

# Understanding and Transforming Trauma

## SMART Strategies Booklet and additional slides



# Trauma impacts



**Trauma can impact all elements of children's development: brain, body, memory, learning, behaviour, emotions, relationships.**



# The brain in culture

Changing the cultural environment shapes the brains of the next generation

The cultural context of our experiences with other people influence the brain's development

Sensory data is interpreted according to the parameters of the surrounding culture long before cognitive understanding of that culture



Culture organises interpersonal relationships and promotes neuronal connections that support a child's adaptability to the physical and emotional environment

Cultures are a means for sharing knowledge and skills of a community or population

# Developmental stages of brain maturation

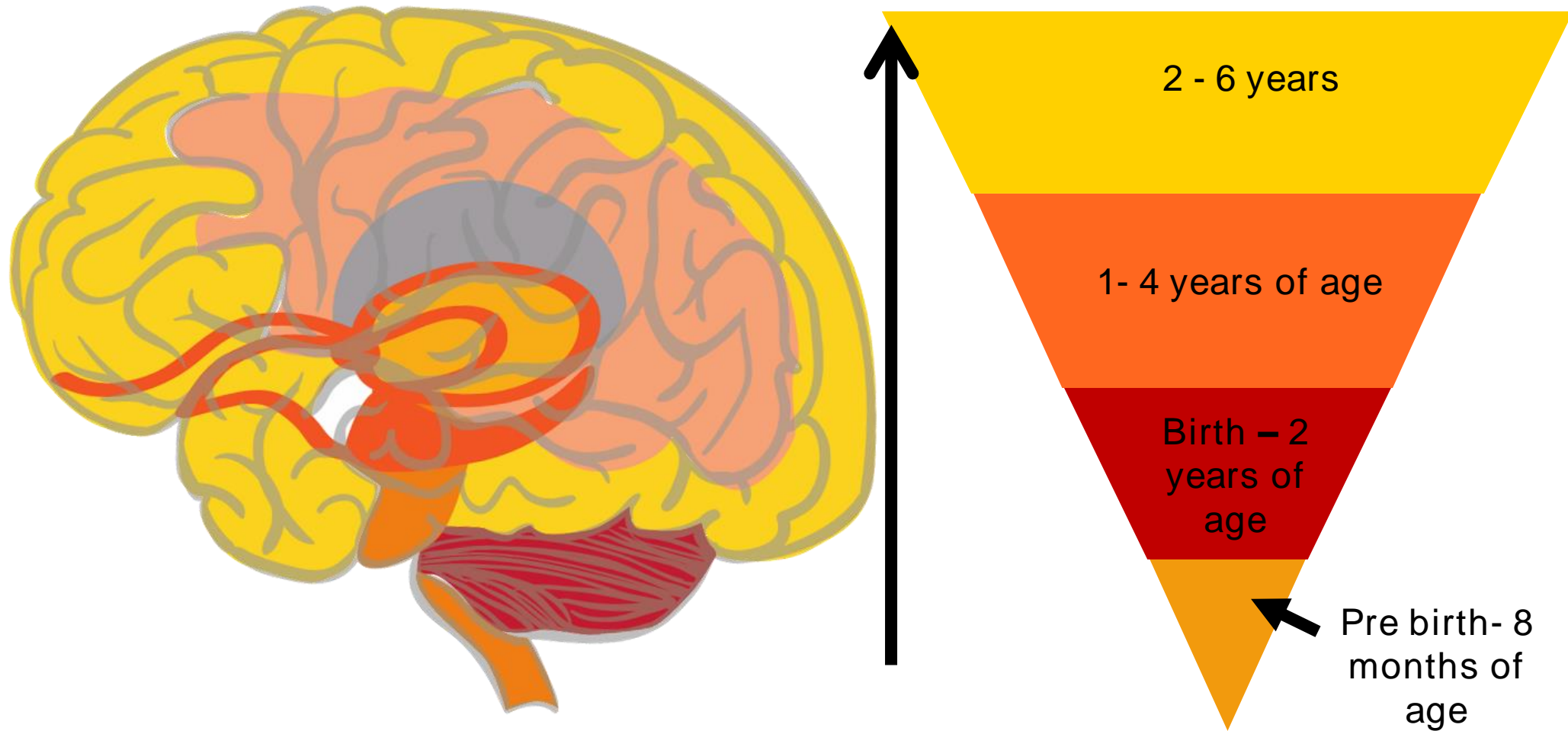


Image source: ©2018 ACF

# Strategies for transforming – brainstem & cerebellum

- include soothing and calming activities, safe containment
- movement based activities
  - include activities that have a rhythmic, repetitive element
  - include activities that have a balancing element & gross & fine motor skills
- breath based activities
- conduct a sensory audit – ie: is it too hot or too cold, too noisy?
- include proprioceptive and interoceptive awareness and activities

**Have PREDICTABILITY in every aspect of the school day and curriculum.**

# A rhythmic classroom or school yard

- bring rhythm in to the classroom – activities like drumming, music, physical movement breaks, short exercise bursts
- brain breaks or “Brain kits” – for fine and large motor skills – cardio activities, or stationary equipment – (stationary bikes, treadmills)
- “rhythmic or containing furniture” for regulation – rocking chairs, hammocks, swings, beanbags, mats, blankets
- design school routines with a rhythmic sense to the lesson, day, week and year
- embedding “circle” routines and morning meetings with a sense of rhythm, positive emotion, fun and relational attunement
- integrating heart rate activities and heart rate monitors in both personal and learning development (ie great to include in maths or science lessons)

# Strategies for transforming – diencephalon

- conduct a sensory audit – ie: is it too hot or too cold, too noisy?
- provide calm, positive sensory experiences – calming items, fidgets (age appropriate options), boxes or areas in the classroom and other areas
