

*A little book on neuroscience and the
biology of stress*

Being Present in the Now

choice, empowerment and being well

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With thanks to the children,
young people and families I
have worked with and
colleagues across our
learning community.
Sarah



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Note from Sarah

I have written this book for any of you who are interested in understanding how early life experiences can impact health and wellbeing across a lifespan. It's written through the eyes of an imaginary adolescent called Jamie who is in the process of working out what it means to be him in the context of multiple relationships and aspirations including how he fits into his family and community, finding a partner and rearing healthy children. I have worked as a GP for for more than 30 years and held an interest in the impact of trauma and adversity on lifelong health and wellbeing since medical school. Though the opinions in this book are mine, I have accessed research from internationally well regarded institutions and people such as Center on the Developing Child (Harvard University), The Alberta Family Wellness Initiative (Canada), Professor Dan Siegel (Mindsight Institute), Professor John Gottman (Gottman Institute), Dr David Eagleman (neuroscientist) and Dr Lisa Feldman Barrett (neuroscientist). You will find a summary of contents and a glossary near the beginning of the book and a list of references at the end.

Emotions and feelings help us make sense of what's happening inside our bodies in relation to what's happening around us in the world. Pausing and being present in the moment influences the brain's predicting process and can change how we feel. When we change how we feel we can change what we do.

Those of you who are neurodivergent are likely to find understanding the biology of stress and relationships especially helpful.

Jamie

Biology of stress-
connecting mind and body

Lived experience

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Glossary

- Acute inflammatory phase - stimulation of the immune system that protects the body from harmful things - often characterised by redness, swelling and pain
- Adversity - a very difficult or unfavourable situation or experience
- Bank of chaos - total lack of control
- Bank of rigidity - lack of flexibility and adaptability often with a vulnerability to addiction
- Brain architecture - billions of connections between individual brain cells across different areas of the brain
- Coachee - the person a coach is interacting with
- Chronic inflammatory phase - ongoing stimulation of the inflammatory phase of the immune system can eventually damage healthy cells
- Doing to - the concept of 'doing to' comes from the hierarchical model of providing care where the professional is seen as 'the expert' doing something to fix the problem
- DNA - a molecule carrying genetic instructions
- Emotion coaching - validating, labelling and sitting with emotions when interacting with others
- Emotion intelligence - empathy, effective communication or social skills, self-awareness, self-regulation, and motivation.
- Epigenetics - an emerging area of scientific research showing how children's experiences affect the expression of their genes
- Executive function and self-regulation skills - the mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully. The brain needs this skill set to filter distractions, prioritise tasks, set and achieve goals, and control impulses
- Fibromyalgia - a long term condition that causes pain all over the body
- Fulcrum - point at which something that is balancing is supported or balances - often a bar
- Gene - hereditary unit that sits on a chromosome and contains the information needed to make proteins or produce other molecules that help the genes assemble proteins
- Genome - the entire set of DNA instructions found in a cell
- Health outcomes - there are many definitions. We talk about 'being well', contributing positively to society but more conventional measures would be morbidity, mortality, quality of life
- Holobionts - an assemblage of host and species living in or around it that form a discrete ecological unit

- Mediterranean diet – typically includes plenty of fruit, vegetables, legumes, pulses and fermented foods including pickles and fermented milk or yoghurt
- Metabolic systems – when activated these produce more energy for our body, for example for our muscles if we have to run, or for our brain if we need to think more clearly
- Metaphor– not an exact representation of reality, but a way of using words and ideas in order to more easily understand and remember something
- Microbiome (human) – comprises bacteria, archaea, viruses, and eukaryotes which reside within and outside our bodies. These organisms impact physiology, contributing to the enhancement or impairment of metabolic and immune functions.
- Neurodivergent – neurological differences recognised and respected as any other human variation including Dyspraxia, Dyslexia, Attention Deficit Hyperactivity Disorder, Dyscalculia, Autistic Spectrum, Tourette Syndrome.
- Neurones – the brain cells responsible for receiving sensory input from the external world, for sending motor commands to our muscles, and for transforming and relaying the electrical signals
- Physiology– functions and mechanisms of living organisms from cells to organs and systems
- Plasticity – anytime you learn something, the experience becomes encoded in your brain's wiring and over time these codings can change that wiring. When neurones fire together connections become stronger and when they don't fire together the connections become weaker.
- Primary caregiver – for a baby or young child this would often be a parent, carer, guardian or foster carer. It might be another adult caregiver eg. adoptive parent or relative.
- Sensory integration – processes in the brain that allow us to take information we receive from our 5 senses, organise it, and respond appropriately.
- Serve and return – a term coined by Center on the Developing Child, Harvard University to describe responsive interactions between a child and caregiver. Just like in a game of tennis, a child serves by making eye contact, smiling, laughing or babbling, and the caregiver returns the serve by sharing in the exchange.
- Young Carer – someone under 25 who helps care for a family member, relative or friend
- Vagal tone – activity of the vagus nerve, the 10th cranial nerve largely responsible for things like heart rate, breathing rate and gut contractility

Foreword

Some people spend so much time feeling stressed, worrying, being sad or overwhelmed with anger that they don't really know what it means to feel content, in the moment, engaged with their core being and in tune with others around them. People who over exercise, over or under eat, experience abdominal pain, claw at their skin, become so anxious they can't socialise, hit their head regularly or self harm in other ways may be in this group.

We are going to look at some of the reasons why this may happen and help Jamie and his sister Jasmin understand why people react and respond to stress differently.

Adolescence is thought of as being between the ages of about eight and twenty five in societies where young people are in education for a very long time. During this time, the brain is particularly able to change its activity by reorganizing its structure, functions and connections - **in other words adolescence is an opportunity for change.**

Neuroscience is an evolving field- as technology develops and improves, and as we have more data, things that we once thought we 'knew' about the brain are becoming more finely tuned and even changing in fundamental ways. It's important to remember this while reading this book because it's easy to think of the science as static and factual whilst much scientific research involves experimental thought not all of which will be proven over time to be correct. The brain is a system with many multiples of variables. We are beginning to understand the complex interplay between genetics, relationships and environment but all the time it gets more complex. For example, our microbiome* comprises bacteria and viruses which reside within and outside our bodies and these organisms impact how our bodies function (our physiology*). Genes* can sneak in after birth (or maybe during birth or in pregnancy) by travelling into the brain inside bacteria during early life. It's easy to say 'this area of the brain does this' but this simply is not OK anymore. Try and think about it like this: 'this science is drawn together by the team at Center on the Developing Child rather than 'this is how the brain works'' and be suspicious when people speak in absolutes.

Mindful emotion coaching is a trauma informed approach to health and wellness that is based on scientific research. The outcome methodology

*see glossary

(2014) was derived from Center on the Developing Child, Harvard University: Frontiers of Innovation: IDEAs Impact Framework. The focus is on reducing the impact of adversity, improving core life skills and abilities and supporting responsive relationships through psycho-education and team coaching.

All of us need to know what responsive, emotion validating or emotion coaching relationships are. Some of you will have been lucky to have had adult care-givers who naturally used this way of connecting. However, for a lot of the time, Jamie's Mum and Dad weren't able to do this and so Jamie needs to take some time to understand what we mean.

By pausing and paying attention to his senses, emotions and feelings Jamie will increase his emotion intelligence which will in turn improve his executive function and mean he can think and plan more clearly. He will need to manage his sleep, exercise, diet, emotional and mental health to function optimally and make healthier choices. Ultimately he will be in a good position to provide responsive relationships for his children and support their healthy development.

During adolescence social relationships are super important and social exclusion and bullying are especially traumatic.

Being able to communicate effectively and with compassion with others is one of the most important skills Jamie can learn and that's what this book is all about.

It's important for all of us to know who we feel safe with and where we feel safe. Training and support is available at:

www.mindfulemotioncoaching.co.uk



Jamie's story

Jamie is in his final year at school and he's thinking about what will happen once he's left school. He lives with his Mum (Natasha) and sister (Jasmin) and thinks he might want to go to University, but isn't sure. He's worried about how he will manage and feels pretty stressed about a lot of things.

Natasha has struggled with a depressed mood for years. When Jamie was born she was in an abusive relationship with Jamie's Dad. In her childhood, Natasha's father was an alcoholic and she witnessed domestic abuse.. Recently she has been diagnosed with fibromyalgia* and she often experiences debilitating pain. There was a lot of shouting in the house when Jamie and Jasmin were growing up. They didn't ever know whether their Dad would be happy or angry. Jamie's Dad's mood could change in a moment and everyone felt scared because when he 'lost it' everything was awful. When Jamie was ten, his Dad left home and the house felt different. But his Mum sometimes spent all day in bed and Jamie worried about her. He felt sad and angry all at the same time.

