differences in toy preferences appear as soon as infants can demonstrate them, or do they develop with the acquisition of knowledge about their own sex and what adults and other children expect from them?

There is clear evidence that children over the age of two typically prefer toys stereotyped to their own sex, but studies involving young babies have to rely on observing and interpreting their behaviour as they are shown toys in a laboratory setting.

Brenda Todd, Senior Lecturer in Psychology at City University of London, decided to study how children react to gendered toys to discover which toys very young girls and boys actually wanted to play with – and why.

The study involved children aged between 9 and 32 months old, because this is the age at which they begin to move independently to demonstrate their interests. It’s also the time they go through the developmental stage of learning what it means to be a boy or a girl.

With their parent's permission, the researchers decided to study children in multicultural London nurseries rather than in their homes or the laboratory. This was in order to negate the effect of parents, who might influence their behaviour.

Before choosing toys for the research, a survey was carried out asking local adults which toy came to mind when thinking of a young boy or a young girl. The final choices included a digger, a car and a ball – traditionally boy’s toys – and a doll, a cooking pot and a pink teddy – traditionally girl’s toys.

Previous research has shown that colour can also guide toy preferences, so the researchers added a blue teddy to see whether that would appeal more to the boys. This is an interesting move, as experience suggests that giving boys a choice between a digger and a teddy (of whatever hue) the digger will win most of the time.

In each experiment, all the toys were arranged in a semi-circle, one metre away from each child, so that they needed to move independently to make their selection, and the number of times each child played with each toy was noted. Results from the 47 girls and 54 boys taking part in the study showed a highly significant preference for toys typed to the child's gender. When the results were broken down into narrower age groups – chosen to reflect their stage of gender knowledge development – the results were the same.

Among the youngest children – those aged nine to 12 months – all the boys spent some time playing with the ball, and playing with the ball accounted for half of the total time boys played with the toys. In contrast, the youngest girls played with the cooking pot for a similar proportion of the time. There was little interest in the teddy bears from either boys or girls.

Finding differences in the toy preferences of boys and girls aged less than 18 months suggests these differences and preferences exist before extensive socialisation, although such predispositions may change as children label themselves as boys or girls and learn more about social norms.

The research also found that while boy's preferences for male-oriented toys increase as they get older, it was the youngest group that showed the strongest preference. In addition, both boys and girls increasingly preferred 'boy toys' as they approached their third birthday.

This raises questions about gender assumptions of what a boy's toy or a girl's toy actually is. However, girls frequently show more interest in boy's toys as they get older. This could simply be a matter of natural curiosity as girls begin to realise that boys and girls are different.

It may also be possible that stereotypes for boys are more rigid than for girls. This is something that accurately mirrors what happens in real life, as any parent will know. As in modern society, girl's play with 'male-gendered' toys is often encouraged more than boy's play with toys that are associated with care giving.

Of course, some of the boys and girls in the study didn't stick to typical boy/girl preference at all, so it's probably best to keep the individual child in mind when choosing their birthday present.

As the debate over nature versus nurture rages on and men and women continue to behave in different ways, there is a growing body of evidence that suggests that it may be environment and culture rather than genetic inheritance that influences behavioural traits from generation to generation.

An international research team, led by Professor John Dupré at the University of Exeter, examined recent studies on evolution, as well as research on the correlation between gender and the brain. For instance, human brains are made up of unique mosaics of features, some of which are more common in males than in females.

There are arguments to the effect that there is greater aggressiveness and promiscuity among males, or that females harbour a greater preference for domestic or child-rearing work, or that greater success in some professions is the result of our genetic inheritance.

But the team's findings suggest that it is just as likely that sufficient environmental and cultural change in youngsters will produce modifications in behaviour in both men and women. It may be that traditionally held ideas about evolved masculine and feminine behaviours being determined by genes are wrong.

True, genetic inheritance is a critical factor in the capacity to learn an adaptive behaviour quickly, but non-genetic mechanisms may be equally, or even more important.

Human culture strongly encourages us to have male and female roles (especially in less developed countries) and our highly developed capacity to learn allows this information to be passed onto the next generation.

In non-human mammals, adaptive traits that have reliably developed in offspring for thousands of years can disappear within a few generations if the relevant environmental conditions change. But environmental factors that remain stable over generations remove the need for development of parallel genetic mechanisms. So gender-specific traits could be explained by long-term stability in the social environment.

Human environment and culture do influence behavioural traits from generation to generation, such as universal suffrage in the West and subjugation of women in the East.

Environmental factors supply the stable conditions needed for the reproduction of the trait in each generation. For instance, World War II created the need for the creation of a women's land army and women working in factories.

More recently, greater freedoms in Western society have led to greater promiscuity in both sexes and an increase in aggression in some females. The Internet and the smartphone have changed the way we live, the way we view ourselves and the way we behave toward each other.

As if proof positive were needed, we only have to look at the dramatic way a rapidly evolving socio-economic environment and culture has changed the world in the last century to understand that both men's and women's roles are changing.

The justice league

Children develop a sense of justice at a very age. From just one year old, they expect to see wrongdoers punished by those in charge.

Toddlers aged 16 to 18 months expect leaders like parents and teachers to act when someone breaks the rules.

Even before they can form sentences, children not only understand right and wrong but the role of those in charge to enforce those rules.

The understanding of this concept at such a young age can only be explained by it being wired into our DNA.

Researchers tested toddlers' using a teddy-bear puppet show where a 'wrongdoer' bear took all the toys for herself and did not share.

When the 'leader' bear failed to punish this misdemeanour, the young children stared at the scene for longer – exactly the reaction when they see something unexpected.

But when the leader intervened to give the toy to the bear that had missed out, the children looked away around nine seconds sooner, showing they were satisfied events had proceeded as they thought they should.

The study was led by psychology professor Renee Baillargeon of the University of Illinois. Experts now believe children are hardwired to expect justice from leaders, undoubtedly an idea inherited through thousands of years of evolution.

When our distant ancestors had to work hard together to find food and shelter, it was vital the leader crack down on anyone acting selfishly in order to ensure everyone got a fair share, preserving fairness and order.

The same pattern was repeated in a puppet show where the leader bear was twice as tall as the other bears and wore a top hat to show they were in charge.

When the bears were equals, with no leader and no action in response to wrongdoing, the toddlers continued to watch for a shorter time.

In the third experiment, a bear said 'no thanks' to the toys, thus making it acceptable for the second bear to take them both.

Where most people would not expect a leader to intervene in those circumstances, the toddlers were surprised and looked longer to see if the leader took action.

This behaviour suggests they only expect action when someone has done something morally wrong.

It is truly amazing that such young children are able to expect unique responsibilities from leaders, including that of righting wrongs.

The study was published in the journal *Proceedings of the National Academy of Sciences.*

Little white lies

Children are more likely to develop into dishonest adults if their parents tell them little white lies in a bid to get them to behave. Harmless fibbing such as 'eating carrots help you see in the dark' or 'watching too much TV gives you square eyes' or 'if you don't behave, I'll call the police' can prompt short-term compliance, but this quick-fix tactic could be damaging as it cultivates scheming, and selfish and disruptive personality traits.

Research published in the *Journal of Experimental Child Psychology* found that children whose parents were dishonest find it tough to have healthy social interactions, which they often exaggerate and deceive.

Lying to children might save time when parents want children to do something that is too complicated to explain, but it can negated the much healthier notion that ‘honesty is the best policy’.

Conflicting messages can confuse children, and parents' dishonesty may erode trust and actually promote dishonesty. Untruths can affect girls the hardest, making them feel unattached to lying parents, whereas boys are more likely to brush off lies.

There are alternatives which do not damage children in the long term. Acknowledging children's feelings and giving correct and factual information to them so they know what to expect, and offering choices and taking part in problem-solving together is much more likely to elicit good behaviour.

Most children are taught not to lie, but a study by researchers at the University of Toronto has found that learning to fib could actually have wide-ranging cognitive benefits after all.

A group of 42 preschool-aged children, none of whom showed an ability to lie, were split into two groups – a control group who were unlikely to lie, and a second group who were taught how to lie in order to win a game of hide-and-seek.

The group of boys and girls, with an average age of 40 months, played a game where they had to hide a treat from an adult over the course of four days. As part of the game, the adult had to select which hand the child had hid the treat in. If the child was able to deceive the adult, they could keep the treat.