- provide regular and predictable brain and body breaks, that include movement, mindfulness or breath-based activities – especially consider transition times

# Strategies for transforming – amygdala – IMPLICIT MEMORIES

- understand that their behaviour may be triggered/awakened because of an implicit memory
- don't ask questions at this stage – the thinking part of the brain will be offline.
- try to determine what might have caused the triggering or awakening (noise, smell, colour).
- stay calm, stay present and with the child or young person. Reassure

***Re-entry to the classroom should be a safe and positive transition whenever possible.***



# Strategies for transforming – amygdala - EMOTIONS

- include explicit teaching around emotional literacy
- build emotional regulatory activities in to the day – calming, rhythmic, repetitive, breath-based – positive and constructive feedback, celebrating significant events, element of joy, fun and laughter
- provide opportunities to experience and understand emotions in others – through safe relationships, role modelling and game playing
- greet your students at the door or at the start of the day/lesson- even if they are late, make them feel included
- take time to know your students, understand their background and acknowledge their learning needs and successes.

(Golding, et al. , 2016)

# Strategies for transforming – hippocampus – EXPLICIT MEMORIES

- provide lots of opportunities for review of what has been taught
- have visual timetables and lots of reminders around the room
- reinforce, remind and practice expectations for entering classrooms and routines for classroom learning. Scaffolds like morning routines, timetables, what's on today, books to be out this morning etc.
- use of diaries or other reminder tools for high school aged students
- use of sticky notes, colour codes etc to assist
- allow extra time for activities
- break down tasks to be more manageable



# Strategies for transforming – cortical areas

- problem solving activities - break down the problem in to “bite size”, achievable goals
- mapping and planning out the activity or options
- games - card games – boards games – strategy games
- voluntary movement activities/complex patterns – table top drumming, clapping etc
- thinking and choice games – “Would you rather?”
- identity and life story work – help them build a picture of their life