Jamie doesn't have many friends and feels he wants to learn how to manage his feelings and emotions better.



Jamie and Jasmin are both worriers and find stress difficult to manage. Recently, Jasmin has been spending a lot of time on her phone in her room. Both Jamie and his sister are Young Carers*. Jamie has recently joined a local Young Carers group but his sister Jasmin is not old enough to go with him.

In the next section Jamie and his sister will learn about the neuroscience of brain development by looking at the biology of stress.

*see glossary

The biology of stress

Why do some people find it harder than others to manage their feelings and emotions?

How do the mind and body interconnect?

'We know from the science that the more we recognise and process our emotions the easier we will find it to make friends and feel comfortable with ourselves'

To be motivated to make changes, Jamie needs to understand why it is so important for him to notice and talk about emotions and feelings. The starting point is for him to understand the biology of stress. In this book he will access scientific information, metaphors* and stories including:

- evolving neuroscience of brain development
- positive, tolerable toxic stress responses
- mindful emotion coaching psycho-education tools
- the Alberta Family Wellness Resilience Scale
- lived experience from other people

Baby human brains are born 'under construction' and don't take on their full adult structure and function until they finish their principle wiring at about the age of twenty five. In the first two- three years of life neurones connect as they take up sensory information. Two million new connections are formed every second in an infant's brain. As the brain develops there is a complex interplay between genetics, relationships and environment (including diet). A clear cut example of environmental influence is that the brain areas most centrally involved with vision only develop normally after birth if the baby's retinas are regularly exposed to light. This is why it's so important to diagnose cataracts as soon as possible after birth and remove them.

A baby's brain wiring is is affected by both their social and physical environment. In particular it is influenced by relationships with primary caregivers*. As information travels into the new born brain, some neurons fire more frequently than others, causing brain changes that we call plasticity*. Plasticity involves both strengthening of connections that are well used or important and pruning of connections that are less -used or less important.

Sensory integration* happens when the baby's brain absorbs patterns of sight, sound, smell, touch and taste plus sensations from within their body and learns their meaning. When the baby's primary caregivers* are able to provide nurturing responsive care, the sensing of that person conjures a feeling of trust and is part of the **neural foundation for attachment**. Little babies need social inputs from other humans who guide their attention, speak or sing to them and cuddle them at key moments. Centre on the Developing Child, Harvard has coined the term 'serve and return*' to describe this relationship.

Human brains have many common features but are individually variable. The human embodied brain develops surrounded by other embodied brains while immersed in a physical world and constructing a social world. The micro wiring in our brain is tuned and pruned by cultural social interaction with early caregivers. As we wire ourselves with our physical and social surroundings we begin to emerge as separate beings energetically linked with each other.

If the baby's primary caregivers are not able to provide the nurturing responsive care needed to meet the baby's needs, things can go terribly wrong. When babies are persistently neglected the impact can be gradual and subtle as important wiring goes unused and is pruned away. The pre conscious laying down of brain architecture is affected.

The team at Center on the Developing Child, Harvard University have created a way of thinking about this that we call 'the biology of stress'. They talk about three types of stress response:

The first is a **Positive Stress response** that is a normal and essential part of healthy development. Characterised by brief increases in heart rate and mild elevations in hormone levels. Examples include things like getting to an appointment on time, getting ready for school or preparing presents for Christmas.



The second is a **Tolerable Stress response** which activates the body's alert systems to a greater degree. This is as a result of more severe, longer lasting difficulties, such as the loss of a loved one, a natural disaster, or a frightening injury. The activation is time limited and buffered by emotion coaching supportive relationships with other people. The brain and other organs are able to recover from what might otherwise be damaging effects.



The third is a **Toxic Stress response** which can occur when a person experiences strong, frequent and/or prolonged adversity without adequate support or buffering emotion coaching relationships. Such adversity may include physical or emotional neglect or abuse, chaotic environments, caregiver substance abuse (alcohol or drugs for example), caregiver mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship. This kind of prolonged activation of the stress response systems in pregnancy and the first three years of life, can cause a chronic inflammation and disrupt the development of brain architecture, affect immune systems, hormonal systems and how DNA is read and expressed. In other words, it changes the way our brains and bodies work and can lead to a higher risk for later physical and mental health problems.

Jamie has heard about the effects of adversity on child development through Adverse Childhood Experience (ACEs) projects running across the UK and the world. He knows that early adversity can impact emotional and physical health over a whole life span- this 'biology of stress' metaphor helps him understand why and how this might happen.

He can see how important it is for pregnant women and babies to have adults around them who are able to talk with each other about emotions and feelings and provide nurturing, emotion validating relationships with their children.

Jamie's Mum and Dad were caught up in their relationship difficulties and fighting so much when he was a baby that they couldn't find the headspace to connect with him and his sister with the nurturing emotion validating serve and return interactions needed for their healthy development. Both Jamie and his sister experienced a toxic stress response.





'It's easy to think that a very small baby won't be aware of fighting in the house. But this just isn't true'. Dr Sarah Temple

Not only will the toxic environment have impacted Jamie's development but while Jamie's Mum and Dad were busy fighting they won't have noticed when Jamie was hungry or needed his nappy changed. So he didn't get his physical or social needs met in the normal way.

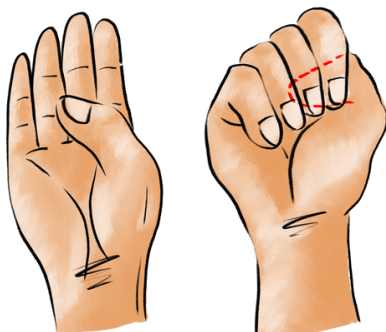
It's really important that Jamie takes the time to understand the science. This will motivate him to start making the changes he needs to make to cope with how stress affects him. He can learn to be less emotionally reactive and more responsive. Not only will this help him with his relationships both at home and at work but it will help him make healthier lifestyle choices which will affect his emotional, mental and physical wellbeing.

It will also mean that when it comes to him being a parent he will be able to provide supportive serve and return*, emotion validating interactions that nurture his children's normal and healthy development.

Now Jamie is ready to improve his core life skills and capabilities by learning about emotion intelligence* and executive function*. Metaphors and stories are a good way to start.



Metaphors and psycho-education



Our adaptation of Professor Dan Siegel's Hand Model metaphor

Professor Daniel J Siegel, *The Whole Brain Child*, pages 62-63. *Mind Your Brain* 2015

A metaphor* is not an exact representation of reality but is a way of using words and ideas in order to more easily understand and remember something. The metaphors Jamie will learn about have been tried and tested by thousands of people over the last 10-15 years - they are straight forward and easy to remember and use. But remember that they are metaphors, not facts.

Here, the metaphor is all about connections between different areas in the brain. The 'downstairs brain' is represented by the palm and thumb and contains emotion and feelings parts of the brain. The thinking part of the brain (upstairs brain, frontal lobes) is represented by the finger tips. When the downstairs brain is reactive, the thumb wobbles, the fingers flap up from the closed position and eventually the fingers flip right up and we flip or lids. When the thumb is calm and the fist is closed we have motorways of connections between these different areas of the brain and we are in tune with ourselves, people around us and our environment. This is when we make our most effective decisions and when we are able to make healthy life style choices for ourselves and others.

Jamie can learn to calm the reactivity of his brain through emotion-coaching techniques and mindful activities. This is also referred to as vagal tone*. Jamie needs to pause and understand better what vagal tone means.





Vagal tone

In this image Jamie can see that the vagus nerve travels down from the brain to most of the vital organs including heart, lung and gut.

Porges, S.W (1992) coined the term vagal tone as a way of assessing an individual's vulnerability to stress. he used heart rate as a measure and established that children taken into local authority care had a higher resting heart rate than the remaining child population.

Our adaptation of this concept merges learning from both Siegel and Porges and Jamie finds it an interesting and easy way to think about managing 'his lid'. In this metaphor, the upstairs (thinking, frontal cortex)) part of the brain works with the downstairs (brain stem) part of the brain to calm our bodily responses and help us stay balanced. When we accurately label the emotions and feelings we are experiencing, our upstairs brain releases neurotransmitters which travel down to the downstairs brain through motorways of connections and stimulate the vagus nerve. The vagus nerve then sends impulses to the vital organs that have a calming affect - slowing the heart rate or breathing rate, for instance. This is where the term coined by Dan Siegel '*name it to tame it*' comes from.

Jamie realises that some of the tummy pain he experiences when he is worried or anxious might settle if he could pause, reflect and hold in mind his emotions and feelings while his lid is flapping, before it flips. He remembers the strap line- '*it's easier to bring down a flapping lid than one that's flipped*'.



Our adaptation of Professor Dan Siegel's (2015) River of Wellbeing

'For all of us, when we're having thoughts or feelings that overwhelm us, it's easy to get caught up in the pain and forget about the positives in life.'

