

THE EIGHT SENSES

Olfactory System (Smell)



The Olfactory system sends information from receptors in the nose to the brain that provide information that we interpret as smell. It often is categorized as pleasant or unpleasant. This is determined by our own individual preferences.

Gustatory System (Taste)



The Gustatory system sends information from receptors on the tongue to the brain. This information is interpreted as taste that is defined as sweet, sour, bitter, salty and savory. Whether this is considered enjoyable or not is determined by our own individual preferences.

Auditory System (Sound)



The Auditory system is the receptors in the ear that sends information to the brain. This information is interpreted as sound. This interpretation assists us to understand differences in sounds, give meaning to what we hear, to tune out unimportant sound (ie background noise) and understand and tolerate 'loudness' of sound. Each of us have different tolerance levels and preferences for this kind of sound.

Visual System (Sight)



The visual sense is the information sent to the brain from receptors in the eyes. It helps us to interpret and understand what is happening around us through light, colour and movement. It also assists in our perception of depth (depth perception) For example it can help us determine differences between similar objects and colours to find a pen in a cluttered draw.

Tactile System (Touch)



The tactile system is the information sent from the receptors in the skin to the brain. The brain understands this information as touch. These receptors are all over the body with some areas being more sensitive than other such as the mouth and hands. There are also different receptors for different types of touch such as hot/cold, light touch, pressure, skin stretch and texture (smooth/ rough). We all have individual preferences for different types of touch. Someone may not like light touch but enjoy pressure touch.

Vestibular System (Movement/ Balance)



The Vestibular system is to do with the information that is sent to the brain from a sack of fluid in the inner ear. This provides valuable information about orientation in space. This system, influences how we walk, how stable we are when standing and sitting, eye movements to track items that we see, and overall balance. The Vestibular system can be considered the bridge between the systems for motor control and closely works with the visual and auditory system. The information the brain receives will influence our ability to do these things. We all so have preferences for the intensity of this information.

Interoception System (Internal Signals)

Interoception has to do with the internal signals our body sends our brain. This includes sensations such as pain, nausea, hunger, fullness, tiredness, thirstiness, needing to use the bathroom, our heart beat or breathing. These internal messages can also be in regards to our emotional state. Our responses, understanding and ability to manage these signals varies from person to person.



Proprioception System (Body Positioning)



The proprioceptive sense tells us about our body position and helps with coordination. Our proprioceptors are parts of our joints and muscles that receive feedback when we move. They tell us the position our limbs are in. They let us know how much or how little force we are using. Our proprioceptive system is important for body awareness, movement and balance.

Heavy work activities are those which provides resistance and activates our proprioceptors - think pushing, pulling or carrying something. These types of activities have calming and organising effect on the brain and help our bodies to regulate.

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The Senses and the Brain

Our senses are the interface between our external and internal worlds. They tell us important information about our world such as how safe we are. Our nerves receive this information and send it to our brain which receives it, understands it, and responds to it. We have sensory information coming in all the time. We each have a different tolerance for how much we need. Our brains need just the right amount to function at our best, too little or too much can cause us to become dysregulated.

Our brain can also adjust how intense the information from these sense are. This is why we can be unbothered by wearing clothes but can feel something as small and fine as a hair on our skin often resulting in us jumping thinking “Oh my god what is on me?!”. These types of responses are why sensory information is connected to emotions; an internal response to sensory information. It is also important to note that these responses are also influenced by experience. The previous example may result in a more intense response if you have had a negative experience with insects or spiders compared to someone who has not. For some people, regardless of disability, their ability to participate is impacted due to the unique interaction between their environment and how their brains receives, understands and responds to the information from their environment.

The senses in context

Consider the below scenario:


Anne is a grade 1 student. She is in PE in the hall today. It is very loud and noisy. They are playing dodge ball and tag. Anne is finding it difficult to concentrate on the game. During play Anne is touched by another student whom she believe smacked her on purpose. The teacher reassures her it was an accident but she finds it difficult to accept this. Anne starts to hit others, screams and cries. She runs out of the hall into the school play ground. She starts to try to climb the fences and to leave the school grounds. The schools staff get Anne to an area of the school yard where she and others will be safe. Anne is very distressed still trying to escape. She only stops when she hears the bell for play time. At this point she stops trying to escape but still very distressed seeks comfort from the school staff.

What information might Anne be recieving from her senses?

How might her brain be making sense of the information she is receiving?

How might her past experience, and her age influence her response?

How has a sensory perspective changed your understanding of her behaviour?



What are your Sensory Preferences?

How do you process sensory information? What are your sensory preferences?

Think about the questions below through a sensory lens; what makes you calm, what makes you alert and what makes you frustrated or uncomfortable?

Have a go at filling in the below grid to assist with understanding your own sensory preferences and how it may impact your functioning. It can help to think of a common task or experience where you had an unexpected response to see how your sense may be informing what you do or don't do.

You may want to consider how intense the information might be, how often it does or does not occur throughout your day, what you seek out and at what point is it too much.

Examples are given in **green** using the example of going to an office job.

Sense	what helps you calm down?	What alerts you?	What distress or frustrates you?
Sound		ie; listening to music for repetitive tasks	
Touch	ie rubbing my legs or hands		
Sight			
Smell			ie; strong perfume

Senses	what helps you calm down?	What alerts you?	What distress or frustrates you?
Interoception			ie; tiredness
Proprioception	ie: using lap pad on my legs		
Vestibular		ie: going for a walk on my lunch break	
Taste			