

STRESS & EARLY BRAIN GROWTH

Understanding Adverse Childhood Experiences (ACEs)

What are ACEs?

ACEs are serious childhood traumas -- a list is shown below -- that result in toxic stress that can harm a child's brain. This toxic stress may prevent a child from learning, from playing in a healthy way with other children, and can result in long-term health problems.

Adverse Childhood Experiences can include:

1. Emotional abuse
2. Physical abuse
3. Sexual abuse
4. Emotional neglect
5. Physical neglect
6. Mother treated violently
7. Household substance abuse
8. Household mental illness
9. Parental separation or divorce
10. Incarcerated household member
11. Bullying (by another child or adult)
12. Witnessing violence outside the home
13. Witness a brother or sister being abused
14. Racism, sexism, or any other form of discrimination
15. Being homeless
16. Natural disasters and war

Exposure to childhood ACEs can increase the risk of:

- Adolescent pregnancy
- Alcoholism and alcohol abuse
- Depression
- Illicit drug use
- Heart disease
- Liver disease
- Multiple sexual partners
- Intimate partner violence
- Sexually transmitted diseases (STDs)
- Smoking
- Suicide attempts
- Unintended pregnancies

How do ACEs affect health?

Through stress. Frequent or prolonged exposure to ACEs can create toxic stress which can damage the developing brain of a child and affect overall health.

Reduces the ability to respond, learn, or figure things out, which can result in problems in school.

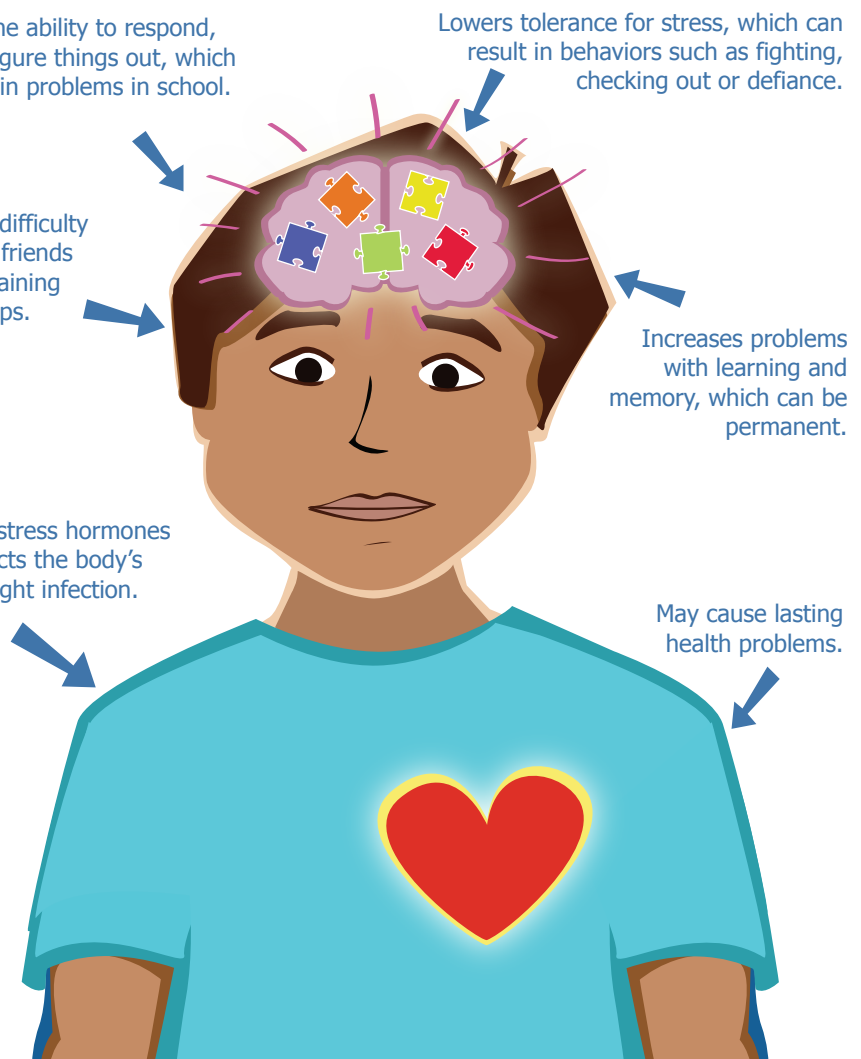
Lowers tolerance for stress, which can result in behaviors such as fighting, checking out or defiance.