Think of the river of wellbeing as a sense of almost floating along in a connected relationship with your inner self, people and the world around you. Sports coaches describe this as 'being in the flow'. A moment when you feel calm and happy. In this metaphor, the banks of the river are the bank of rigidity and the bank of chaos.

Jamie realises that when he drifts toward his 'bank of rigidity' he feels low, stays in his room every evening, watches repeat runs of the same TV show and binge eats chocolate and crisps. At other times when he drifts toward his 'bank of chaos' he realises that he goes on spending sprees, ordering too much stuff and then struggling to pay for it.

Jamie knows what it feels like to be in his river of wellbeing because he recognises that inner sense of calm and connection he feels on the rare occasion when he spends weekends at his aunt's house where he adores his cousins.

Jamie holds in mind our adaptation of Dan Siegel's hand model and merges the metaphors so that he can talk about his lid going up as he moves toward either bank and his lid being down when he is 'in the flow' or 'present in the now'. He expands the metaphor further and thinks about his network of friends and family and finding others who are in their river of wellbeing. He realises that hobbies and interests in common can be a way of finding 'his tribe'.

Jamie has enjoyed the psycho-education metaphors and is hungry for more neuroscience. He wants to learn about how brain activity creates experiences.

Lisa Feldman Barrett (2020) explains how brain activity constructs experiences. What we see is a combination of what's out there in the world and what's constructed by the brain. What we hear is also some combination of what's out there and what's constructed by the brain, and likewise for our sense of smell, taste and so on. **We sense with our brain and our brain activity constructs our experience.**

Jamie realises that our brain also constructs what we feel inside our body. Our aches and pains and other inner sensations are some combination of what's going on in our brain and what's actually happening in our lungs and heart and gut and muscles. Our brain adds information from our past experiences to guess what these sensations mean. He needs to pause and reflect on what this means for his Mum and her experience of chronic ongoing pain diagnosed as 'fibromyalgia'.

**Body is mind, mind is body. Everything is connected within and between.
Professor Dan Siegel calls this Mwe**



Jamie considers a moment recently when he hadn't slept enough and was tired and low in mood. He realises that, although in this moment he experienced a feeling of hunger and ate a pack of crisps he was in fact tired from lack of sleep. The constructed experience of having been hungry before when his energy was low played out in his brain. He realises that this is a driver for his binge eating and may be one reason why he is putting on unwanted weight.

In fact this is the science behind the HALT acronym used in recovery programmes - a moment taken to pause and consider Hunger, Anger, Loneliness or Tiredness before reacting to a stressor.

Pausing before reacting is important for Jamie and Jasmin as well as for their Mum. The altered way their brain architecture was laid down right back in the early days of their brain development is affecting how their brains construct what they feel inside their bodies. Because brains are built in stages, with more complex structures built on simpler structures, it's important to get the early years right. Just as a house needs a sturdy foundation to support the walls and roof, a brain needs a good base to support all future development. Adolescence provides a second phase of active tuning and pruning which is why it's such an important time for healing and change.

Neuroscientist Lisa Feldman Barrett (2020) says *'your day to day experience is a carefully controlled hallucination, constrained by the world and your brain, but ultimately constructed by your brain. An everyday kind of hallucination that creates all your experiences and guides all your actions'*. Much of the neuroscience Jamie has learned about here is described in more detail in her book titled 'Seven and a Half Lessons About the Brain'.

There's more to learn! Neuroscientist David Eagleman (2015) talks about pain. It turns out there is no single place in the brain where pain is processed. Instead, an experience for example of a syringe needle stabbing your hand activates several different areas of the brain acting as a pain matrix. Surprisingly, the pain matrix is crucial to how we connect with others. If you watch someone else getting stabbed, those parts of your pain matrix involved in the emotional experience of pain get activated. Neurons deep in your brain can't tell the difference between your pain and someone else's.

Social pain- such as that resulting from exclusion or being cast into an out group activates the same brain regions as physical pain.

This is all really important information for Jamie's Mum because the fact that she experienced a toxic stress response early in her life is now impacting how her brain constructs and experiences pain. Jamie realises that she is effectively neurodivergent*.

Social pain interests Jamie. He realises that minimising social pain steers us toward interaction and acceptance by others. Our inbuilt neural wiring drives us toward bonding with others and urges us to form groups. Neurotypical and neurodivergent people all form groups. But there are more people who are neurotypical and their groups are bigger. For neurotypical people to form groups that are inclusive with neurodivergent people there need to be systems and processes that enable agency for everyone. This isn't going to be easy.

Repeatedly across the world groups of people inflict violence on other groups. Jamie considers the Nazi genocide of the second world war. The charisma and propaganda of Hitler and his associates led to the Jewish population being cast into an outgroup. He has an 'aha' moment. The population in the ingroup were able to say and do things that they wouldn't normally do to people they perceived as being in an outgroup. Compassionate and aware leadership is needed to notice and respond when ingroups and outgroups form in communities and settings. Thinking about the example of using a syringe needle to inflict pain - does the brain care as much when seeing a member of an outgroup getting hurt? In his experiments David Eagleman (2015) concluded that when a person sees pain in a member of their ingroup there is a large neural response, but when they watch a member of their outgroup in pain there is less activity.

Developing inclusive compassion involves understanding ingroups and outgroups as well as perspective taking. When we are forced to understand what it's like to stand in someone else's shoes, it opens up new pathways in our brain. Another aha moment! Jamie realises that developing emotional intelligence will mean he will form his own opinions about what he wants and who he wants to be. He can see that emotion intelligence is a crucial part of executive function and that by improving it, he will make more effective decisions, manage relationships more effectively and make healthier lifestyle choices. Also he will potentially parent more effectively!

It's time for Jamie to look in more depth at mindfulness. Mindfulness - sometimes called 'presence'- is an important component of emotion intelligence.

Being Present

Inhabiting the present moment establishes the conditions that may produce a stable state of concentration in which you are aware of your thoughts and feelings without engaging with them or reacting to them. Using the hand model metaphor - when our lid is down we are connected with ourselves, the people around us and our environment such that our brain is able to function well.

Meditation and mindfulness are about changing your relationship with your thoughts by simply and fully inhabiting the present moment.



Every moment of Jamie's life is some combination of the remembered past and sensory present. **Pausing and being present in the moment influences the predicting process and can change how Jamie feels.** Inhabiting the present moment can produce a stable state of concentration in which Jamie is aware of his thoughts and feelings without engaging with them or reacting to them. Using the hand model metaphor- when Jamie's lid is down (and he is connected with himself, the people around him and his environment), his brains is able to function at it's most effective.

Jamie's experience of an early toxic stress response means this process is more challenging, but during adolescence the brain is particularly able to change its activity by reorganizing its structure, functions and connections and so he has an opportunity for change.

Jamie gets it that meditation and mindfulness are about him changing his relationship with his thoughts by fully inhabiting the present moment. Mindfulness doesn't take away difficulties but it can mean they are less disruptive. It teaches a different approach to the ups and downs of life - one that enables more resilience and contentment.

A sensory meditation

Let your five senses enter your awareness in turn.

Let sound fill your awareness, pause and breathe.

Move to your sense of smell, pause and breathe.

Now let taste fill your awareness and take a deep breath.

Take a deeper breath and let sight fill your awareness, pause, breathe and let touch fill your awareness- the sense of your clothes on your skin and your feet on the floor.

Pause and breathe.

Take a deeper breath and move your attention to your sixth sense and the sensations of your inner body.

Begin with your facial muscles, letting the sensations of the muscles and the bones of your face come into your full awareness.

Stream your attention into your throat and neck and down into your chest and gut.

Pause and breathe

Take your attention to your mind and emotions

Pause and breathe

Move your attention to other people in the room with you

Pause and breathe

Extend your attention to others in the same building

Pause and breathe

When you are ready bring your attention back into the room and if you closed your eyes open them '

The Brain Story and the Resilience Scale

The University of Oxford, in partnership with The Alberta Family Wellness Initiative, provide online training called the Brain Story, sharing the science of brain development with a wide audience. Jamie looks at resources evaluated by Louise Dalton (2021) and associates at The University of Oxford for a secondary school science curriculum.

In 2007, the Palix Foundation (based in Calgary, Canada) launched the Alberta Family Wellness Initiative to turn ‘what we know’ into ‘what we do’ in policy and practice. Some of the key metaphors they have developed are described below.

- Brains aren’t simply born, they are built over time. Just like a house, a brain needs a sturdy foundation to support all future development.



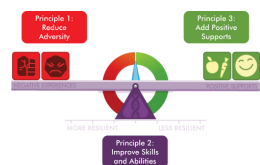
- Attentive, responsive, serve and return* interactions are the building blocks of a strong brain foundation.