Each child was then given a standardised test measuring executive functions, which included the ability to understand what another person's intentions are, as well as the ability to pay attention, stay focused on tasks, organise, prioritise and plan effectively. They found that the children who were taught to deceive ended up outperforming the control group.

After just a few days, the children quickly learned to deceive and gained immediate cognitive benefits from doing so.

These findings support the idea that even seemingly negative human social behaviours may confer cognitive benefits when such behaviours call for goal pursuing and problem solving. The study demonstrates how learning to lie can actually improve cognitive skills in preschool age children.

Adults always worry that if a child starts telling lies there will be terrible consequences, but it turns out there’s a big difference between children who start to lie earlier and those who lie

later. Children who lie earlier tend to have much better cognitive abilities. Children do have the ability to lie as early as two years old. But that doesn't necessarily mean parents should be teaching their offspring how to lie!

Lying is a normal part of growing up and children learn to deceive when they're young so that they're equipped with essential cognitive functions. Lying is a fundamental cognitive skill that humans have developed to survive in a complex and competitive world.

Nevertheless, the little white lies we tell our children to spare their feelings have to handled with care – children's perceptions of truth and lies change as they grow.

We all lie to our children. Father Christmas, the tooth fairy, a man who can walk on water… these are, generally speaking, harmless stories that can help a child's understanding of right and wrong and their moral understanding of the world. But this understanding changes as the child grows and develops.

Very young children interpret stories literally, without any kind of critical evaluation – truths are good and lies are bad. But as they grow up and gain more experience, their ability to interpret intent and outcome becomes more developed.

By the time they are 10 to 12 years old, children become more aware that the boundaries between truth and lies are not so black and white and comfortably well-defined and moral judgement becomes ever more complex.

Researchers led by Victoria Talwar, a Canada Research Chair in the Department of Educational and Counselling Psychology at Montreal's McGill University studied the behaviour of 100 children aged 6 to 12.

They were shown a series of short films featuring puppets of children who either told the truth or told lies. The films were designed to discover how children perceive honesty and deceit in order to gain insight into their moral and social development.

Against all expectations, and regardless of their age, all the children were easily able to tell the difference between truth and lies. There were however, two significant differences in the way the children decided which behaviours to forgive and which to condemn.

In some of the films, telling a lie would result in a negative outcome for another character, while in others, a lie intended to help someone else would have a negative outcome for the speaker.

For instance, in one of the films, a character made a false confession, claiming responsibility for another character's misdeed in order to protect them. In this film, the younger children were found to be more likely to think this behaviour was bad.

In other films, puppets told a selection of different truths (including some not so nice truths) highlighting how these can hurt someone else. The children were asked whether the characters were being honest or dishonest, and choose whether those particular behaviours should be rewarded or punished.

Overall, younger children were less concerned about the negative effects of truth while the older children were more conflicted.

Children are taught that lying is always bad, yet they also witness their parents telling little white lies to make life easier. Depending on the child's age, and given that there are different kinds of truths and lies, this could be confusing – not all lies have negative consequences, and not all truths have positive consequences.

As they develop, children become more interested in the consequences of truth and lies. They also become more adept at looking at the intentions behind information that's delivered verbally.

Younger children may make their decisions based on what they're told by parents and caregivers, reflecting a black-and-white view of truth and lies. But as children get older, they become more concerned with how these decisions will affect others, and how certain truths might be perceived by their peers.

Lying is costly. Keeping track of one's lies and trying to maintain the plausibility of a fictional narrative as real-world events intrude is mentally taxing. The fear of getting caught can be a constant source of anxiety, and when it happens, the damage to one's reputation can be lasting.

For the people who are lied to, there are also costs – lies undermine relationships. As children reach their late teens, they realise that lies can also damage organisations and institutions.

However, the ability to lie and engage in other forms of deception is also a source of great social power because it allows people to shape interactions in ways that serve their interests. Liars can evade responsibility for their misdeeds, take credit for accomplishments that are not really theirs, and rally friends and allies to the cause.

Learning about lying is an important step in a child's development – there are cognitive building blocks that must be in place in order to lie successfully. One way in which research psychologists have sought to understand the reasoning behind the choice between lying and telling the truth is to examine the way we first learn this skill in childhood.

In some studies, researchers asked children to play a game in which they could obtain a material reward by lying. In other studies, children were faced with social situations in which the more polite course of action involves lying instead of telling the truth. For example, an experimenter will offer an undesirable gift such as a bar of soap and ask the child whether he or she likes it. Yet another method is to ask parents to keep a written record of the lies their children tell.

One study, conducted by Gail Heyman, Professor of Psychology at the University of California, San Diego. set out to understand children's thinking processes when they first work out how to deceive others – which for most children is around three and a half years-old – and the types of social experiences that may speed up this developmental process.

In that study, children were invited to play a simple game that they could only win by deceiving the experimenter. When the children told the truth, the experimenter won the treat, but when they lied, they won the treat for themselves. In the game, the child hid a treat in one of two cups while the experimenter covered her eyes.

The experimenter then opened her eyes and asked the child where the treat was hidden – the child then responded by indicating one of the two cups. If the child indicated the correct cup, the experimenter won the treat, but if the child indicated the incorrect one, the child won the treat. They played 10 rounds of this game each day for 10 consecutive days.

This method of closely observing children over a short period of time allows for accurate tracking of behavioural changes, so researchers can observe the process of development as it unfolds.

The children were tested as close as possible to their third birthday, which is before they typically know how to deceive. As expected, when they first started playing the game, most of them made no effort to deceive, and lost to the experimenter every time. But over the next few sessions most children discovered how to deceive in order to win the game – and after the initial discovery, they used deception consistently.

Not all the children worked out how to deceive at the same rate. At one extreme, some worked it out on the first day – at the other, some still consistently lost the game even at the end of the 10 days.

The rate at which individual children learned to deceive was related to certain cognitive skills. One of these – know as 'theory of mind' – is the ability to understand that others don't necessarily know what you know. This skill is needed because when children lie, they intentionally communicate information that differs from what they themselves believe.

Another one of these skills – cognitive control – allows people to stop themselves from blurting out the truth when they try to lie. The children who most quickly worked out how to deceive had the highest levels of both of these skills.

Competitive games can help children understand that deception can be used as a strategy for personal gain once they have the underlying cognitive skills to work this out, but it's important to bear in mind that the initial discovery of deception is not an endpoint, but the first step in a long developmental process.

After this discovery, children typically learn when to deceive. But in doing so they must sort through a confusing array of messages about the morality of deception. In the process, they usually learn even more about how to deceive.

Young children often inadvertently give away the truth when they try to dupe others, and they must learn to control their words, facial expressions and body language to be convincing. As they develop, they often learn how to employ more nuanced forms of manipulation, such as using flattery as a means to curry favour, or steering conversations away from uncomfortable topics and presenting information selectively, to create a desired impression.

By mastering these skills, they gain the power to help shape social narratives in ways that can have far-reaching consequences for themselves and for others.

Bully beef

Lots of children get bullied at school. Most recover after a short time, and some go into show business. If you're a parent, there are lots of things you can do about it…

Sudden and unexpected changes in behaviour could be the first clue, so keep a lookout for the signals:

- Children might ask for third party advice – as in, 'my friend is being bullied…'
- They might be spending more time online, looking at their friends' social media posts to check up on their own standing within the group.
- Unexplained marks on the body, such as cuts, grazes or bruises,
- Not wanting to go to school,
- Feeling unwell on school mornings,
- Your child is playing truant, or avoiding certain people, situations or places,
- Unexplained loss of toys, school dinner money, devices or even clothing,
- They're hungry when they get home – because their lunch money or even lunch has been taken from them,
- They suddenly start taking a different route to or from school,
- They suddenly stop talking about school,
- They make excuses, such as unexplained illnesses like headaches / stomach aches,
- They start dropping out of school activities,
- They become afraid of riding on the school bus,
- They become afraid of being left alone – they need you there to meet them,
- A sudden marked change in personality, eg. becoming very quiet or sullen,
- Bullied children often start bullying other smaller or younger children,
- They wait to get home to use the bathroom (unsupervised school bathrooms are often bullying hot-spots,)
- They suddenly have fewer friends or no longer belong to the 'regular group',
- There is a significant drop in grades caused by difficulty in concentrating,
- They run away from home

Of course, these clues don't always point to bullying – it could be that two best friends have fallen out. But whatever happens, don't ignore the signs! And don't be shy about going to see the head teacher at the first sign of trouble!