Increases difficulty in making friends and maintaining relationships.

Increases problems with learning and memory, which can be permanent.

Increases stress hormones which affects the body's ability to fight infection.

May cause lasting health problems.



A Survival Mode Response to toxic stress increases a child's heart rate, blood pressure, breathing and muscle tension. Their thinking brain is knocked off-line. Self-protection is their priority. In other words:
"I can't hear you! I can't respond to you! I am just trying to be safe!"

The good news is resilience can bring back health and hope!

What is Resilience?

Resilience is the ability to return to being healthy and hopeful after bad things happen. Research shows that if parents provide a safe environment for their children and teach them how to be resilient, that helps reduce the effects of ACEs.

Resilience trumps ACEs!

Parents, teachers and caregivers can help children by:

- Gaining an understanding of ACEs
- Helping children identify feelings and manage emotions
- Creating safe physical and emotional environments at home, in school, and in neighborhoods

What does resilience look like?

1. Having resilient parents

Parents who know how to solve problems, who have healthy relationships with other adults, and who build healthy relationships with their children.

2. Building attachment and nurturing relationships

Adults who listen and respond patiently to a child in a supportive way, and pay attention to a child's physical and emotional needs.

3. Building social connections

Having family, friends and/or neighbors who support, help and listen to children.

4. Meeting basic needs

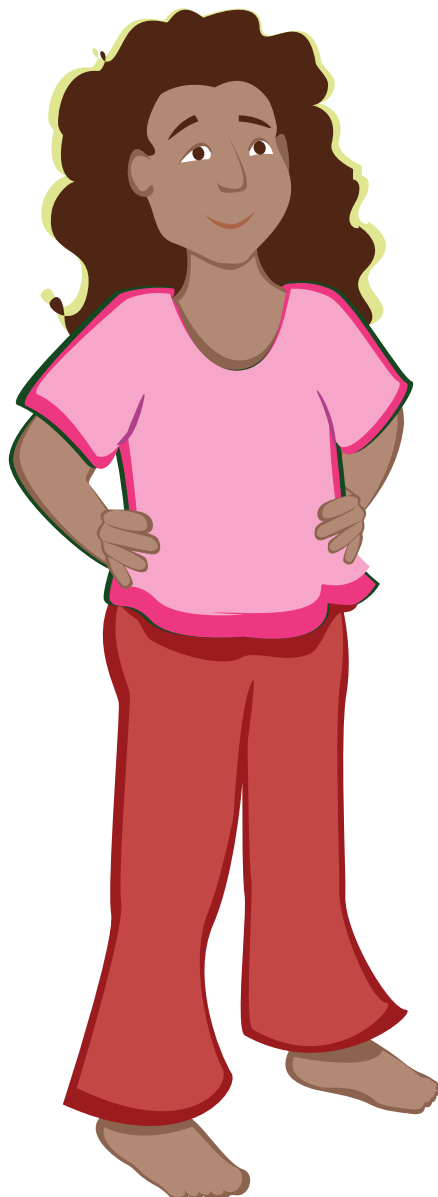
Providing children with safe housing, nutritious food, appropriate clothing, and access to health care and good education.

5. Learning about parenting and how children grow

Understanding how parents can help their children grow in a healthy way, and what to expect from children as they grow.

6. Building social and emotional skills

Helping children interact in a healthy way with others, manage their emotions and communicate their feelings and needs.



Resources:

ACES 101

<http://acestoohigh.com/aces-101/>

Triple-P Parenting

www.triplep-parenting.net/glo-en/home/

Resilience Trumps ACEs

www.resiliencetrumpsACEs.org

CDC-Kaiser Adverse Childhood Experiences Study

www.cdc.gov/violenceprevention/acestudy/

Zero to Three Guides for Parents

<http://www.zerotothree.org/about-us/areas-of-expertise/free-parent-brochures-and-guides/>

A QUICK AND SIMPLE WAY TO THINK ABOUT THE BRAIN

Paul D. MacLean, MD, developed the concept of the triune brain in *The Triune Brain in Evolution: Role in Paleocerebral Functions*. Rick Hanson, PhD, author of *Hardwiring Happiness: The New Brain Science of Contentment, Calm, and Confidence* built on this original concept.