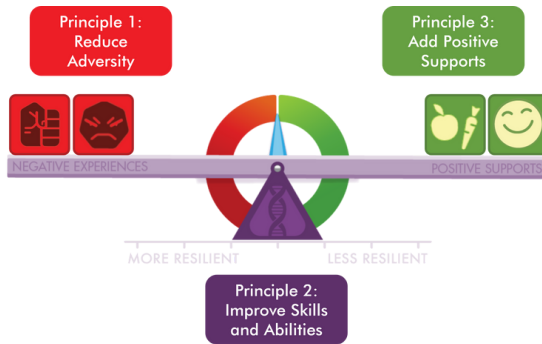
- Air Traffic Control - responsive interactions and a sturdy brain foundation support the development of executive function and self-regulation skills. Much like air traffic control at a busy airport, these essential skills help us plan, prioritise, make healthy choices and parent effectively.



- ‘The Resilience Scale’ - summarises how these aspects of brain development interact to influence lifelong mental and physical health outcomes.



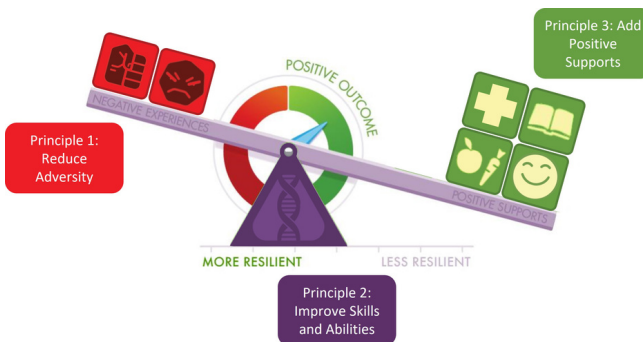
Resilience is the ability to stay healthy even in circumstances of extreme stress and is shaped by the interplay of genes, relationships, environment and experiences that shape brain architecture. The Resilience Scale aligns with the Harvard Center on the Developing Child’s three principles to improve outcomes for children and families; reducing sources of stress and adversity, supporting responsive relationships with positive supports and strengthening core life skills.



this image is provided by The Alberta Family Wellness Initiative

The red boxes represent negative experiences in life whilst the green boxes add positive supports in the form of safe, stable, supportive relationships.

The initial position of the (purple) fulcrum* can be understood as our original capacity for resilience and is determined by both genetic and epigenetic factors. Over time, the fulcrum can move to the left or right. By building our skills and abilities, including serve and return, air traffic control, emotional regulation, and reward motivation systems the fulcrum can move to the left giving less leverage to negative experiences. It is a practical tool that you may find works for you.



this image is provided by The Alberta Family Wellness Initiative




The position of the fulcrum affects how much leverage positive or negative experiences have in shaping our life outcomes. In this second diagram, the adult care givers are able to move the fulcrum by helping improve the individuals skills and abilities. One key way they can do this is through responsive interactions. A baby makes eye contact, smiling, laughing or babbling, and the caregiver shares in the exchange. Playfulness, emotion coaching and emotion validating are also responsive interactions.

Whilst earlier is better it's never too late to move the fulcrum. As you progress into adulthood you will be able to choose to learn about emotion literacy and not only move your own fulcrum but influence where the fulcrum sits for children developing in your care.

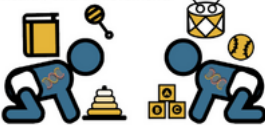

Epigenetics

"Epigenetics" is an emerging area of scientific research that shows how environmental influences—children's experiences—actually affect the expression of their genes.



During development, the DNA that makes up our genes accumulates chemical marks that determine how much or little of the genes is expressed. This collection of chemical marks is known as the "epigenome." The different experiences children have rearrange those chemical marks. This explains why genetically identical twins can exhibit different behaviors, skills, health, and achievement.

This means the old idea that genes are "set in stone" has been disproven. Nature vs. Nurture is no longer a debate. It's nearly always both!



EPIGENETICS EXPLAINS HOW EARLY EXPERIENCES CAN HAVE LIFELONG IMPACTS.

this image is provided by Center on the Developing Child, Harvard University

One of the reasons that Jamie finds it so hard to manage stress now is that the trauma he experienced as a baby caused epigenetic* changes which influence the expression of his glucocorticoid stress hormone receptors. **In other words one of the most important parts of his body's stress response doesn't function normally.**

Jamie needs to understand this and learn ways to cope with these differences.



The complex interplay between genetics, environment (including diet) and relationships that happens really early on in our lives affects everything about us - it doesn't just affect our personality, it affects the way our cells work together - how our immune and metabolic systems function, how our brain architecture is laid down and our lifelong mental and physical health. It gives that variability of interpretation of the same or similar situations which can be a cause of stress and tension if it isn't acknowledged as being part of being human.

Jamie and his sister need to learn how to make things easier. They know that they experienced a toxic stress response early on in life - now they are keen to learn to cope and manage. They know about metaphors such as the hand model, vagal tone, the river of wellbeing and the Resilience Scale but they are keen for more.

Jamie reads up about Professor John Gottman's (1997) research. He notices that in his research on parenting styles John Gottman concluded that where adult caregivers were able to emotion coach* 30% or more of the time this would improve their children's educational attainment as well as their ability to manage life's ups and downs

The premise of coaching is maintaining a partnership approach. Emotion coaching involves spending time exploring emotions and feelings. Emotion intelligence is a core life skill that helps us all create our own plans and achieve our goals.

Very young children's brains need their adult care givers to use a managerial emotion coaching style.

Adolescents need their adult caregivers to adopt a consultant emotion coaching style facilitating their progression toward becoming autonomous adults.



Jamie learns about four relationship styles;

- Emotion dismissive - 'don't worry, you'll be fine'
- Emotion disapproving - 'if you hadn't gone out yesterday and you'd done some work you...'
- Laissez faire or permissive - talks about emotions but doesn't give boundaries or set limits on behaviour
- Emotion coaching - pause, breathe, connect, engage with empathy and compassion, problem solve (with limit setting where necessary)



Here are some examples of an emotion dismissing style. Emotion dismissing is a particularly dominant relationship style in cultures where tasks need to be completed in quick succession. Jamie realises that he tends to use an emotion dismissing style a lot of the time. Here are some examples:

- Don't worry about it
- Stop crying! Cheer up!
- There's no need to be angry
- You are worrying over nothing
- I'm sure you will be OK -let's go and ...
- What you should do is...

Emotion disapproving blocks discussion and exploration of emotions and feelings - for example;

- Stop making such a fuss!



The permissive or laissez faire relationship style is a style that people with unresolved mental health difficulties such as depression, obsessive compulsive disorder, personality disorder or addiction problems may find themselves using quite a lot of the time. There is discussion about feelings and emotions but without problem solving or limit setting.

Emotion coaching involves validating, exploring and accepting emotions and feelings, stretching the engagement phase of a conversation before problem solving and limit setting (where needed). There are many hundreds and thousands of ways our emotions can make us feel. Paul Ekman has researched human non verbal communication and describes seven core emotions that humans everywhere in the world experience. His research was used by Disney in the film 'Inside Out'. The core emotions he describes are anger, sadness, surprise, joy, disgust, fear and contempt.

One liner reminders such as 'Name it to tame it' help us remember in the moment that naming emotions and feelings can help us manage our response to them. Exercises like the one below are practical ways to emotion validate and improve emotion literacy by noticing emotions, feelings and physical sensations associated with them. Improving our emotion literacy will in turn improve our executive function, our ability to manage life's ups and downs and make healthy lifestyle choices.