It's important to try to understand bullying. One way is to sit down with your child and discuss with them what bullying is and what it isn't. Your child has a *right* not to be bullied.

Bullying can take many forms, other than the more traditional repeated and deliberate aggression. There's 'accidental' or 'inadvertent' bullying, where distress can be caused without any hostile intent. This second type is easy to deal with, once it has been identified. And then there is 'passive bullying' which involves purposely excluding others from events, and 'backstabbing' which involves spreading untrue rumours and gossip. Children can be taught that actions can have unintended consequences.

Children also need to know that it's not only wrong – it's counter-productive to hit back – or at least unless you are absolutely assured of victory. When I was at school, it was well known that one pre-emptive strike in quiet corner of the playground usually solved the problem. But that behaviour is flawed and contrary to modern thought and advice. Those who excelled at physical violence had more often than not been subject to it themselves.

It is difficult for children to be assertive – they don't have the life experience, let alone the practice. The trick is to be assertive without inflaming the situation, and that's a hard act for youngsters.

But it's also wrong to ignore a bully and hope they will just go away, because they won't. Bullies pick on the weak – never on someone their own size! Passive response never worked, and never will.

So the best way to deal with bullying is to report it immediately. If it continues, kick up a fuss – threaten social services or the police – especially if it gets serious. All schools are legally required to have a copy of the school anti-bullying policy, so go in and ask for a copy. In the meantime, it's a good idea to keep a detailed diary of what's been going on – who said what to whom, where, when – that sort of thing. Take photographs of any marks or bruises.

Explain the problem and ask how the policy is being followed in your child's case – that is guaranteed to put the fear of God into a head teacher. The *last* thing they need is a visit from an Ofsted inspector. Make it clear to the school that you intend to follow it up. You could attend a PTA meeting and speak up about your problem. You could write to the school's governing body or even your MP, who will certainly enquire into the problem on your behalf.

A head teacher will want to sort the problem out straight away, but you could also threaten to go to the local newspaper, if the problem hasn't been sorted out in a week!

However – and this is important – don't be tempted to tackle the parents of the bully, because this never works either. Bullies often come from bad homes – and yes, I do blame the parents – but they may well turn out to be just as bad.

Bullies enjoy the psychological control they exert over others – that's also a symptom of bad parenting.

Most important, bullying must not be allowed to disrupt or harm your child's education. Keeping them home from school is not the answer, even though it's important to ensure their physical and mental safety both in the classroom and outside the school gates. You must lay down a set of rules for them to follow if they are bullied again. It's up to the school to make sure the child and the bully are kept apart during break times *and* in lessons.

Most important is the ability to be able to talk to your children – being bullied is not the child's fault, although they may be embarrassed about their predicament. There is no shame in being bullied and children have to understand that it's the bully who is the real sad act, not them. Above all, children need to know they have the support of their parents!

Bullies can make children's lives hell! Anyone can be targeted by a bully. Being bullied is an emotional experience, so it's easy for your child to feel down and stop doing the things they enjoy. They still have their own needs – they need people, they need to feel secure, and they need a sense of achievement.

Just thinking about the bully can make children anxious. Bullies make them fearful, upset, uncertain, and even depressed. They can sap confidence and self-esteem and cause your child to lose sleep – something that makes it hard to think rationally.

Some bullies target everybody, but most will single out just one person. Bullies test to see if someone is susceptible to bullying, and they're very good at identifying what is important to another child and will use that information as a weapon. If your child's school work is important to them, they will attack that, if being sociable is important, they will try to isolate them, if your child is good at sport, they will attempt to spoil that.

Bullying is intentional and repetitive. A bully will always try to undermine your status and even your physical safety. They often do this publicly to humiliate you – but *that is their weak point!* We know now that bullies are just weak personalities who suffer insecurities and uncertainty about themselves. Because of this, bullies should be pitied. They are actually despised by those who witness their bad behaviour.

First off, you can explain it's the bully who is a weak or nasty person – especially the ones who have been bullied themselves!, Maybe they were spoilt as children and they developed an inflated sense of entitlement, so they've got used to being 'top dog.' They enjoy the attention their behaviour gets them, or they think being feared is the same as being respected and having status. But that is no excuse! No-one deserves to be bullied – and your child is no exception.

Then you can explain that there are ways of dealing with bullies:

Bullies are angry people who are prone to oversimplified, black and white thinking, and they are unable to make fine distinctions. Their anger is a dangerous and unhealthy emotion. The more angry they feel, the more 'in the right' they think they are. Most bullies are on a power trip. They often make overt or covert threats. They may be critical or sarcastic – or they might disguise their aggression as a joke – and then accuse you of having no sense of humour!

The angry bully may ask lots of questions such as *"Who do you think you are…? What d'you think you're doing?"* but not wait for a reply. But don't be fooled – they don't actually want answers to these questions because they can't listen while they're angry… so it's a waste of time trying to make them see reason.

When someone is very angry, it can take them 30 minutes to calm down enough to get back in touch with their own thinking brain. So don't bother trying to reason with them! Remember – they are incapable of taking in complex ideas when they're angry. So… ignore their personal insults or sweeping statements!So steer clear of saying things like *"you're being stupid"* and stick to things like *"excuse me please, I haven't got time for this right now."*

Also remember that without their aggression, they are in reality, sad little nobodies – without heir aggression and their little band of followers they would be lonely people. The sooner the bully realises you are not intimidated by them, they will lose interest and stop.

Above all, reassure you child that they haven't done anything wrong and they have nothing to feel ashamed about!

Trusting children is the best medicine

We need to trust our children because they are able to sense danger at a biological, molecular level – something that is wired into our DNA and helped us to survive as a species. Children also need to learn from their own mistakes – and that means taking a step back and allowing them make mistakes. Ultimately, they will learn something from the experience, and their confidence and sense of self-belief will grow.

Obviously, that doesn't mean leaving them exposed to hazards, but it does mean allowing them opportunities that encourage autonomous decision making and self-care skills. If your child is going to thrive in life, they need to learn to think independently.

For example, your child might want to climb a tree, but instead of saying 'No, get down!', find room for negotiation, bring both sides of the argument to the table, and find a middle ground. That might mean only climbing to a certain point or simply letting them know precisely what might happen if they fall. But it's important to let the child have their say – making them risk aware is also making them understand that in life, the consequences of their actions can go in many different directions.

Whatever happens, don't turn into a 'helicopter parent' – someone who hovers over them being excessively overprotective! Banning games of tag in school playgrounds are routinely banned because they are deemed 'too rough'. It's not unusual to see children wearing 'indoor helmets' in case they bang their heads.

Previous generations understood that a small amount of risk was part of play, but then the nanny state, obsessed with creating a zero-risk environment, moved in, mindful of the possibility of massive financial damages!

By not allowing children to take risks and learn about consequences, you make them less human, less responsible, less autonomous, and suffocated. Limiting and distorting a child's freedom to play can have a hugely negative effect on their personal wellbeing and growth.

Failure, mistakes, and accidents are all part of learning. Being able to understand, assess and confront uncertainty is vital if a child is to develop into a responsible adult.

There's no better place to learn about this sense of risk and freedom than exploring the great outdoors. Some youngsters are disadvantaged when it comes to having access to the outside world and this can have a huge consequence on their wellbeing, their personality and their physical health and parents should recognise the importance of this connection with nature.

It can be difficult for a parent whose child has had an accident to move on from that point and continue to take risks. Was it such a big deal for your child… or has it impacted you more? Children need to be prepared for bumps and scrapes, because bumps and scrapes are part of life. Bumps and scrapes can happen anywhere, anytime – even at home.

Emotional hurt is sometimes a consequence of taking social risks, but this too should be encouraged. For instance, there might be an incident at school where your child tried to play with a group of kids but was rejected. But whatever the outcome, it was worth the emotional risk because they put themselves out there and tried to make connections.

Instead of focusing on 'success' at school, we should teach our children how to be social, navigate relationships and be good citizens. Interaction between parents and children – rather than gadgets – will help children develop these skills. What teach our children today will have a direct impact on their future.

We can teach children how to use computers, but they just spit out facts. We should be teaching them the **'6 Cs' –** according to ***Becoming Brilliant: What Science Tells Us About Raising Successful*** **Children**, by Professor Hirsh-Pasek and Roberta Golinkoff of the University of Delaware.