# Strategies for transforming – using the medial pre-frontal cortex and the right-orbitofrontal cortex

- mindfulness activities – engages the medial prefrontal cortex and the right orbito- frontal cortex
- any activities that build on focussing attention, use the working memory, social cognition, attuned communication, involved self-regulation (mirror games), impulse control, and judgement and reasoning.
- involve children/young people in physical activities that include movement and build in stillness

# Brain food for the developing child

Age	Brain function focus	Brain food
12-25 years	Abstract thinking, decision making, analysing and problem solving	Opportunities to practise making decisions, to weigh up consequences, to take risks in non life and death settings, to learn boundaries. Integrative activities such as outdoor adventures, ropes courses, group work, yoga, meditation, mindfulness.
7-12 years	Consolidation and Exploration	Problem processing opportunities to concentrate on areas of interest, to challenge and be supported, games requiring skill, strength and agility, experiences of raised and lowered heart rate.
3 - 6 years	Maturing thinking functions	Reading, playing games, counting, talking, storytelling, games with siblings and in teams
1 - 4 years	Emotional functions	Playing games with parents, dress ups, acting stories, act out feelings, sharing, taking turns, dress ups
6 months – 2 years	Coordination of body movements	Dancing, painting, blocks, threading, sliding, crawling, rolling, running, clapping
In utero – 9 months	Basic Survival	Tactile play, peek a boo, lots of touch, being rocked

# Trauma and the brain

## Hypothalamus

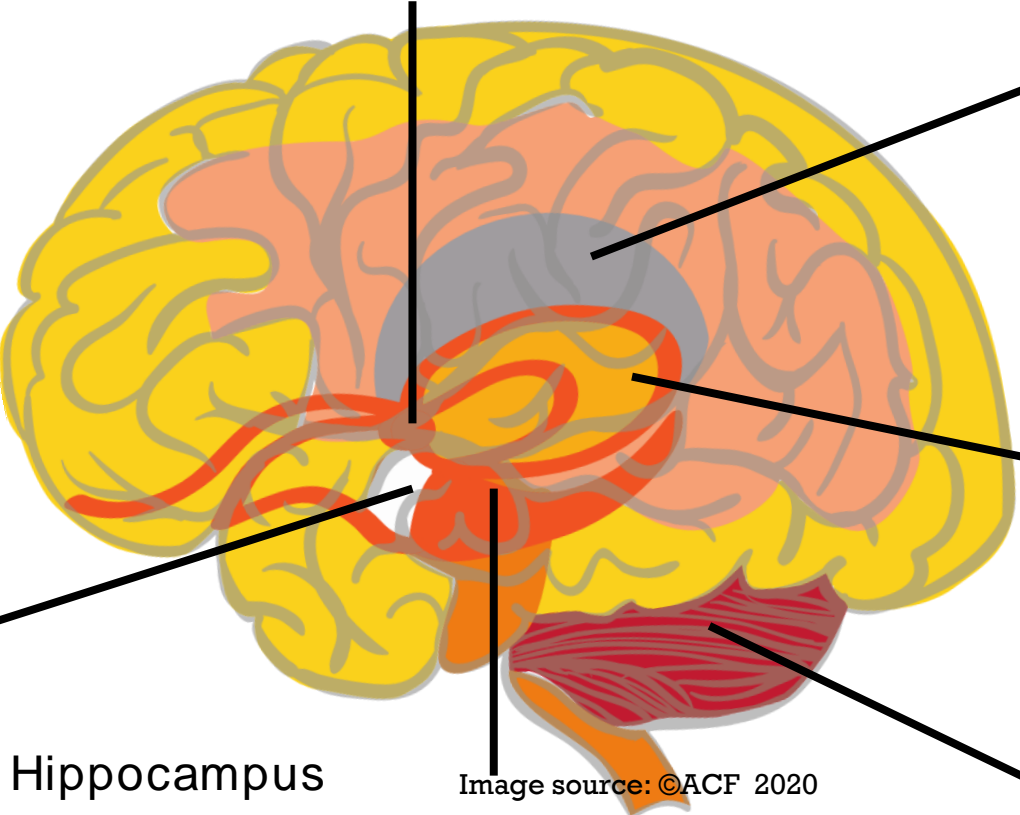
Links the nervous system to the endocrine system via the pituitary gland. It synthesizes and secretes hormones to control body temperature, hunger, thirst, fatigue, sleep, and circadian cycles.