Noticing

Try linking your body signals with one of the seven core emotions common to all of us
anger, sadness, surprise, joy, disgust, fear, contempt

- tired for no reason
- tense muscles
- butterflies in your tummy
- sick in the stomach
- feeling like crying
- clenched fists
- breathing fast
- sweaty
- heart thumping
- jittery or jumpy
- lump in the throat



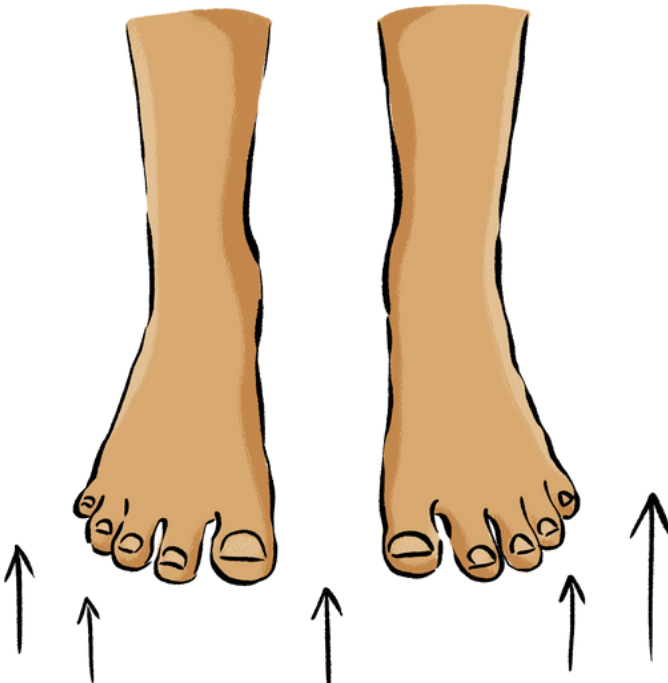
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Jamie is interested in developing his skills in emotion validating and takes a look at Pia Jones 'Sometimes I feel' cards and accesses some useful video clips through www.emotionresilience.co.uk



The final phase of emotion coaching is problem solving and limit setting. See below for some examples:

- Can you remember what happened to make you feel like that?
- It's Ok to feel like that, but it's not OK to behave like that (eg no harming yourself or others)
- Can you think of a different way to deal with your feelings?
- What could you do differently next time?
- Would you like to talk with someone about how you are feeling?
- What would you like to be able to do that you're not doing?



Examples of different relationship styles (with adolescent Max and Mum)

Emotion Dismissing

Mum: Max, it's time to go.

Max: I don't want to. I hate school.

Mum: Come on, Max, you know you enjoy school. Of course you're going.

Max: No, I hate it. Why do you always tell me what I like? You never listen.

Mum: What do you mean, I never listen? Now come on, we need to go – I've got a meeting I need to get to this morning.

Max: (comes out of the kitchen banging his bag on the door and kicking the chair.)
They drive to school in silence.

Emotion Disapproving

Mum: Max, it's time to go.

Max: I'm not going.

Mum: What do you mean, you're not going?

Max: I hate school.

Mum: That's ridiculous, you love school.

Max: Jake's being mean.

Mum: That's quite enough, now get into the car. You need to calm down and get your things together. Stop making such a fuss.

They drive to school in silence.

Laissez Faire

Mum: Max, it's time to go.

Max: I'm not going.

Mum: What do you mean, you're not going?

Max: I hate school.

Mum: Oh dear, what's happened?

Max: Jake, he doesn't choose me for five-a-side now and I'm on my own at breaktime.

Mum: Oh dear, Max, that's not very nice, poor you. Jake sounds like he's being really mean.

Max: I know, that's why I can't go.

Mum: I'll tell you what, I'll take a half day from work, and we can watch a film until you feel better. Poor Max.



Emotion Coaching

Mum: Max, it's time to go.

Max: I'm not going.

Mum: What do you mean, you're not going?

Max: I hate school.

Mum: Oh dear, what's happened?

Max: It's Jake, he doesn't choose me for five-a-side now, and I'm on my own at breaktime.

Mum: Oh dear, Max. (pause) – Mmmm.

(Remember Max is a teenager and Mum is therefore in the consultant rather than manager role)

Max: He used to be my friend.

Mum: (pause) Mmmm.

Max: I'm feeling sick when I think about it.

Mum: (pause) Are you feeling anything else?

Max: Disappointed.

Mum: That's OK, it's normal to feel like that.

Max: I'm OK, Mum. Let's go. We can talk in the car.

Vagal Tone

One of the ways the thinking part of our brain (frontal cortex) works with the brain stem to calm our bodily responses and help us stay balanced is via the vagus nerve.

The vagus nerve is a cranial nerve which begins in the brain stem and travels to most of our vital organs including our heart and lungs.

When we accurately label the emotions we are experiencing, our prefrontal cortex releases neurotransmitters which in turn stimulate the vagus nerve in the brain stem. This is where Dan Siegel's strapline 'Name it to Tame it' comes from.



More relationship styles for Jamie to consider

Jamie knows that developing insight into his emotions (emotion intelligence) will help him tune in and connect compassionately with other people. He is interested in how a coaching relationship style can help him manage power imbalances. He looks at the 'drama triangle' metaphor created by Stephen Karpman (2014).

Victim relationship style - has a sense of loss of autonomy, feels out of control, dependent, helpless, hopeless, powerless and unable to make decisions or solve problems. Has a sense of deferring to another. The key concept is lack of power- the power is with the rescuer and the persecutor. Sometimes a person with mental health difficulties, for example Post Traumatic Stress Disorder may appear to be a victim in the drama triangle but is actually unwell and needing support.

Rescuer relationship style- 'let me help you', 'I feel better if you feel better'. Unfortunately in the 'drama triangle', the rescuing person keeps the person in victim role dependent. It is the opposite to a coaching approach which is strengthening and empowering.

Persecutor relationship style- 'it's all your fault. I feel better if you feel worse. In the drama triangle, the person in the persecutor role has a need for control and they are often blaming, critical, oppressive and judgemental.

Roles may interchange in the triangle with the person in the victim role flipping into persecuting for example.

Equality within a relationship is the foundation of a good, healthy relationship and is the cornerstone of a coaching approach such as mindful emotion coaching.

For Jamie, ideally he will learn to avoid the drama triangle by using a coaching approach. However, if and when he slips into it, the first step in getting out of it is to notice when he is in it.

To successfully hold a partnership (coaching) approach needs the skill set of self awareness, assertiveness and compassion. Jamie doesn't feel he is quite there yet- it is difficult to be compassionate for others when he doesn't have much compassion for himself and it's difficult for him to be to be assertive when he doesn't value himself very much.

Things for Jamie to think about:

When he identifies as a victim, assertiveness is key. He will need to start sentences with *'I feel that'...* rather than *'you made me feel'*. He will need to be sure of his values and keep balanced, in his river of wellbeing. He will need to be honest about his feelings, wants and needs while recognising those of others. He will need to know that he has choices.

When he identifies as the rescuer he will need to consciously avoid 'fixing' and *'work together with other people'* rather than *'doing to'*.*.

Jamie has a role as a Young Carer with his Mum and he finds he slips into being a rescuer. Because of his experience caring as a young child he will need help untangling this. He needs to be able to make his needs known and say what he is prepared to do while remaining compassionate and empathic.

When Jamie identifies as the persecutor he will need to find the courage to become self aware by working on his emotion literacy.

Jamie has been told by several people that he has 'anger issues' and recently he has been aggressive toward his Mum. He knows that he needs help with this.

Emotion coaching provides a framework:

- tune in by taking a mindful pause
- engage with emotions and feelings,
- facilitate reflection before moving to problem solving and limit setting.

The mindful emotion coaching approach involves Jamie noticing his feelings and emotions at an earlier stage and taking time out when he feels he might get overwhelmed.

Mindful practices and meditation enable Jamie to develop compassion and empathy but need to be regular over time to be effective. Jamie decides to look into joining the mindfulness based stress reduction course on offer through Young Carers.



Invalidation as a relationship style

Jamie thinks about experiences he and his friends have had over the years when they have reached out for support. He realises how often he and his friends have felt invalidated. Not only can this be painful but it can also make things worse. He asks his friends to share stories- some you will find in the third section of this book beginning on page 42 - lived experience.

Invalidation can happen in what someone says or does not say or in what they do, or do not do. It can happen in an instant but have a profound impact.

Here are some examples of invalidation:

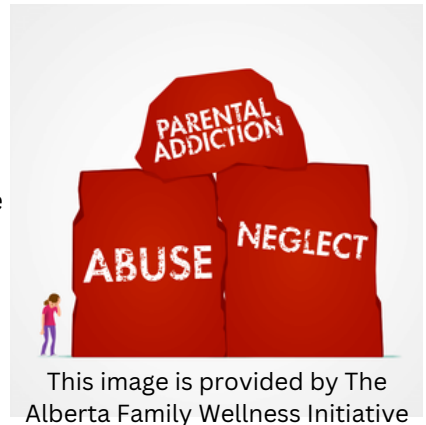
- not being believed- by adults including professionals
- being told 'you are being dramatic'
- being told you are not wanted or loved
- 'your depression is not as bad as mine'
- we can't help the bullies- sort it out yourself'
- you turned out OK, it can't have been that bad
- there isn't time for this - being shut down



- not being listened to
- not being heard

Invalidation can signal things like:

- you are not OK
- your thoughts or feelings are not sensible
- your needs are not realistic or important
- in this moment you are a problem to us



By contrast here are some examples of validation:

- being told you are believed
- someone really listening
- being told that what happened to you matters
- a person noticing that you are sad or worried
- people using your preferred pronoun
- people helping you feel you belong

Emotion coaching and emotion validating are examples of validating relationship styles.

Whole person wellness

Because his brains is embodied, Jamie needs to consider his physical health including sleep, exercise and diet as well as his emotional wellbeing. Among other important things, he needs to think about places where he feels safe and people he feels safe with.