1) Collaboration: Vital both in and out of school. Children have to learn to get along with others and control their impulses – like learning not to push in etc. Everything a child does, in the classroom or at home, must be built on that understanding.

2) Communication: the ability to read, write, speak and listen.

3) Content: is built on communication. Children can only learn if they understand how to use language.

4) Critical thinking: A practical example of encouraging critical thinking is always taking the time to answer your child's questions. Even better, encourage them to ask more. Children will be smarter if they understand how other people think.

5) Creative innovation: Children need to understand things well enough to create something new.

6) Confidence: is critical in order to teach children to take safe risks. Outdoor play with others is an important part of this.

The solution is to talk to your child about the positives and, even if they're shy, they'll take the risk again in order to find new friends. Identify the positives with them and encourage them to share their thoughts and feelings. Children copy their parents, so if you're reserved and you don't want to try new things, they can pick up on this and act the same way – this goes for everyday, routine matters, not just when you decide to go walking on the mountain with them!

Some parents might embrace risk while others will avoid it. While it's good for a child to recognise that people can have different outlooks on life, it is important they also get a consistent message when it comes to general, everyday household routines and rules.

Your children will notice every single one of your foibles and in the end they'll be scared of doing anything that falls outside their own comfort zone. They might become picky eaters or end up with narrow interests – football mad but with no interest in anything else!

It's also ok to cry in front of your child, or show frustration with a tricky situation. You won't be doing them any favours if you pretend to be something you're not because your child needs to understand that life is not a bed of roses, and never will be.

If you make a mistake, recognise it, share it, and talk about it with your child. They will copy this grown-up emotional behaviour and understand that no-one is perfect. Children can sense when they're not being given the full story. They can also sense when you are putting on a front and if your happiness is a mere pretence. You could even say to them, 'I don't know the answer – let's go and see if we can find out together.'

Teenagers with overly strict parents when they were young will struggle to form emotional relationships when they get older. This goes against the traditional maxim of 'spare the rod, spoil the child', and researchers say strict parents risk harming their child's long-term prospects.

Previous research identifies psychological control as a problematic parenting behaviour, but psychologists at the University of Virginia set out to study the long-term impact on youth of parenting that is psychologically controlling. Perhaps unsurprisingly, they discovered a lasting impact – children with overbearing and controlling parents at 13 still had trouble with educational attainment as adults.

Some parents attempt to control their children through 'intrusive' and 'harshly manipulative' means, including withdrawing love and affection when the parent is angry, or making the child feel guilty for upsetting the parent. Children of parents who use such tactics tend to achieve lower grades and have lower self-esteem because they are discouraged from asserting themselves and gaining independence.

Researchers studied the progress of 184 participants from a variety of socio-economic backgrounds from urban and suburban areas in the south eastern United States from the age of 13 to 32. The study also considered income, gender, and average school marks at age 13. Half the participants were female, and 42% identified themselves as members of minority ethnic groups.

Over 20 years, the researchers asked the participants to fill out annual questionnaires about themselves, their parents and, in adulthood, their relationship status and education. They also collected information from each child's peers about how well liked they were in school, and also watched videos of each youth interacting with his or her closest friend and later in adulthood, interacting with his or her romantic partner.

The findings, published in the journal *Child Development*, showed that having overbearing and over-controlling parents at age 13 was associated with less supportive romantic relationships for those who were in relationships by age 27. The researchers also found the offspring of overbearing parents were less likely to be in a relationship by the age of 32. Those participants also had lower educational attainment by the same age.

The most important age, in terms of when these problems begin, is 15 or 16. Teens with overbearing and controlling parents at that pivotal age were less psychologically mature and were less liked by their peers.

Strict parents might mean well, but they could be making things worse for their children. Even though parents try to guide their children toward successful adulthood, over-controlling parenting in adolescence has the potential to actually impede development in a way that's not easy to repair.

Children's popularity at school will affect their lives

As unfair as it seems, popular teenagers achieve greater academic success, make more money and have stronger relationships when they're older. Those lower down the pecking order grow up to be at much greater risk of substance abuse, obesity, anxiety, depression, problems at work, criminal behaviour, injury, illness and suicide.

Teenage popularity plays a greater role in a child's future than they realise. Teenage popularity changes the wiring in our brains in ways that affect social perceptions, emotions and even how our bodies respond to stress.

Mitch Prinstein's excellent book *Popular: The Power of Likeability in a Status-Obsessed World* throws light on something we already suspected to be true:

'…even as adults we all remember exactly where we stood in the high school social hierarchy, and the powerful emotions associated with our status persist decades later.

'In many ways – some even beyond our conscious awareness – those old dynamics of our youth continue to play out in every business meeting, every social gathering, in our personal relationships, and even how we raise our children… Our popularity even affects our DNA, our health, and our mortality in fascinating ways we never previously realised.'

It is during our teenage years that we stop thinking like children and start to form our awareness of what other people think of us. The memories we form can – and do – prejudice what we do later on in life and how we understand and think. Psychologists call this 'social information processing'. The theory is that our reactions to social situations are automatic decisions that happen immediately within seconds of an interaction.

A key part of the brain – the ventral striatum – a hub in our brain's reward centre that plays a major role in making us feel good and one of the first parts of the brain to change at puberty – is activated during social interaction. Starting in adolescence, the ventral striatum becomes especially activated when we experience rewards that are social in nature. One of its chief functions is to make us care about status. This is the reason we apologise when someone bumps into us, even though it may not be our fault.

A student's rank in the school pecking order will determine whether a person may always apologise or turn around and tell the other person to watch where they're going. That automatic, hard-wired reaction is a direct result of the experiences of our teenage years.

However, according to Prinstein, we are also genetically predisposed to be more submissive or dominant. But… even if we didn't have the most positive social experiences at school, we still have the ability as adults to regain control or start again – it's not always the conventionally popular people who fare the best.

There is more than one type of popularity, and decades of research have established that the relentless pursuit of status puts us at risk of a wide range of serious life problems, including addiction, loneliness and depression.

The efforts required in obtaining status – behaviours such as aggression, disregarding the feelings of others, and selfishness – should not be what we want for ourselves or for our society.

Parents and teachers often use praise to reward children – but praise can backfire if it's applied in the wrong way. Children praised for being smart are more likely to cheat in tests because they feel pressure to perform well to live up to their parent's or teacher's expectations.

According to researchers from the University of Toronto, children respond better if you praise specific behaviour, because that doesn't make children feel that they are always expected to perform well. This takes a huge amount of pressure off and removes the temptation to cheat.

Pre-school children, praised for being smart, were found to be more likely to cheat in tests than those who were praised for doing well in a single task. In addition, children who were told they had a reputation for being smart were also more likely to cheat.

Of course, we want children to feel good about themselves, but the research shows that despite the subtle difference between the two forms of praise, there were significant effects on behaviour. Praising pupils for their efforts in the classroom, rather than punishing their bad behaviour – can improve their focus by up to 30%. Experts monitored over 2,536 students in the US over a three-year period to see how attentive they were in relation to the ratio of praise and reprimands teachers gave. They concluded that with student focus linked their ultimate grades, getting teachers to spend more time praising their pupils in class could help to booster learning.

Psychologist Paul Caldarella and colleagues at Brigham Young University spent three years monitoring 151 classes with a total of 2,536 students aged 5 to 12 years-old from 19 elementary schools across the US states of Missouri, Tennessee and Utah.

Previous research showed teachers tend to reprimand students for problem behaviour more than they praise them for appropriate behaviour. This often has a negative effect on classrooms and student behaviour. Students need positive feedback to understand what kind of behaviour is expected of them and what kind of behaviour is valued by teachers.

Students who complied with the social skills they were expected to model in lessons were praised or rewarded for complying. Good behaviour – such as paying attention or asking for help – and appropriately confirmed with praise along with sound teaching practices and other evidence-based classroom management strategies tends to increase good behaviour and will inevitably improve learning.

The Brigham Young University study was published in the journal *Educational Psychology.*

Reading & writing

What teenagers read makes a big difference to their development. Novels are far more beneficial than comics and magazines – they are more challenging than magazines, comics, and short online texts because they require readers to digest large amounts of information. Books also allow youngsters to switch off from other distractions.

University College London Institute of Education researchers analysed data from more than 250,000 15 year-olds, across 35 industrialised countries, including the UK.