In many ways, the brain is considered the most complex of human organs. But complex doesn't have to mean complicated. Especially when we're trying to explain the brain's different but necessary functions.

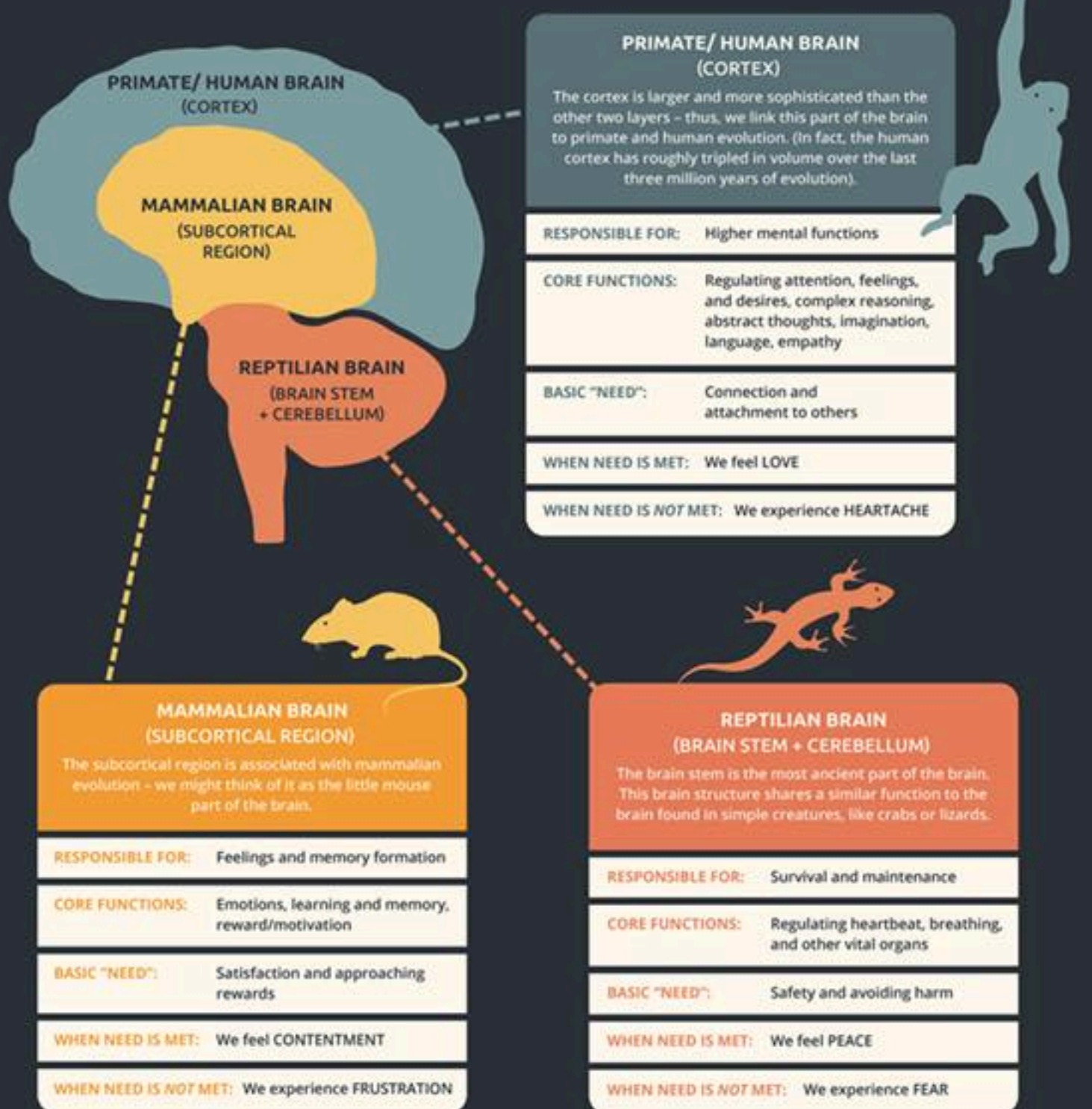
Our brain structure can be divided into three layers – the **brain stem**, the **subcortical region**, and the **cortex**. And each layer can be loosely associated with the **reptile**, **mammal**, and **primate/human** phases of evolution, respectively.