A few years ago EHCAP worked on a pilot project with a group of students in Year 12 looking at suicide prevention. The six step Family Wellness Programme was developed during this time and is summarised on pages 27-30. The idea is to give a structured framework for conversations, extending the emotion coaching approach to include other aspects of wellness. and including a plan for action at the end.

Six Steps to Wellness with Mindful Emotion Coaching

Caring for ourselves with kindness and compassion involves paying attention to our bodies and minds as well as to our environment, including connections with other people. **Relationships are key but regular exercise and balanced nutrition as well as quality sleep are also core parts of wellness.** During adolescence, executive functions are not yet at adult levels, but adolescents need to communicate effectively in multiple contexts, manage assignments and complete complicated projects. This six step programme gives a practical framework for self-regulation. You will need to be familiar with our interpretation of Dan Siegel's Hand Model before beginning.

- 1 : Noticing your warning signs
- 2 : Noticing moments of calm when you're feeling good
- 3 : Noticing your environment
- 4 : Managing your emotions
- 5 : Connecting with people and places
- 6 : Identifying friends and family you can talk with

1: Noticing your warning signs when your lid is starting to wobble

Think about the last time you got really emotional and then think back to how you were feeling in the time leading up to that moment. Research by Paul Ekman tells us that all humans experience seven core emotions - Joy, Anger, Sadness, Disgust, Contempt, Surprise, Fear. Sometimes emotions overwhelm us and affect our behaviour. Learning to notice both feelings and physical changes will help you take action early and make changes.

'All emotions are OK but not all behaviour is OK' Professor John Gottman

If you're having trouble talking about your feelings and labelling your emotions it can help to work with a trusted adult such as a Parent Family Support Advisor(PFSA) or Family Support Worker. Close friends and family may also be in a good position to spot any changes that you might not be aware of.

Think about your warning signs :

worrying about little things, not sleeping, more fussy than usual about food, heart rate up, sweaty, head aches, tummy pains, binge eating, feeling unusually tired, feeling anxious about everyday things, snappy with friends and family, difficulty getting organised or planning ahead, arguing with people, mood changes, struggling to keep up with usual things, feeling hopeless, feeling trapped, drinking alcohol or taking drugs to cope.

2: Noticing your moments of calm when you're feeling good and your lid is down

When you're having thoughts or feelings that overwhelm you, it's easy to get caught up in the pain you're feeling and forget the positives in your life. Thinking about moments when you feel calm, happy and 'tuned in' may help you 'bring your lid down'. Professor Dan Siegel talks about 'The River of Wellbeing' in *The Whole Brain Child* page 9. Try and feel what it's like to be peacefully floating along in a good relationship with the world around you - sometimes you will drift toward the bank of rigidity (lack of flexibility and adaptability) and sometimes toward the bank of chaos (total lack of control). This exercise is about noticing when you are feeling calm and content in the flow of the river.

Describe the things you can do that make you feel calm and content: taking a long bath, exercising, spending time with a close friend or family member, walking your dog, painting, drawing, pottery, being creative, your faith or spirituality, spending time with your pet, helping others, sitting still, walking slowly thinking about your feet on the ground, yoga, massage, meditation, mindful breathing, mindful eating

3: Noticing your environment

Having a safe space is important. This includes making the environment around you safer, or taking yourself out of unsafe situations or stressful situations (especially if it's stress that goes on and on).

Describe what you can do to make your environment safer- consider avoiding social media, for example

4: Managing your emotions

Talk through the things that help you feel calm and well. Can you fit more of these activities into your day? If an activity isn't helping you, try another one. You might also like to try some activities that other people found useful like doing some exercise, taking a shower or watching a favourite movie.

Things you can do by yourself:

Go for a walk outside, do some exercise, play with a pet, see a movie, watch a favourite film, YouTube clip or TV show, listen to music, be creative (e.g. drawing, painting), write something, get outdoors, do some gardening, practice relaxation techniques like breathing exercises, mindfulness and meditation, take some time out to treat yourself to a small thing you usually enjoy. If you are super sensitive to taste, smells and you get anxious easily or have difficulty sleeping you may want to find out about sensory integration – try things like a weighted sock on your lap or over your shoulders



5: Connecting with people and places

It can be hard to socialise when your emotions are all over the place or your lid is jammed up, but just being around other people can improve your mood.

Remember that connecting with others doesn't necessarily have to be about talking and interacting. You could try going to a busy park or café, or invite a friend over to do an activity where you don't have to make conversation, like watching a movie or playing sport.

Make a list of people you could spend time with or social places you could go: Go to a busy park, Invite a friend over to watch a film, Spend some time in a café, Go to the library, Go to a sports match, Go to a concert or live show

6: Identifying friends, family and professionals you can talk with

Write down here the names and contact phone numbers of people you feel really safe with – the people you go to when things are really tough. This may be your partner or your Mum or Dad, but it may be someone completely different. It can be really helpful to share this plan with them and give them a copy. We are designed to co-regulate and knowing who you can do this with is core to maintaining your wellbeing.

Professional support is available at any time for any concern through the Samaritans on 116123. You can call if you are worried about someone else or if you are worried about yourself. Talking Therapies are an NHS provision in England - you can find your local service on the NHS 111 website.

Executive function and goals

On the next page you will find a commitment to action. **You will need to manage your sleep, exercise, diet, emotional and mental health to function optimally and reach your goals.** Once you have your commitment to action sorted, start focusing on the planning process for a goal that you want to achieve. Start with something fairly achievable such as saving money to buy a phone or starting a new hobby. Focusing on a growth mindset is something Carol S. Dweck, a professor at Stanford University talks about and her resources are available online. Try and focus on one task at a time, prioritise and sequence. Self reflection through journal writing can be helpful.

Commitment to action

Managing my sleep

Getting good sleep makes everything better. Minimise screen activity too close to bedtime, get a bedtime routine, have a wind down time, exercise helps you sleep and so do mindful activities and meditation, some people find aromatherapy oils such as geranium oil helpful.

Making sure I exercise

The focused attention and skill development inherent in competitive sports and ongoing challenging aerobic activity are all part of the mind-body connectedness of developing executive function.

Eating well

Your brain and body need you to care about what you eat and when. Remember a Mediterranean diet (see glossary) encourages bacteria in your gut that release 'happy hormones'. Be careful with alcohol and drugs especially while your brain is so young.

My emotional and mental health

Think about the 6 steps to wellness and choose to manage and prioritise your emotional and mental health. This will mean you can develop organisational skills, effectively problem solve and manage ups and downs. Find someone you can co-regulate with.

ACTION PLAN - Caring for ourselves with kindness and compassion involves paying attention to our bodies and minds as well as to our environment, including connections with other people.

The framework for this plan is adapted from a suicide safety plan created by Beyond Blue.



Jamie has been reading Dr James Kinross (2023) book titled ‘Dark Matter’ for a school project. He thinks about the relevance of diet to his health and wellbeing and carefully completes the action plan found on the previous page. Kinross talks about us (humans) as **communities of interacting cells each with their own instructions (in the form of DNA) made from multitudes of microbes together forming a discrete ecological unit or known as holobiont***. Jamie wonders whether this is the connection we sense when meditating?

These important points also come to mind:

- a lush and diverse gut ecosystem needs to happen in early childhood for the normal adaptive immune system to develop.
- bacteria in our gut are capable of producing all of the neurotransmitters that we need to be well. **Eating a ‘Mediterranean diet’* is good for our mental health** because the bacteria that thrive when we do so secrete serotonin. Think fermented foods!
- the microbiome manipulates the physiology of our sex hormones. It’s likely that the person we ‘fall in love’ with has a compatible microbiome to ours!

The Happy Hormones Exercise

Andy Leaf, Parent Family Support Advisor, Somerset adapted this from The Happy Child App. ‘Happy hormones make us feel more motivated, enthusiastic, and empowered resulting in an overall better outlook. They help combat the negative stress hormones, cortisol, and adrenalin, thereby making us feel less anxious and stressed. This enables us to widen our ‘Window of tolerance’ and increase our willingness to give it a go. In essence, Happy Hormones help us to carry out our day to day activities more effectively and positively.’ Andy 2023

<p>Dopamine The rewarding chemical</p> <ul style="list-style-type: none"> • Completing a task • Doing self-care activities • Eating food • Celebrating little wins 	<p>Oxytocin The love hormone</p> <ul style="list-style-type: none"> • Hugging your loved ones • Playing with a dog • Playing with a baby • Holding hands 
<p>Serotonin The mood stabilizer</p> <ul style="list-style-type: none"> • Sun exposure (be sun safe) • Meditating • Running • Being in nature 	<p>Endorphin The pain killer</p> <ul style="list-style-type: none"> • Laughing • Exercising • Dark chocolate • Essential oils 



Jamie is becoming intrigued by the many variables that affect early development and contribute to health and wellbeing across the whole lifespan. He is interested in neurodivergence. His cousin and aunt are both autistic and he knows they are extremely sensitive to noise and stress in their environment. He realises that neurodivergent people are even more dependent on their adult caregivers providing nurturing, serve and return emotion validating relationships than their neurotypical friends and siblings for functional, healthy development.