The data showed that teenagers who read fiction had reading skills more than six months ahead of peers who almost never read fiction books or novels. This is certainly because novels exercise the imagination and help the reader explore the world in a way that magazines and the internet cannot.

Since 2010, 45 American states have adopted the Common Core standards, which leaves teaching handwriting up to individual states and districts. Astonishingly, these 45 US states do not require schools to teach students handwriting, even though 200+ years of experience suggests the skill is vital to a child's development.

A pen and paper helps children learn and remember more than if they record information on a computer. There is an increase of activity in the sensorimotor parts of the brain involved with processing, attention and language. The act is also beneficial for adults, suggesting they will better remember things if they writing them down.

Of course, most people know that already. Nevertheless, research conducted at the University of Science and Technology (NTNU) in Norway suggests national guidelines are needed to ensure children receive handwriting lessons.

The brains in both young adults and children are much more active when writing by hand than when typing on a keyboard because using pen and paper exercises more areas of the brain and thus provides more ‘hooks’ to retain information.

For instance, the act of writing creates much more activity in the sensorimotor parts of the brain. The simple act of writing, seeing the letters you write and exercising the muscles to move the pen, activates different parts of the brain which reinforce memory.

Computers and smartphones are now used by all generations, but the younger generation has spent all their lives relying on these devices. In the process, they are losing the ability to communicate. According to the American Academy of Child & Adolescence Psychiatry, US children aged eight to 12 spend four to six hours with devices, while teens spend up to nine hours.

Most of the nation's schools now conduct learning online. As a result, many teachers have moved from pen and paper to the keyboard. At the time of writing, no one knows how this reliance on technology will affect the children – and the adults – of the future.

What teenagers read makes a big difference to their development. Novels are far more beneficial than comics and magazines – they are more challenging than magazines, comics, and short online texts because they require readers to digest large amounts of information. Books also allow youngsters to switch off from other distractions.

If you want your kids to get better exam results, then you should make sure they feel good when they walk into the exam hall, and the way to do this is to make sure they look good to feel good!

Researchers and psychologists at Harvard University say that self-esteem has a knock-on effect on memory and confidence and can increase mental ability by as much as 20%.

Smart, clean clothes and even make-up make us feel better about ourselves and more confident during times of stress.

200 female undergraduates, all studying the same subject, all with similar levels of self-esteem, similar make-up habits and similar IQs, were randomly split into three groups and asked to put on make-up, listen to music, or draw.

All then took an exam based on a chapter of a textbook they had just read. Results showed that those who used cosmetics scored an average of 24.2 out of 30, compared to 19.9 and 22 in the other groups.

We need to prize our teenagers away from their screens… There has been a 75% increase in technology use by teenagers in the last 15 years.

Teenagers who become slaves to their devices are risking their long-term health.

A 2014 report by World Health Organisation scientists at the University of St Andrews collated responses from more than 200,000 pupils in 42 countries. It put the UK near the top of a European league table for teenage gadget use.

Only 25% of boys meet the UK Government recommendation for exercise of at least an hour a day – including walking. Girls' greater obsession with social media means that only about 14% of them meet that target.

Sedentary behaviours now dominate adolescent's lives, accounting for approximately 60% of their waking time, making sedentary behaviour the most common behaviour after sleep.

Parents! Limit screen time and get your kids outside, exploring the great outdoors, playing games, having conversations… that sort of thing… you know – all the things we used to do when we were truly free…

6 steps to encourage better teenage decision-making

Bad friends are bad news for impressionable young people.

Teenagers are easily influenced by their peers and sometimes they just can't help taking dangerous risks when they see their reckless friends doing the same.

With the rise of stupid social media challenges, it's becoming even harder to protect teenagers from doing stupid things – even from acts of self-harm and in extreme cases, suicide.

However… good decision-making skills can be learned…

1. Be aware of upcoming events that may present temptation to teenagers, for example, the possibility of drugs or alcohol. Listen to their expectations about the event.
2. Inform them of possible scenarios which may result in problems, for example, missing the train home or their friends becoming intoxicated. Inform them of the better choices available.
3. Encourage them to *Stop & Think!* Teach them that it's OK to remove themselves from situations that might turn bad. They can always phone home and ask mum or dad to come and collect them. Above all there's no shame in refusing to take part in activities that present risk.
4. Teach them to consider all the potential consequences of their actions. Get them to ask if a decision is really the right one? Inform them of the possible consequences. Get them to question themselves if they would want mum or dad to find out about it.
5. Remind them that it's OK to ask for help. There's no shame asking for advice!
6. Making a mistake should always be seen as an opportunity to learn a valuable lesson. It's OK to discuss and explore where, how and why the decision making went wrong, and how to make better choices in the future.

Understanding how friends can influence risky behaviour is becoming more important, given increasing access to information about others' lifestyles and opinions on social media.

However, it's not all bad news the right sort of friends can have a positive impact on teenagers.

In fact, the safe choices of others have a bigger effect on influencing choices, and this highlights the effect positive role models can have on young people.

The grumps

It's a mystery that has baffled parents for years, but now we may finally know why teenagers tend to be so grumpy… Teenagers can actually catch moods from their friends. While both positive and negative moods are 'contagious', bad moods are more potent.

A study by Oxford and Birmingham Universities to tackle the mystery of why teens tend to be moody showed conclusively that individuals are affected by how others around them are feeling.

Researchers analysed 79 teenagers aged 15 to 19 on a short residential classical music tour. As mood changes frequently and is influenced by various environmental factors that differ between individuals, many studies find collecting comprehensive data difficult, but that challenge was easily overcome because the participants were living together.

By observing people in a group, with few external influences, all experiencing the same environment and spending their time together, it was easy to monitor who interacted with who, and how that made them feel. In fact teens' moods became more similar to people they spent time with, with bad moods more infectious than good.

Understanding why people fall into prolonged low states, and the social factors that determine emotional wellbeing in adolescents, it may be possible to provide emotional support leading to improved mental health in teenagers.

How to make a happy, well-adjusted child

Want your children to grow up well adjusted and intelligent? Surprise!!! It's all down to good parenting!

But that doesn't just mean spending time with them – it's *how* you spend that time that really counts!

It's only relatively recently that the real importance of play in children's lives has been recognised. Play is more than just fun and games – play establishes relationships and teaches children about boundaries, and children's moral, social and intelligent development is directly linked to how they play.

Play presents unique opportunities for children and parents alike. Play provides young minds with the opportunity to explore thoughts and imagination and bring them to life! Play gives children the opportunity to learn and hone new skills. What joy there is in being young and alive! For youngsters, it's *the* most important time to freely explore different thinking and creativity.

Asking children questions about what they're doing while they play – and why they're doing it helps them play with purpose. Parents should join in their offspring's play – and enjoy it as much as they do! Laughter is extremely important – after all, children are supposed to be having fun when they play!Remembering how you felt as a child and the joy play brought you will help you understand the happiness your child feels when playing.

Sometimes, parents are so busy they do things for their children that they could be taught to do themselves, or better still, made into a game. Instead of helping children when they ask 'can you do this for me?' it's better to say 'let's do it together.' Children are far less likely to become helpless or dependent if you follow this simple rule.

Encouraging anything your child is excited about helps them to see the world in new ways. Sometimes you might have to pretend everything they do is interesting, but of course that's a fundamental part of good parenting. You can encourage your child by talking about their ideas and even offering suggestions. A child might say 'look… a train.' Instead of just saying 'yes,' you could ask 'I wonder where it's going? I wonder where the people are going?'

One of the most important things is to identify play and celebrate it.

It's not always possible to be excited about play, after all, adults are busy too, but when you can be, it makes a huge difference to your child. The experimenting and trial and error that children experience is a hugely important part of their development.

Play is part of nurture, and there is plenty of research that proves it helps children's brains grow at twice the rate of children who don't have the opportunity to play or interact with caring, interested parents.

Both mothers and fathers experience the same increase in levels of dopamine when they interact with their children – particularly when it involves play. It doesn't take a genius to work out that the more time parents spend with their children, the stronger the bonds between them will become.

Further research has found that hormone levels in fathers increase if they hear their child cry, and that increase affects the way fathers respond. Key brain structures grow twice as quickly in youngsters whose mothers are affectionate and supportive than those with cold and distant parents. Brain scans showed that nurturing provided the most benefit to children under six. Even if a mother became more caring when a child was a bit older, those neglected when very young failed to catch up, which represents a lost opportunity for the child.

