

Sensory Processing

THE 7 SENSES

Food for our brain is fed in through the 7 primary senses. The 5 commonly referred senses take in information from the environment around us, they are:

- Smell (Olfactory): where information is taken in through the nose
- Vision: where information is taken in through the eyes, in the form of light, colour, shape and depth
- Hearing (Auditory): where information is taken in through the ears, in the form of sound waves.
- Taste (Gustatory): information is taken in through the tongue, in the form of flavour
- Touch (tactile): information is received primarily through the skin, and includes temperature, pressure, vibration and pain

Then we have 2 less commonly referred to internal senses, where information may be understood as coming from within our bodies, these senses are:

- Movement and Balance (vestibular): information is received from the inner ear, and relates to movement, gravity and balance.
- Body awareness (proprioception): where information is received from the muscles, tendons and joints, and provides us with an awareness of our bodies position in relation to our environment, gravity and space.

WHAT IS SENSORY PROCESSING?

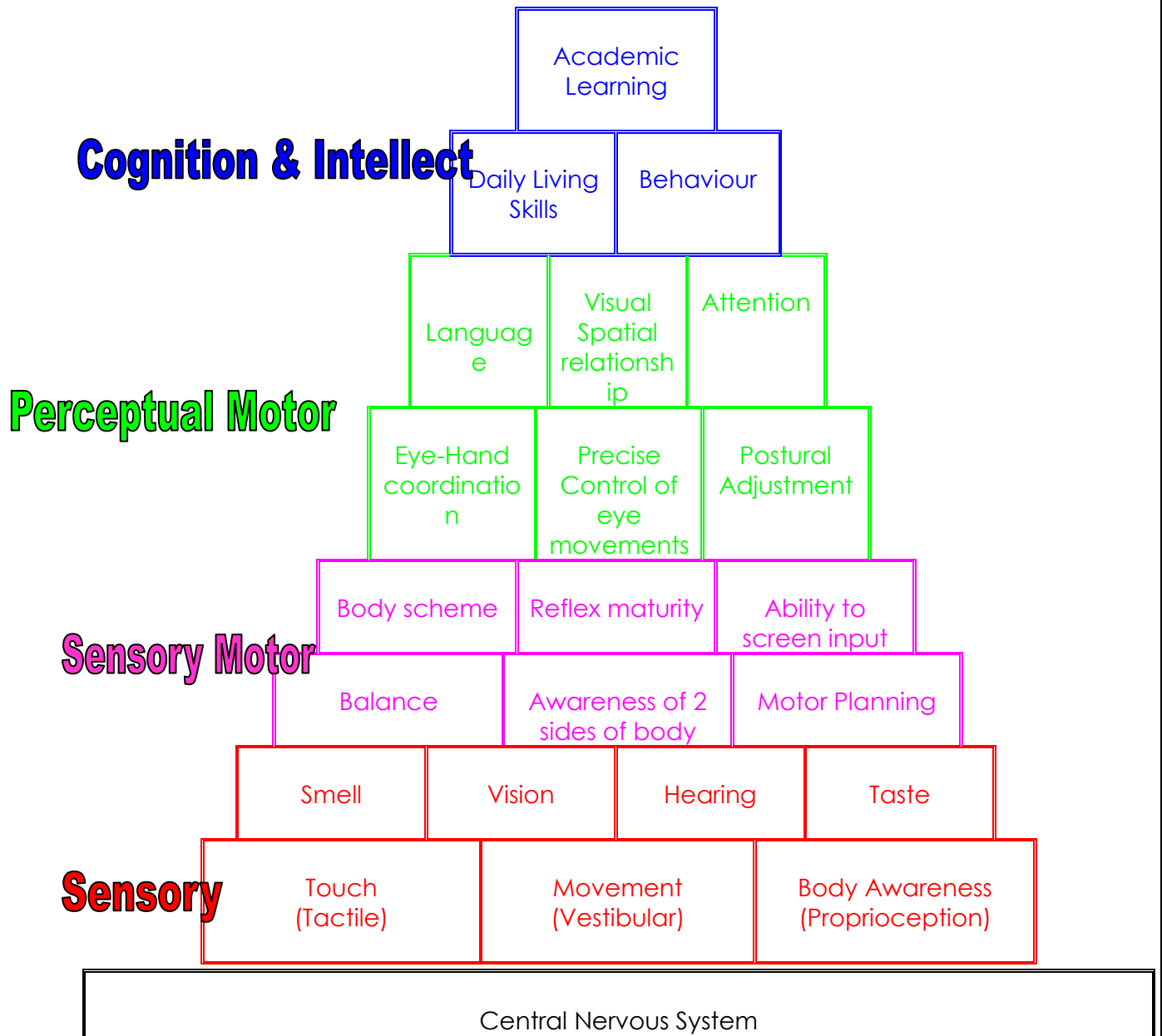


Sensory Processing is the way that our bodies take in information through our senses, and how this information is organised in our central nervous system (brain and spinal cord) in order for us to be able to understand, react and interact appropriately with the world around us.

When a child picks up their first shell on the beach, the child must firstly use their vision to spot the shell, taking in information of colour size and shape. As the child bends down to pick up the shell the child needs to be aware of where their fingers, arms, head and body need to be placed so that they are able to reach the shell. At the same time the child needs to keep their balance as they move forward and downwards. As the child picks up the shell they feel the texture as being either smooth or rough, and determine whether the shell is heavy or light. The child might put the stone to its mouth and nose, tasting and smelling the salt from the sea and listening to the sound of crashing waves. The whole time that the child is exploring and enjoying their new experience, their sensory processing system is hard at work.

BUILDING BLOCKS OF DEVELOPMENT

Sensory Processing occurs over our entire life time, as we constantly engage with our environment and have new experiences.



(Diagram Compiled by Karina Temme, 2000)

WHAT HAPPENS WHEN SENSORY PROCESSING IS NOT WORKING AS IT SHOULD?

Sensory processing difficulties occur when information coming in from the senses is not interpreted efficiently, and the Central Nervous System (brain and spinal cord) is unable, or has difficulty making sense of the incoming messages. As a result the child may be confused by stimulation and not be able to respond appropriately to their environment.