Young people with autism may worry more and find sleeping difficult. Young people with ADHD (or ADD) may have so much energy that they are a bit jumpy or find it hard to stay still.

It's OK to talk about things that are different. For instance - finding noises hurt their ears or clothes seem really scratchy, or that bright sunshine makes their eyes hurt.

It's OK that sometimes it might be hard to understand, and try and explore how it feels when this happens.



Jamie has already started a mindfulness based stress reduction course with Young Carers. He decides to contact the NHS Talking Therapies team locally to find out whether they are able to offer any emotional support for his sister Jasmin. He finds their contact details on the NHS111 website and submits the online form. Jasmin is too young to join Young Carers and he is hopeful Talking Therapies will be helpful for her.

Jamie looks at some of the mindful activities in the purple pages of 'all emotions are OK' which can be downloaded for free at www.allemotionsareok.co.uk.

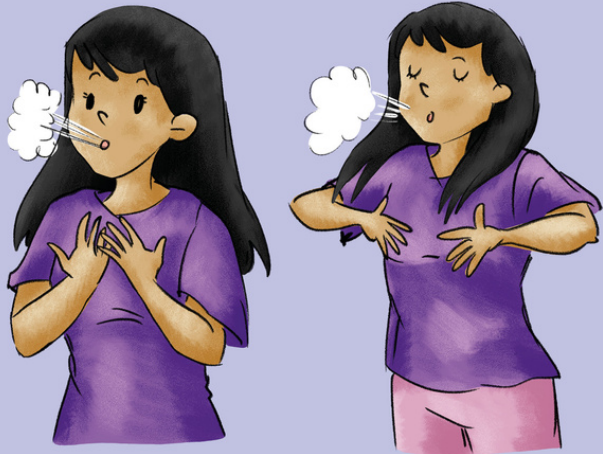


Mindful Walk

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This is my favourite mindful exercise and it's easy to do wherever you are:

- Take one long, slow breath, breathing in through the nose and out through the mouth
- Stand with your feet hip-width apart
- Gently lean your body forward
- Notice your weight shift to the balls of your feet
- Notice your toes gripping the ground
- Breathe slowly and notice the air move in and out of your airways
- Bring your attention back to the balls of your feet and your toes
- Count 10 seconds and gently shift your weight back so you are standing upright or move forwards into a very slow walk
- Take a long, slow breath, in through the nose and out through the mouth



Mindful exercises like this bring your lid down and stimulate your vagus nerve. This nerve runs from the bottom of your brain all through your body and slows things like your heart rate and breathing rate.

Noticing

Try linking your feelings with one of the seven core emotions common to all of us
anger, sadness, surprise, joy, disgust, fear, contempt

- explosive
- grateful
- hurt
- ignored
- relaxed
- excited
- helpless
- confused
- unsafe
- resentful
- left out
- comfortable
- anxious
- alone
- worried
- abandoned



Learning to notice feelings, emotions and associated physical sensations and making changes before they become overwhelming is core to the mindful emotion coaching approach.

In our adaptation of Dan Siegel's Hand Model we talk about noticing emotions and feelings while the lid is flipping before it flaps.



Lived Experience

In this section we are going to hear from people who have connected with us. Most have experienced a toxic stress response and have found mindful emotion coaching has enabled them to manage their emotions more effectively and make healthier lifestyle choices. Other than Shane Dangar, names have been changed.

This first story is from Lynda

As a teenager I have such a mix of memories of my time in school, my experiences of school range from happy, fun, inspiring times to hurtful, sad and anxious. I remember many times being unable to understand why kids could be so mean.

One particular memory for me was when we came out of lockdown and returned to school, I remember being a little nervous, but also pleased to get back to see my friends again. Unfortunately for the first few weeks back my close friends were very unkind to me which made me feel quite anxious, I felt as though I didn't want to go to school.

My mum introduced me to mindful emotion coaching, together we came up with a plan of how I could manage my emotions at school, using the mindful techniques we'd learned. I still use the same techniques today, I can detect (through sensations in my body) when I'm about to feel anxious, I then intervene with my breathing techniques. I also find that my regular yoga practice really helps me to process my thoughts and calm myself down.

I feel as though I have a better understanding of myself and others, I'm so grateful for what I've learned.

Thank you, Lynda 2024



Shane Dangar joined our Somerset project in 2015

I have found emotion coaching to be both personally and professionally empowering, for context I am speaking from the prospective of both a service user and a professional. I have been diagnosed with both Asperger's syndrome and ADHD

My first experience with EHCAP and Emotion Coaching started in 2015. What I found empowering about the training was the way in which it allowed me as an autistic individual to develop a concrete concept and understanding of the function and purpose of emotions.

The idea of there being 7 core emotions and those emotions serving functions in combinations with there being means of noticing and identifying them have been great assets to learn both personally and professionally Through the training I have developed the ability to recognise low level emotionality in both myself and in others as well as viable techniques to manage and mitigate the potential consequences of said emotions had they been allowed to go unobserved.

Additionally the hand map of the brain that is also taught in this training has become a vital tool I use on a regular basis to support people with whom I work to facilitate their understanding of the neuroscience of emotions and behaviours

I have found the learning I have gained from EHCAP to be easy to cascade in my professional experience as I have embedded the learning in successive professional contexts in which I have worked. The first of which being my work with the Somerset County Council Engagement and Participation team in which we used the learning gained from EHCAP to apply an emotionally aware underpinning to all our in house staff CPD and our young people engagement activities with the most prominent example being the Unstoppables Young People's Forum.

Latterly, I have gone on to use the learning to influence work I have developed at university and in the school I now work at in London.

In regards to the ACE (Adverse Childhood Experience) component of the learning I have found that I now posses greatly enhanced insights into the prevalence of ACEs.

This awareness presents itself in a much more considered approach to the way I work with young people. Stories and accounts I would have likely overlooked in the past, I now take as potential indicators to flag for safeguarding. Additionally I am finding that people I share the ACE framework with are surprised by the prevalence of ACEs and find the framework a useful tool to help inform understanding and practice regarding adverse childhood Experiences

In summary both the learning regarding core emotions and Professor Dan Siegel's Hand Model of the brain have proved to be highly valuable neurology aware tools that I've found have good traction when employed with parents, practitioners and young people in equal measure leading to enhanced ability to communicate, share ideas and reduction in conflict and stress. The ACE framework also provides useful insight for practitioners into what currently is a very ill understood area of need.

Kind regards

Shane

March 2020

Masking - memories from a young person now in recovery

A major shift in my life aged 12, turned everything I knew upside down, I didn't know how to cope. Huge emotions were coming up that I couldn't find the vocabulary for, let alone had the tools to deal with. I was scared and scaring people around me. I felt shame and guilt about my behaviour because I observed that my peers were not behaving in the same way. I needed help but did not know how to ask for it. Thoughts in my head spiraled and I needed relief, I wanted to end my life. After a failed suicide attempt I was dishonest with the medical professionals about what had happened, I didn't want my parents to get in trouble and I couldn't handle the questions I was being asked - it felt so raw seeing the pain and confusion in my parents eyes. Professional help was offered, my parents declined. They wanted to deal with it as a family. It wasn't mentioned again. I pretended everything was alright when nothing had changed. I found the more pleasant, polite and presentable I was the more it pleased people.

It was a barrier between me and world - I felt like I was keeping myself safe when in fact I was suppressing everything : it was making me sick. I grew further away from my identify and any authenticity I had.

I would live in my head going over scenario's, be mute in fear of what I would say or talk too much : asking lots of questions putting the focus on others to deflect from me.I was lost and exhausted but if I kept telling people I was fine - this made them feel better and that was best. I was terrified that if I let my guard down or any of my emotions release then something terrible would happen because I couldn't trust myself – I was a danger to myself, I was safer to mask.

When I took my first drink aged 12 there was a warmth that melted through my body, the noise in my head went away – I was at complete ease: the relief from self and masking was so welcome. The problem was I couldn't stop; I blacked out then passed out. I was dangerously drunk; thankfully someone was with me because they prevented the risk of me choking on my own vomit. This didn't stop me from drinking again – I never gave it a second thought. Alcohol went on to play havoc in my life: relationships, family, career, finances, health - at the end I was a morning drinker – all day drinker, homeless would do anything for a drink drinker. I was powerless. I wanted to give it up but I didn't have any defence against the first drink. Once I put one in me I had a mental obsession and physical allergy that no human will power could fight. I needed help but was struggling to accept that I could not stop on my own will, I felt weak and disgusted with myself.