Researcher Joan Luby, a child psychiatrist at Washington University studied the effects of nurture and claims there's a sensitive period when the brain responds more to maternal support.

Dr. Luby's study included 127 children who underwent periodic brain scans starting when they began school and ending when they reached their teens. To assess their mothers, the women were videoed as they tried to carry out stressful tasks in the presence of their child, who was given an attractive gift to open, but wasn't allowed to open it right away.

The experiment represents the sort of stressful situation that occurs several times a day in any family, similar to when you're cooking dinner and your child wants attention. The child needs something, but you're busy, so it challenges your parenting skills.

Even small changes in parental support caused big changes in the growth of the hippocampus, one of the parts of the brain key to memory, learning and the regulation of emotion. This research was published in the journal *Proceedings of the National Academy of Sciences*.

It must be blindingly obvious that early parental support affects a child's development, but this is the first study that proves the same kind of support as a definite correlation to the development of the brain.

For the sake of completeness, based on 50 years of meticulous research carried out by the University of Texas, physical punishment – such as smacking – does nothing to make a child compliant. The more a child is smacked, the more likely they are to become aggressive and suffer mental health problems later on.

So much for smacking… but what about shouting? Perhaps unsurprisingly, shouting doesn't work either. Fathers who shout at their children make a child's behaviour worse!

Another study, carried out by researchers at Brigham Young University of how 500 children interacted with their parents, examined how the children reacted when shouted at by their mothers and fathers. Fathers who disciplined their teenage children by shouting at them made their behaviour toward parents, siblings and even non-family members worse. Conversely, mothers shouting at their children had no impact whatsoever on the child's behaviour.

The researchers believe the way in which fathers interact with their children when disciplining them has links to aggressive and delinquent behaviour in later life. Why? Fathers tend to shout louder and more forcefully than mothers and the shouting would be more likely associated with anger and aggression.

The danger is the child will interpret shouting as a normal or acceptable way to behave. The solution is that fathers should adopt a more gentle parenting style and engage in the sort of conversation that stresses love and caring rather than threats or punishment.

An earlier 2013 study also suggested that middle-class parents who shout at their teenage children increase the risk of later depression and troubled behaviour. Even if parents enjoyed a close relationship with their children, harsh verbal discipline was found to have a dramatic impact on teen's emotional development.

One of the major factors affecting the development of children is that over the last two decades, children have lost eight hours per week of free, unstructured, and spontaneous play. This dramatic reduction in unstructured playtime is partly responsible for slowing children's cognitive and emotional development.

The University of Berkley, California, is held to be one of the world's most prestigious universities. Among the lecture rooms, laboratories and libraries is a unique children's playground. It is built out of salvaged wood, rubber tyres and sheets of canvas.

When children enter this old-fashioned wonderland, they are handed a hammer and a bag of nails. There are children sawing wood and building things – all totally unstructured and unsupervised. There are no protective goggles or hard-hats or yellow fluorescent vests, just families having fun and being creative… and then leaving with a sense of having done something *interesting*. Hard to believe in the land of the multi-million-dollar lawsuit – but it's a bastion of common sense and normality.

In addition to helping children learn to self-regulate, child-led unstructured play (with or without adults) promotes intellectual, physical, social, and emotional wellbeing.

Unstructured play helps children learn how to work in groups, to share, negotiate, resolve conflicts, regulate their emotions and behaviour, and speak up for themselves. *Just get them outside and let them play!*

Climbing trees and running around in open spaces is what children really need – what they don't need is to become wrapped up in so much cotton-wool they become virtual prisoners! They need the freedoms that play brings and to be able to interact with the world – in short, to discover themselves. Freedom to roam the Internet on the other hand is no freedom at all!

Overall, it is how happy parents are that dramatically affects how happy and successful their children are. Extensive research has established a significant link between mothers who feel depressed and behavioural problems in their children. Depression in mothers also makes parenting less effective.

Teaching children how to build relationships also boils down to spending time teaching them how to relate to others. Research shows that encouraging children to perform small acts of kindness to build empathy not only develops essential skills, but also helps children become better people. It also makes them happier.

The search for perfection is more important than actually achieving perfection. Relentlessly banging the achievement drum will nearly always have the opposite effect. The research is very consistent – praise effort, not natural ability. Parents who over-emphasise achievement are more likely to see that ideal backfire. Children who only receive praise for achievement may later be more susceptible to high levels of depression, anxiety, and substance abuse.

The majority of children praised for their intelligence when they were very young go on to develop a tendency to look for easier options in the future. Those children are less likely to risk making mistakes that in turn could result in a loss of status. On the other hand, more than 90% of children who are used to trying harder continue to choose a more challenging

direction.

When we praise children for the effort and hard work that leads to achievement, they are much more likely to want to keep engaging in that process.

Parents should take every opportunity to teach optimism. It's better for children if they're taught to look on the bright side. Ten-year-olds taught how to think and interpret the world optimistically turn out half as prone to depression when they later go through puberty. It appears that optimism and happiness go hand in hand.

It is well known that optimists are more successful at school, work, music, drama and athletics. More often than not they are healthier, live longer and end up more satisfied in their marriages. They are also less likely to become depressed or anxious in later life.

Parents should understand that emotional intelligence is a skill, not an inborn trait, so just presuming your children will eventually and naturally come to understand their own emotions, and those of others, doesn't set them up for success. Parents should relate to their child, help them identify what they're feeling, and let them know that negative feelings are OK, but bad behaviour isn't.

Establishing positive behavioural habits opens other avenues to success This is made easier once distractions and temptations have been put aside. But be warned, setting too many goals can overwhelm children. The trick is to establish one positive habit before adding another – and not to expect immediate perfection! Perfection takes time and there will be relapses, but that's normal! Just keep at it, but remember, not too much pressure! One step at a time is always the best way.

Self-discipline in children is more predictive of future success than intelligence! Yes, it's the famous marshmallow test all over again! Kids who better resisted temptation went on to enjoy much more happier and fulfilled lives. The ability to delay gratification – to wait for that second marshmallow – is a predictor of intelligence, success in school and social skills in adolescence. This is at least in part because self-discipline helps with – and facilitates – learning and information processing.

One way to distract children from temptation is to obscure the temptation – in other words, physically cover up the tempting marshmallow.

In one study, the marshmallow was hidden, and 75% of children were able to wait the full fifteen minutes for the second marshmallow – none of the children were able to wait this long when the reward was visible!

In addition, children who mastered self-discipline coped better with frustration and stress and tended to have a greater sense of social responsibility. In other words, self-discipline leads not just to school success and sitting nicely at the dinner table, but to greater happiness, more friends and increased community engagement.

Research has repeatedly demonstrated a strong link between happiness and an absence of TV.

Happier people tend to watch considerably less television than unhappy people. We don't know whether it's TV that makes people unhappy, or if already unhappy people just watch more TV, but there are an unlimited number of non-TV related activities that will help children develop into happy, well-adjusted individuals.

If children are watching too much TV, they aren't doing things that could be making them

happier in the long run, like learning to have a conversation. Children who are glued to TV sets – or their smart phones – will be missing out on this most important and constructive social activity. Smartphones and tablets have been proved to affect children's sleep.

Studies have also shown that children who eat dinner with their families on a regular basis are more emotionally stable and less prone to abuse drugs and alcohol when they grow up. Those children get better grades and have fewer incidences of depression. This is particularly true of adolescent girls. These children are also less likely to become obese or develop eating disorders. Family dinners even trump reading to your kids in terms of preparing them for school.

Giving in to children's demands – or spoiling them – is a flawed ideology. Allowing them to overuse technology can be damaging to their development and, as we have seen, future mental health. Sometimes mum and dad have to say no! The problem is, children's overuse of technology is a major cause of boredom and poor performance, both socially, and at school.

It's all very well letting the electric nanny keep the kids occupied while you catch up with *Game of Thrones*, but it's not in their best interests. A lot of parents are being unwittingly selfish if they think their children are happy and 'occupied' when they're playing with their tablet just because they're quiet! This is a mistaken idea.

In the West, there has been a measurable decline in children's social, emotional, academic functioning, and learning ability. All the positive things parents can do to produce happy, well-adjusted children are being ignored. And without sounding snobbish or 'classist,' this decline is most prevalent in lower income families – especially among children whose parents have criminal records or problems with drugs and alcohol.