## Corpus Callosum

Bridge between the 2 hemispheres. Chronic stress can damage and thin down this bundle of neurons

## Prefrontal cortex

Responsible for executive functions, such as judgement, reasoning, and self awareness. Final part of the brain to mature in one's mid 20s.



## Thalamus

Sensory receptor within the diencephalon. Receives and passes on sensory data to be further processed by other areas of the brain

## Amygdala

Survival response centre within the limbic lobe that becomes enlarged and more sensitive the more it is activated through responding to threats

## Hippocampus

Consolidates memory by providing the context/ sequential data for episodic memories. Goes offline if trauma overwhelms and disrupts cortex.

## Cerebellum

Balance and coordination, motor skills may be impacted by trauma

Image source: ©ACF 2020

# Strategies for transforming

Brain area	Function	Activity ideas
Brainstem & Diencephalon	Basic survival & sensory processing	Pacification or stimulation. Activities in the child's preferred sensory modality
Cerebellum	Coordination of movement	Using music, rhyme and movement activities
Limbic	Emotional processing	Building relational connection through plays, animals, games
Cortex	Thinking processes	Linking experiences and sensations to words and descriptions
Prefrontal cortex	Analytical and abstract thinking	Challenges and safe risk taking activities

Image source: ©2018 ACF

# Strategies for transforming – RH and LH

## Building RH

- using attunement and relationally based activities to build connection eg: mutual smiling, mirroring games based on facial expressions, voice copying
- modelling appropriate gestures and proximity

## Building LH

- incorporating cognitive processes into calming or stimulating activities eg: counting for relaxation
- providing opportunities to use language and logic – through game playing, discussion and decision making



# Strategies for transforming – building RH/LH connection

## Emotionally

- Attunement and noticing how a child/young person feels, says and shows in the body and giving language – *“I notice that you are/have....(tears in your eyes, are yawning lots, are shivering...and I wonder if you are feeling....(sad, tired, scared....)*

## Physically

- Doing any activity that enables you to cross the imaginary “midline” of the body eg: cups games, hokey pokey, clapping chants, mirroring games, playing musical instruments, physical activity/sports



Image source: istock

# Polyvagal Theory and our protective responses

## Behavioural Functions

### Social Engagement

Soothing and calming

Indicates safety

## Body Functions

- \* Lowers or raises vocalization pitch
- \* Regulates middle ear muscles to perceive human voice
- \* Changes facial expressivity
- \* Head turning
- \* Tears and eyelids
- \* Slows or speeds heart rate

### Mobilization

Fight or Flight

Active Freeze

Moderate to extreme danger

### Hyper arousal

- \* Increases heart rate
- \* Sweat increases
- \* Inhibits gastrointestinal function
- \* Narrowing blood vessels- to slow blood flow to extremities
- \* Release of adrenaline

### Immobilization

Collapse or submission/Death feigning

Increased pain threshold

Conserves metabolic resources

Life threatening situations

### Hypoarousal

- \* Slows heart rate
- \* Constricts bronchi
- \* Stimulates gastrointestinal function