Today I am 22 months sober; asking for help was my biggest strength. My family & Alcoholics Anonymous saved my life. The steps have enabled me to learn about my disease of addiction, recognise things about me that need to change, work on my self-care, make amends to those I have harmed, understand my thoughts/feelings, be supported by people who have walked my path and much more. Today I live a life beyond my wildest dreams because I work a 12-step programme.

Memories from Moira- now in recovery January 2024

Recovery programmes such as Alcoholics Anonymous or Overeaters Anonymous have created concepts that work well for everyone and particularly for people who experienced a toxic stress response early in life. This is because they openly acknowledge the importance of relationships and provide a structured system of support for people who struggle with them. They acknowledge that relationships do not guarantee freedom from pain and that nurturing a meaningful relationship with another human being takes a level of emotion intelligence that not everyone has. This is accepted from the start- that some of us need that extra structured support to learn to manage our emotions and feelings.

So people in recovery have access to another person known as a sponsor who they are able to text when things get tough. There is an open acknowledgement that relationships need patience, tolerance and insight into ourselves.

There is a reasonable awareness of the twelve step recovery programme in communities but sometimes it's a token awareness- not realising that many of the concepts and ideas are not that different from religious philosophies including Abrahamic religions such as Christianity and Islam as well as Hinduism and Buddhism. The twelve step programmes are secular but have a concept of a 'greater something' that connects us all.

Here are a couple of stories that involve invalidation- Jamie talked about this relationship style on page 32. It can happen when people are made to feel they are not OK and welcome as they are. Not only can this be painful in the moment but it can make things feel worse.

Being trans

I realised I was trans in my teenage years. My parents do not accept me for being trans. My mum especially has a lot of issues with it, whilst my dad doesn't really mind who I am. My mother joined an anti-trans group when she found out I was trans. She believes it is an unhealthy thing to take hormones and she thought I was doing it to be trendy. I constantly feel like I am in a power relationship with my mother. I have no power.

During school, they said they would only call me my chosen name if they had my mother's permission. I decided to just tell everyone my name. It makes me feel anxious. She will never call me chosen name and accept me for who I am. I also feel angry towards her. I also feel anxious that it will get in the way of our relationship, and I am left constantly wondering why I cannot receive the love of my mother. I feel alone, and unheard. Me being trans has broken down the relationship I have with my mother.

**Anonymous contribution,
February 2024**

Being bisexual and transgender

I have had the unfortunate circumstance of having to come out to my parents twice now - first as Bisexual, and later as Transgender. It wasn't any easier the second time around. I realised that I was Bi when I was about fourteen but didn't end up discussing it at all with my parents until I was seventeen. I've always had a strong relationship with my parents, but there was something terrifying in the notion of telling them about this part of myself. I knew that politically, they were left leaning, but they were still very much of a different generation. I can recall Aunts and Uncles casually using racial slurs over Christmas dinner, and my father once used a homophobic slur at a football player on the TV. But as a teenager on the cusp of adulthood, I was terrified of losing their support financially as much as anything else. You hear a lot of horror stories in the queer community of how families react. However, when my cousin came out as bisexual to my Aunt, my parents did not approve of how negatively my Aunt reacted, and that gave me some hope.

I came out as bisexual to my father when he was driving. He cautioned me against telling anyone, saying that I should avoid labelling myself and thus feeling pressured to commit to anything, and we moved on from the conversation. Later that year I got into my first serious relationship, with a woman, and we never spoke of it again. If coming out as bisexual was a controlled and relatively comfortable experience, coming out as trans was significantly more painful. I didn't have control over the situation at all. Having agreed to see one psychiatrist, they recently asked if I would see another for a "second opinion", as though I had some disease. Many times, they have complained that I am moving too fast - when I feel trapped in a body that hasn't even started to change the way I want it to yet. I feel a sense of discomfort in myself, that I've become too weird and unknowable to the people who are supposed to know me best. I just need them to be there for me, to love me for who I am. Being queer can be a lonely experience sometimes. Most of the friends you make within your community will have a partner they are very closely bonded to, and spend most of their time with, so your gay friends won't always be people you can rely on. If you're single, dating apps are a soul-destroying hell. Talking about your LGBT issues with your straight friends is another minefield, because you don't want to just be the "gay friend" who only talks about being gay. It would be really nice to be able to rely on family to be there for me when I have doubts and fears, but sometimes it feels like the cost of being my most authentic self was the ability to rely on my family for support.



Parenting an adolescent

Parenting adolescents often involves the experience of being criticised or rejected. Parents, carers and adult caregivers may feel angry, hurt, sad, disappointed, shamed, embarrassed, worried, exhausted.

I needed to manage my emotional response in the moment. I found that holding the science of what adolescence is all about in mind enabled me to get better at this aspect of parenting. It's very different parenting adolescents.

Adolescents need to be able to separate from their adult care givers (in a healthy way) in order to leave the comfort of home, move out into uncomfortable accommodation with peers and mature into free thinking adults. I needed to pause, reflect and facilitate this process, avoiding control and retaliation. Professor Sophie Havighurst (2014) helped me understand how to do this by evolving from the managerial relationship style I had been using to consultant relationship style role where I made it clear I was available but avoided micro managing. This didn't mean there weren't any boundaries and it didn't mean a free for all but it did involve letting go of the managerial style that I had been using.

Dr Sarah Temple invited me to join a Tuning in to Teens emotion coaching group with other parents and carers. This was a turning point for me not only in terms of understanding emotion coaching in more depth but also networking with others and realising I wasn't alone.

Sophia, March 2024

www.mindfulemotioncoaching.co.uk

'Understanding the neuroscience of the brain's construct of what we feel inside our bodies can enable conversations about wider things that matter to us' Dr Sarah Temple 2024

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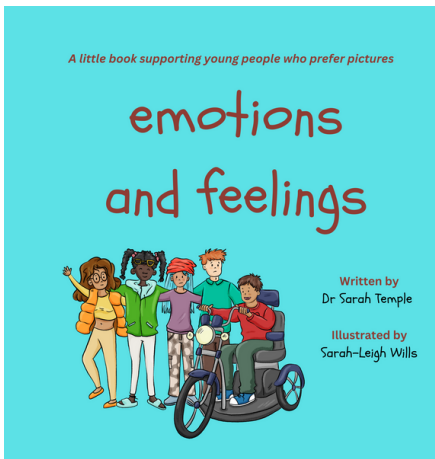
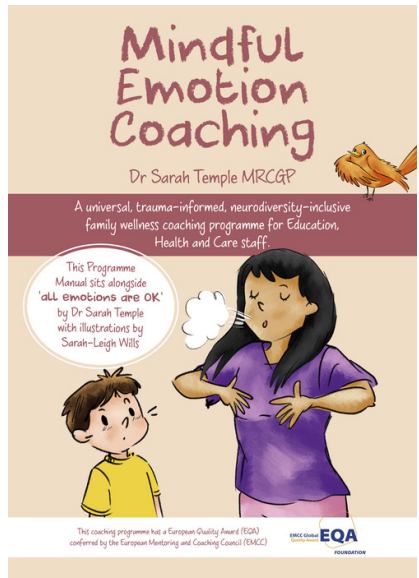
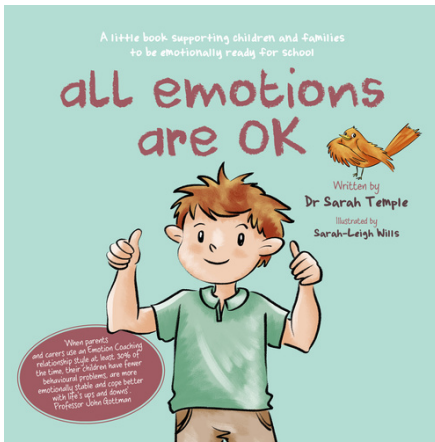
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A little book supporting adolescents

Dr Sarah Temple is a family doctor in Somerset who has worked with children, young people and families for over 35 years.

www.mindfulemotioncoaching.co.uk

This book sits with 'all emotions are ok' and 'emotions and feelings' and is written by Dr Sarah Temple with illustrations by Sarah-Leigh Wills.



A testimony from Lynda:

'My mum introduced me to mindful emotion coaching and together we came up with a plan of how I could manage my emotions at school, using the mindful techniques we'd learned. I still use the same techniques today, I can detect (through sensations in my body) when I'm about to feel anxious, I then intervene with my breathing techniques. I also find that my regular yoga practice really helps me to process my thoughts and calm myself down. I feel as though I have a better understanding of myself and others.'

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