Of course there are many factors in modern life that lead children to perform less well in school, but second only to bad parenting is the overuse of technology. The pleasure centres in children's brains are too much stimulated by computer games and the joy of communication via social media. This makes it more difficult for parents to say *no* because 'no' is a word the computer never says! While virtual reality gets the brain used to high levels of stimulation, in contrast, classroom learning is boring.

The modern fringe-wisdom that children should be allowed to set their own rules – from deciding what they want to eat to what time they finally go to bed – is deeply flawed.

Making children happy in the moment can make them miserable in the long run. Giving your child unlimited choices, or worse, allowing them free-range access to the internet, means they'll only want to eat chips and chocolate… and never go to bed.

A world of endless fun does not prepare infants for a lifetime of responsibility. Children simply must learn to put things away, to tidy their rooms, be in by a certain time, and to contribute to the household and the rest of the family. I have seen too many feral kids in my life to know for certain that this is the right – and only – way! Children must lear and know where the boundaries are! The sooner children learn these basic rules, the better adults they will turn out to be.

Confidence and happiness in childhood has a significant impact on future life chances and children whose parents are married possess significantly higher self-esteem. Teenagers brought up in stable marital relationships turned out to be more confident than those in single-parent families or those whose parents merely live together. Believe it – at an unconscious level, having parents who are married is something of a status symbol to teenagers.

Overall, boys with married parents had the highest self-esteem, while girls whose parents co-habited had the lowest. Teenagers living with parents who were not married were no better off than children who lived with a single parent.

The surprise is that family income makes no difference – rich or poor, the pattern is the same. Marriage alone provides the sense of security needed by children. Self-esteem is closely related to how secure a child feels, and a stable home where parents are married provides this security.

It is the positivity in married parents' relationships that is the key to security. These children are more likely to see their parents as a solid and secure unit, and their self-esteem benefits accordingly. Marriage is the most important predictor of a child's future life chances – it's more likely to save a child from the trauma of family breakdown, and parents' public declaration of commitment significantly affects a child's self-perception and self-esteem.

Divorce and family breakdown, especially where there's conflict between parents, is directly linked to a child's poor academic performance and mental health issues including depression and anxiety.

Doing things together as a family is an age-old, tried and tested way of ensuring unity and instilling a sense of belonging in children. Parents who take their children for short walks in the park, or better still, in the wide-open spaces of the countryside end up with more well-adjusted offspring. Doing things together does more to ensure family harmony.

For instance, children who are given the opportunity to get away from Facebook and enjoy fresh air and natural green spaces are less irritable. Likewise, taking the dog for a walk, although I am not in any way suggesting getting a dog unless you are truly a dog lover. Dogs also demand constant attention – they smell, you have to pick up their poo, and they eat you out of house and home.

But regular visits to green places help to create a sense of family identity, which is shared down through the generations, thus creating stability. It not only reduces irritability, it also improves children's self-control. Green spaces and green things, trees, plants, grass, all help to restore the brains natural balance. At a deep unconscious level, we miss these things when we live in cities.

Researchers have looked at previous studies of how natural open spaces relate to family relations and improve attention restoration. Interaction with nature and natural environments can reduce mental fatigue and restore and improve attention. A change to a natural open environment gives the brain a rest – just getting away from the humdrum of day-to-day existence is therapeutic in itself. The effect is enhanced when families take part in these activities together, and it's especially good for children.

It's important to understand that experience of wide-open spaces is better for children than visits to theme parks or football matches. These activities require 'hard attention' whereas the natural world requires 'soft attention' and gives the brain a chance to relax and recharge.

The idea that watching live games, TV programmes or movies is relaxing is mistaken, because they all involve concentration and stress.

This advice is also relevant to parents. Enjoying watching your children run around and explore is not only extremely therapeutic, it's also fulfilling. Even if it rains, the experience

still binds families together. Watching TV as a family is not nearly as rewarding, except in circumstances that then stimulate conversation.

Children need healthy doses of UV light that sunlight provides. Spending time outdoors provides a source of vitamin D, and getting used to looking into the distance helps improve vision. This benefit continues even into higher education, which is known to increase the risk of short-sightedness because of the effect of 'near-work' such as reading textbooks. Two hours a day outside could provide the antidote.

A study headed by Dr Katie Williams at Kings College London and with the London School of Hygiene and Tropical Medicine, has confirmed that that staying indoors – rather than getting outdoors and soaking up the sun's rays – could mean your kids end up myopic. The condition is most likely to strike between 6 and 14, traditionally the age children spend most time playing outside – and not inside glued to their phones.

Spending a lot of time focusing on nearby objects, particularly tablets and smartphones, can make children more likely to need glasses, even though the long term effects may not become apparent until adulthood.

Families that play together stay together. So rather than taking the tribe to Disneyland, spending time at home enjoying familiar activities can be more satisfying – good news for families with little time or limited resources.

But while research suggests that quality time spent together contributes to a more satisfactory family life, not all family activities are equal.

Visiting new places and interacting with new people can leave families exhausted, leaving less opportunity to strengthen relationships. When the brain is focused on processing new information, such as taking part in unfamiliar activities, with unfamiliar people, in an unfamiliar location, less brain storage is available for the family.

The best predictor of family happiness may be the amount of quality time spent together engaging in familiar activities inside the home. Quality family time is having dinner together, playing games, sharing hobbies or better still, playing music. Humans are social beings who crave a sense of belonging and connectivity, and family life delivers this.

Children who stay up too late are more likely to suffer depression, anxiety and emotional problems in later life. Bedtime is important! Those lost hours of sleep could have a crucial – and potentially devastating – impact on their later lives.

To identify cognitive, behavioural and physiological patterns of emotional risk, University of Houston clinical psychologist Candice Alfano temporarily restricted the amount of sleep for 50 children between the ages of seven and 11.

The results of the tests, funded by the National Institute of Health, revealed that lack of sleep resulted not only in more negative emotions but also distorted positive emotional experiences.

For example, children enjoyed positive things less after just two nights of inadequate sleep. They were also less reactive to positive things and less likely to remember the details of a fun experience. Unsurprisingly, these tendencies disappeared when normal sleep patterns were restored.

In the long term, there is a danger that children who have less sleep would not have a strong bank of positive memories to draw from. According to Dr Alfano's research, sleep and emotional development are inextricably linked.

There is also another danger. Sleep-deprived children were shown to be more likely to abuse drugs and alcohol when they reach adolescence.

Over a period of 10 years, researchers led by Dr Brant Hasler, assistant professor of psychiatry and psychology from the Department of Psychiatry at the University of Pittsburgh School of Medicine, monitored the sleep habits of 186 boys aged 11.

The boys were selected for the survey after their mothers filled out the university's *Child Sleep Questionnaire.* The research was part of a larger study of low-income boys which examined factors associated with vulnerability and resilience. The study also took into consideration race, socioeconomic problems, neighbourhood danger, the ability to self-regulate, and internalising and externalising problems.

Based on the results of the questionnaires, their sleep time and sleep quality were calculated. When the boys reached the age of 21, the researchers interviewed them again about any experiences they'd had with drugs or alcohol – and the results were astonishing.

Boys who had experienced more sleep disruption were the first to start drinking alcohol and smoking cannabis. Every missed hour of sleep per night at age 11 was associated with a 20% acceleration to the first use of alcohol and cannabis.

Preventing problems with drugs and alcohol before they manifest themselves is obviously better than cure, and establishing proper quality sleep patterns in youth is an important factor in reducing substance abuse later in life. It is obvious that insufficient sleep was associated with earlier alcohol use, intoxication and repeated use. It was also associated with earlier cannabis use, repeated use, although not first use.

After considering all possible influences, the team determined that sleep problems are a significant precursor of substance abuse. Addressing sleep could be something that can be added to substance abuse prevention and treatment programmes. This study was published in the journal *Drug and Alcohol Dependence*.

Parents need to think of sleep and the child's emotional future as seriously as they do dental hygiene or nutrition – so critical is sleep to children's psychological well-being.

Setting a strict bedtime – something that seems to have fallen out of fashion with some modern parents – is something that should not be open to negotiation. Children will be happier when they are told what time they must go to bed. This is the best way for parents to make sure their children get enough sleep. Tried and tested, it’s really all about setting clear boundaries.

While ‘encouraging’ youngsters to go to bed might lead to fewer tantrums, a new study from Public Health Ontario in Canada has found encouragement on its own doesn’t work! In fact children encouraged, rather than told, to go to sleep are less likely to get the amount of sleep they really need.

