



Sensory Processing and Trauma

“What is the intention behind the child’s behaviour”

The development of the sensory system starts in utero/the womb, with our sensory systems forming the building blocks of attachment (Ayes, 1979). Repeated exposure to stress during this period, and/ or during the early years can increase the chances that the baby may struggle with self-regulation and co-regulation once they’re born and into childhood, which can leave the child operating in a persistent state of stress. Self regulation is the ability to tolerate sensations, situations and distress and form appropriate responses.

Our 8 Sensory Systems



Tactile (Touch) System

Our touch receptors are located within the skin, some close to the surface and others in deeper layers. The touch system has two main roles: one is protection and the other discrimination. Some people with sensory processing difficulties get incorrect messages from their tactile system;

- Children can ‘over respond’ to tactile input (tactile defensive when faced with everyday tactile stimuli. You may hear them complaining about having their teeth brushed, hair washed, or having their nails cut. They may complain that someone “hit them” when actually someone just brushed past them.
- If a child is under-responsive, we may see a child not responding when you touch them on the shoulder or not detecting that they have their shoes on the wrong feet.
- They may seek additional sensation to alert their nervous system by exploring items and people through touch or may bite themselves to increase their own feedback.



Vestibular (Movement)

The vestibular system is our sense of balance and influences muscle tone, motor coordination, regulation and visual skills. It also informs us of where our body is in space. Our movement also impacts on our regulation levels. For example, gentle rocking can calm a baby whereas rotation e.g. a-round-about or fairground ride, would be more alerting.

- We may see a poor postural control and stability (low muscle tone).
- Children may seek extra movement e.g. always be on the go and can't sit still.
- With some children you may see an avoidance of movement e.g. with play equipment.



Proprioception (Body Awareness)

The proprioceptive system is located within our muscles and joints and is the sense that allows us to know where our body is and how it is moving.

- Children may be heavy handed or too light with their touch
- They often ‘seek’ additional proprioceptive input e.g. hanging from bars, climbing, rough and tumble play.



Visual (Sight)

The visual system is our sense of sight. There are two aspects of our visual systems; eye movement (how our eyes move) and visual processing (how we process what we see).

- Children can be overly vigilant to their environment
- Children may struggle with tracking objects (following with their eyes)
- Children can struggle with tasks such as handwriting



Auditory (hearing)

Our auditory sense is located within our inner ear and is stimulated by air and sound waves. Children may have hearing within normal range when taken for a hearing test but can still struggle with over or under responsiveness.

- You may see reactions such as covering their ears to loud, unpredictable and high-pitched sounds such as hair dryers, vacuum cleaners, babies crying, dogs barking and in situations such as school assemblies.
- They can be the children who will hear everything; a clock ticking, a fly buzzing.
- Some children are under-responsive to sound or struggling with the processing of auditory information.
- With attachment and early life trauma, we tend to see a pattern of over-responsiveness.



Olfactory (smell)

Our sense of smell provides us with information about difference types of smell and can alert us to danger e.g. if the food is past its best.

- Children who are over-responsive may feel physically repulsed by smells such as air fresheners, someone's perfume, or smells within a supermarket.
- Children who are under-responsive may seek additional smell input from their environment by wanting to smell everything around them.
- There is a strong link between smell and our memories.



Gustatory (Taste)

Gustatory information provides us with information regarding tastes, such as sweet and sour. This is also linked with our tactile sense that provides us with information about the textures of food.

- Those who are over responsive may be very particular about the textures of food (tactile sense), the colour of food (visual sense), and can have a very limited diet.
- If under responsive they may crave strong flavours; sour, bitter, spicy, to increase their feedback.
- They may also seek additional tactile feedback via chewing, mouthing and licking food, objects or people.



Interoception

Interoception is the sense our internal organs that detects and aids internal regulation responses, such as hunger, heart rate, respiration and toileting needs. Children with sensory processing difficulties relating to interoception can struggle to notice when they need the toilet and therefore can have frequent accidents or may be constantly distracted by the feeling that they need to go to the toilet.

- Children may struggle with feedback as to whether they are cold or hot, and therefore may dress inappropriately for the weather.
- Children may not be able to detect when they are full, but for those with trauma they may over or under eat due to a history of not knowing where their next meal may come from.

Useful Books and Resources:

- Louise Bomber 2015. Inside I'm hurting. Worth Publishing
- Sarah Lloyd, 2016. Improving sensory processing in Traumatized Children. JKP
- Vivien Norris and Helen Rodwell, 2017. Parenting with Theraplay. JKP
- Kim Golding et al, 2013. Observing Children with Attachment Difficulties in School. JKP
- Sarah Naish, 2018. The A – Z of therapeutic parenting. JKP

**Children's
Sensory Therapy**

New foods taste yucky!

I like how it feels to run and move my body

Sitting still is hard for me, I need to wiggle around

I don't like writing or using scissors

I like to smell and lick people

Loud noises frighten me

I don't always notice I've hurt myself until someone else tells me I have

Sometimes I feel worried and scared but don't know why

Having my hair washed and brushed makes me stressed

I notice everything going on around me all of the time

I like chewing on my clothes and toys

Sometimes I hit people who get too close to me because I'm frightened but I don't mean to hurt them

I find PE tricky and things like riding my bike, swimming and catching a ball

I enjoy being 'squeezed' by adults I trust