So, if you think about it, it's almost as we're carrying a little **lizard**, a little **mouse**, and a little monkey inside our brains.

And as the brain evolved, so did its capacity to meet the three fundamental needs of any animal . . .

Safety, satisfaction, and connection.

Here's a visual . . .



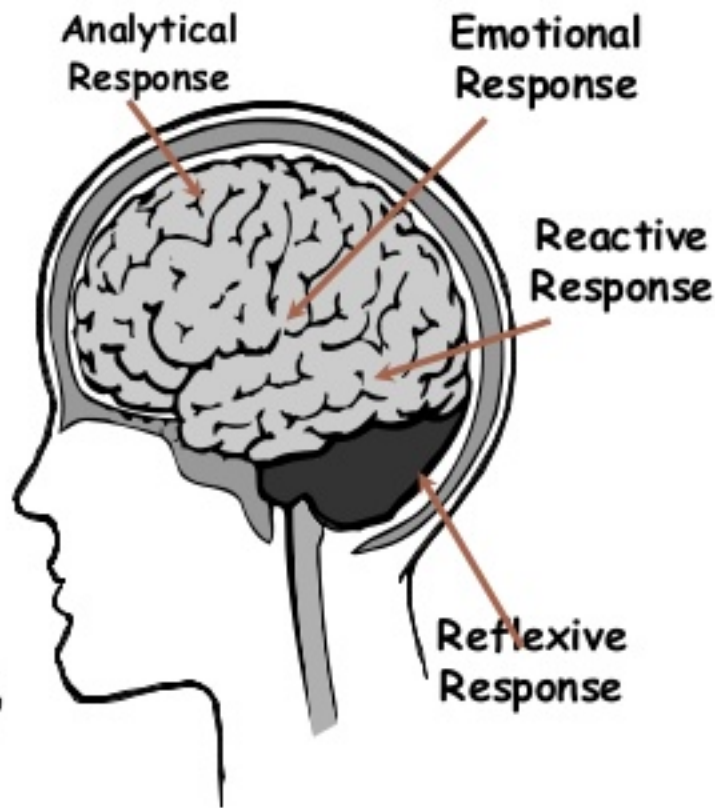
UPSTAIRS/DOWNSTAIRS BRAIN

✖ Downstairs brain:

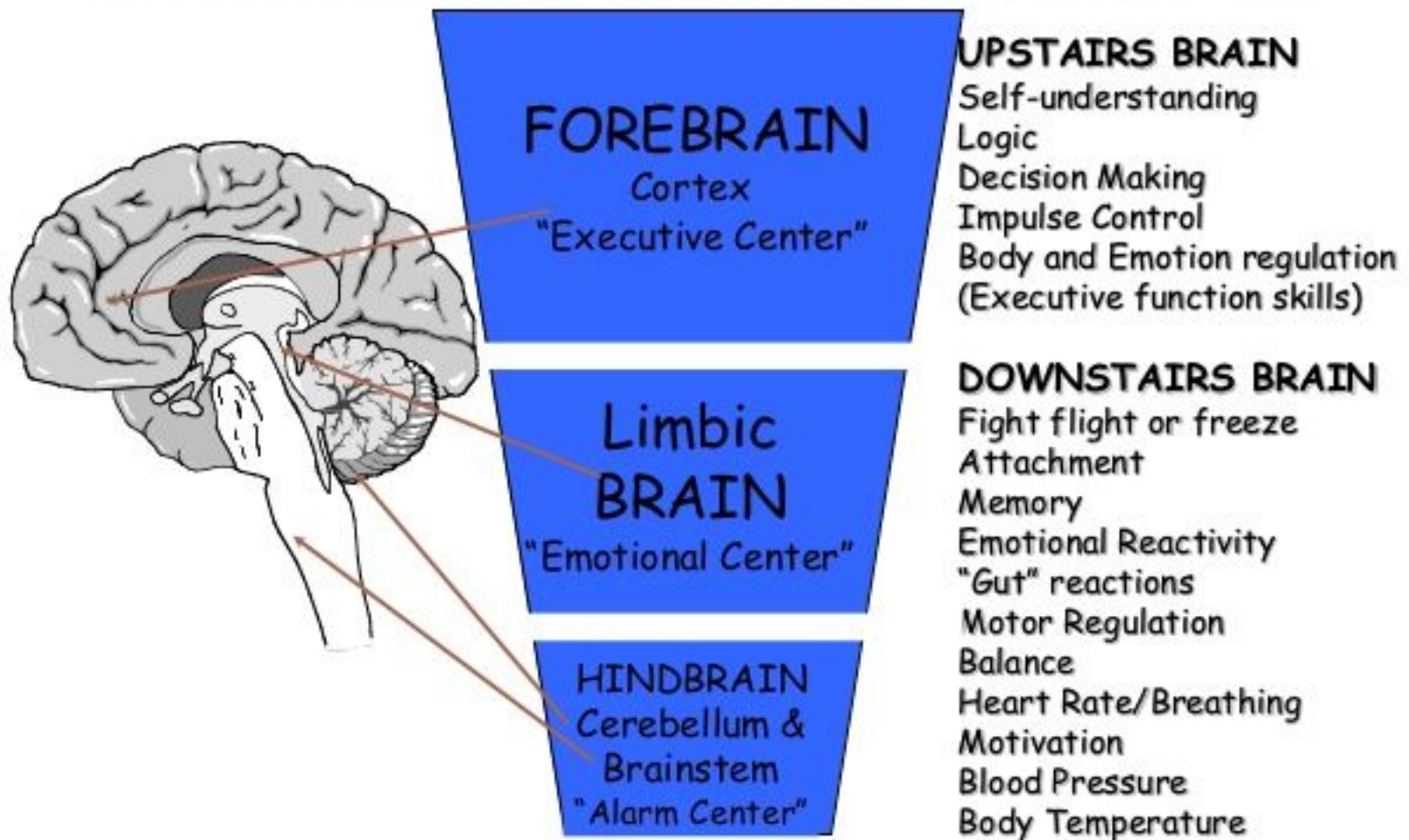
- Brain stem and limbic region
- Basic bodily functions, emotional reactivity, attachment, fight/flight/freeze

✖ Upstairs brain:

- Cerebral cortex
- Decision making, planning, self-understanding, control over emotions and body, empathy, morality, executive functioning



HIERARCHY OF BRAIN DEVELOPMENT



“What do I do?”

Trauma-Informed Support for Children

1 Create safety

If the child is overwhelmed, perhaps guide them to a quiet corner or allow them to decompress by visiting the restroom. If you are in a classroom, maybe you have a peace corner that you've outfitted with blankets or a screen so that it feels like a safe place.

2 Regulate the nervous system

Stress brings a predictable pattern of physiological responses and anyone who has suffered toxic stress or trauma is going to be quickly stressed into hyperarousal (explosive, jittery, irritable) or hypoarousal (depressed, withdrawn, zombie-like). No matter how ingenious our regulation strategies, how artsy-crafty we get with tools, the child has to find what works for them.

3 Build a connected relationship

This is the number one way to regulate the nervous system. When we are around people we care about, our bodies produce oxytocin, which is the hormone responsible for calming our nervous system after stress. If we stay connected, then eventually the calm discussion of each person's feelings and needs can take place.

4 Support development of coherent narrative

Creating predictability through structure, routines and the presence of reliable adults helps reduce the chaos a child may feel and allows them to start creating the kind of logical sequential connections that not only help them understand their own narrative, but are also the fundamental requirement of many types of learning.

5 Practice ‘power-with’ strategies

One of the hallmarks of trauma is a loss of power and control. When someone is wielding power over you with no regard to your thoughts or feelings, the toxic shame of the original trauma may come flooding back. As adults, we should use our power well. If we model a ‘power-with’ relationship with children it's our best chance of creating adults who will treat others with dignity and respect.

6 Build social emotional and resiliency skills

Trauma robs us of time spent developing social and emotional skills. The brain is too occupied with survival to devote much of its energy to learning how to build relationships and it's a good chance we didn't see those skills modeled for us. Learning to care for one another is the most important job we have growing up.

7 Foster post-traumatic growth

We know that there are qualities and skills that allow people to overcome the most devastating trauma and not just survive but find new purpose and meaning in their lives. Problem solving, planning, maintaining focus despite discomfort, self-control and seeking support are all known to lead to post-traumatic growth and are skills we can foster in children.