Researchers surveyed more than 1,600 parents and discovered that their use of set bedtimes fell sharply as soon as their children became teenagers. As parents became less involved in their children’s bedtimes, their sleep deprivation appeared to rise, with 15-year-olds the worst affected.

In the study, children ‘encouraged’ to go to bed were discovered to be 71% less likely to get enough sleep, while those with actual bedtimes were 59% more likely to get enough sleep. These findings are based on recommendations of nine to 11 hours of sleep per night for five to 13-year-olds – which is similar to British advice of eight to 10 hours for 14 to 17-year-olds.

Dr Heather Manson, senior author of the study, said that encouragement was less effective for both weekend and weekday sleep, but enforcement of rules around bedtimes had a significant impact, although only on weekdays. Parents enforcing bedtimes on weekdays does help their children get sufficient sleep. Parents tend to be less strict at weekends and give their children more discretionary time.

Children who are sleep-deprived are more likely to be obese, perform poorly at school, and struggle to control their emotions. They are at greater risk of developing type 2 diabetes and high blood pressure if they don’t meet sleep guidelines. They are also more likely to cause parent stress and marital conflict between their parents.

Sleep is increasingly recognised as an important and integral component of healthy living – particularly for children, along with other behaviours such as physical activity and rest.

It is entirely possible that parents who set bedtimes during the week may be successful in getting their children to sleep because they provide more structure in the day. Fixed mealtimes and structured evenings have also been shown to improve children’s sleep.

A happy childhood will set children up for life because children who have the security of a good home environment and loving, caring parents are far more likely to have stronger, long lasting marriages and better, more secure relationships both with each other and their grown-up children in old age.

Research carried out by Harvard Medical School found that men who grew up in caring homes were better at managing stressful emotions in middle-age, which in turn improved their chances of maintaining relationships, not only with their spouses but also with their own children and grandchildren.

Warmer childhoods engender better emotion management and interpersonal skills.

The Harvard study followed 81 male participants from adolescence to old age. 51 of the participants studied at Harvard anyway and would have come from secure loving families. The other 30 were recruited from inner city Boston and not so likely to have enjoyed the same sort of upbringing. All participants underwent regular interviews and questionnaires through the course of the study.

To measure the participants' early home environment, the researchers looked at reports about their home life as well as developmental histories recorded by a social worker, and conducted interviews with the parents.

When the participants reached 45 to 50, they were interviewed again, this time discussing the challenges they had encountered in various aspects of their lives, including their relationships, their physical health, and their work.

Using the original interview notes, the researchers then rated the participants' ability to manage their emotions in response to these challenges. Finally, when the participants reached their late 70s to early 80s, they completed an interview that focused on their relationship with their current partner.

The results showed that participants who had had a nurturing family environment early in life were more likely to have secure relationships in old age.

My mother and father lived through the war – my father was a fighter pilot in the RAF and my mother in the Women's Royal Voluntary Service. They lived through a time of food shortages and ration books that continued even after the war was over and Britain slowly got back on its feet. It was not until the early 1950's when many of the foods we now take for granted, such as fresh eggs, fruit and meat were again readily available. Old habits die hard, and so as children, we were expected to always clean our plates.

Fast forward 60 years to a time where food is in plentiful supply, conveniently available and parents still tell their children to do the same – after all, in some parts of the world children are starving, so wasting food is a sin. But this practice could be a mistake because forcing children to eat when they are no longer hungry could drive them to overeat later in life.

More working mothers are putting their children into day-care, where the people to whom they entrust their offspring's welfare also encourage the little darlings to eat everything on their plate, because it's always been thought this will stop fussy eating early on. But a study carried out by the University of Nebraska in Lincoln warns this 'clean plate' policy can also be dangerous, potentially fuelling overeating later on.

Some daycare workers mistakenly believe this clean-plate approach encourages children to develop a healthy appetite. Some childcare providers use controlled feeding practices because of fear of parent's negative reactions if they find their child didn't eat.

But… there's plenty of research suggesting that when kids are subject to controlled feeding, they lose their ability to follow their own hunger cues to stop eating when they're full. (*Journal of the Academy of Nutrition and Dietetics, September 17 2016.*)

Both parents and carers should encourage children to eat, but avoid pressuring them to do so. Ideally, they should also avoid praising them for cleaning their plates.

Food – or worse, sweets – should never be offered as rewards for ordinary tasks, such as using the toilet, even though some carers say that toilet training would be harder without rewards. The answer is that praise is reward enough.

It's better to get children to learn to regulate their own food intake.

In certain circumstances, it might be better to encourage children to sample different foods, thus turning eating into an exploration that they can enjoy.

Parents can give your children a massive head start – and an advantage over other children – by giving them the opportunity to take part in extra-curricular activities, thereby guaranteeing them more skills and wider knowledge. Many parents manage to give their children 2,500 more hours of education outside school. Over a 10 year period, that's just 5 hours a week.

This is not as difficult as it sounds because it includes reading time, joining after-school clubs, visiting museums and art galleries and taking children to the theatre. [I find it shocking that one in ten children never read with their parents] Music lessons are even more valuable than you can imagine – music teaches children coordination, it teaches them a sense of history, it encourages them to work as a team, it encourages them to be creative and bestows upon them a sense of responsibility, even if it's only getting them used to the idea of turning up on time.

Even holidaying in other countries contributes to children's knowledge of the world, so long as the whole time isn't spent on the beach or at Disneyland! Better-informed children achieve better academic results and eventually go on to get the best jobs.

Sometimes all child psychology does is validate the values our grandparents knew to be the truth in the first place. Happy and well-adjusted children aren't born well-adjusted, they learn to be happy and well-adjusted because they had good, loving, caring and responsible parents.

Coda:

Why music makes smarter children…

Playing music while playing with your child won't just make them giggle, it could also boost their brainpower. Brain regions key to music and speech are found to be sharper in nine-month-old boys and girls who attended musical play sessions.

University of Washington researchers believe exposure to the rhythms and patterns of music make it easier for youngsters to make sense of the ever-changing world around them.

Infants experience a complex world where sounds, lights and sensations constantly change. Pattern recognition is an important cognitive skill, and improving that ability early on could have long-lasting and positive effects on learning.

I believe all children should be given the opportunity to learn to play a musical instrument. Playing music develops and improves motor skills, increases creativity, and teaches children to work together.

Learning to play a musical instrument makes children better listeners – and not just to music. Music also gives them an opportunity to take part in and enjoy one of the things that makes life worth living.

Learning to actually *play* music at an early age contributes to better brain development, optimising the creation and establishment of neural networks, and stimulating existing neural pathways. Brain scans show a significant increase in brain connections in children after just nine months of learning to play an instrument, improving youngster's development.

Making music enhances a child's fine motor skills and teaches them to cooperate and work as a team. Music helps with maths skills and gives children an appreciation of the finer things in life. In the case of classical music, it also teaches children some history and an understanding of the human condition. It also helps with their emotional and social skills development.

Many of the skills musicians must master to play their instrument are duplicated for mathematical achievement. For musicians, the relationship between music and maths is clear, although scientists are unsure which influences the development of the other.

Some studies indicate that musical training exerts a positive influence on mathematical ability. For instance, individuals who learn to play an instrument are known to have higher scores in maths exams compared to their non-musical peers.

Learning to play music involves specific mathematical skills such as fractions and ratios, even though the application of these skills is not always done at the conscious level. Musicians count how many beats there are in a bar and how many bars there are in a phrase. The length of any musical note for example can be divided by two, three, four, five, six, and so on. Volume and tone are also based on comparative ratios. Musicianship also involves listening, watching, remembering and anticipating.

Other studies have suggested that an aptitude for music and mathematics are driven by high-level cognitive processing skills necessary for both.

Executive functions such as the cognitive processes that regulate our ability to learn, reason, remember and plan are known to predict academic achievement in maths.

Musicians also develop these cognitive processes when they train their brains to carry out the fine motor movements involved in varied tempos, timbres, key signatures and interpretation.

There may also be other contributory factors that determine success in music and maths.

It is equally possible that non-cognitive variables like socioeconomics and education are involved. Plainly, growing up in a family with significant financial resources means you are more likely to afford music lessons.

Either way, there is no better activity for your children.

Before becoming a world–renowned hypnotist, Andrew Newton studied at the Royal Northern College of Music in Manchester, UK. He is a great advocate of the beneficial effects of teaching music to children.