Image source: ©2018 ACF

# The trauma organised behaviour cycle

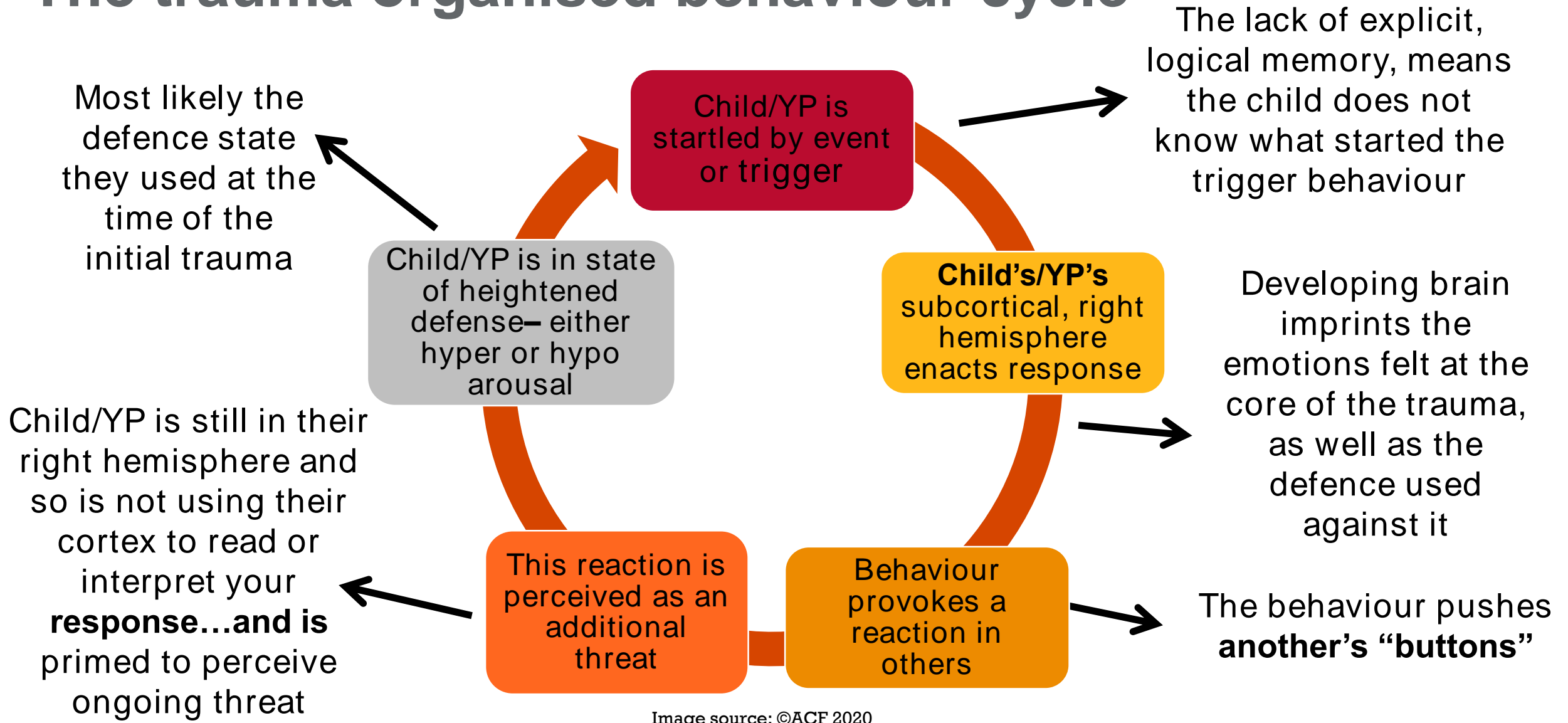


Image source: ©ACF 2020

# Keeping in touch with ACF & SMART

- SMART Online training
- SMART training
- Discussion papers
- Making Space For Learning resources
- <https://professionals.childhood.org.au/smart-online-training>
- Prosody Blog <http://www.childhoodtrauma.org.au/>
- Calendar Training <https://professionals.childhood.org.au/training-development/course-list/>

[www.childhood.org.au](http://www.childhood.org.au)