Like a person who has an unbalanced diet where their body is not receiving the right proportion of nutrients to stay healthy and grow, the child with sensory processing difficulties is not receiving and interpreting information through their nervous system correctly, thus disrupting their development and affecting their performance. The result of sensory processing difficulties are often seen in a child's behaviour, influencing the way they learn, move, feel about themselves and relate to others.

It is important to understand that none of the senses work alone, all are intertwined and are constantly feeding backwards and forwards to each other. So when one of our senses are out of balance, more often than not other sensory areas will also be impacted on.

OVER SENSITIVE

Some children experience sensations too intensely, and may be described as over sensitive. These children may become irritated, annoyed, or even threatened by certain sensations. Because of their decreased ability to tolerate certain sensations, they may react negatively or attempt to avoid those experiences, this is reflected in their behaviour.

UNDER SENSITIVE

Children that experience sensations less intensely than 'normal', and may be described as under sensitive. Their sensory needs are higher than the average child, and they require a lot of stimulation.

BOTH OVER AND UNDER SENSITIVE

Some children may experience both over sensitivity, and under sensitivity at different times. These children experience difficulties in modulating sensations. This means they have difficulties blocking out unimportant sensory stimuli and focussing on the important ones.

WHY DO WE NEED SENSORY PROCESSING?

Just as our body needs the right balance of nutrition from all the primary food groups to grow and develop so that we can participate in life, our brain, through our senses also needs a balanced diet (sensory diet) in order for us to be able to make sense of, and function in the world we live.

We need to experience a variety of sensations each and every day in order to keep our brain energised, organised, alert or calm. With a regular, balanced sensory diet we are better prepared to respond appropriately to the demands of the world we live in.

Our sensory needs fluctuate throughout the day. Just like food, sometimes we need a substantial meal, other times a light snack. As appropriately functioning adults we are able use activities to self-regulate our brains alertness levels. Children also need to be to learn to use activities to regulate their alertness levels. Typically children learn to seek out activities themselves in order to do this. However when children are having difficulties with self-regulation, adults may need to assist these children to find the right type of activities to attain the appropriate level of alertness for their situation.

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