



The Sensory System

The 7 senses

Touch



The receptors on the surface of the skin detect fine and coarse touch, pressure, vibration, pain, temperature.

Proprioception



Proprioceptive receptors, located in the muscles and tendons, know the position of the body in space and the movements of the limbs.

Sight



Photoreceptors in the eye detect all of the visual information in the environment.

Taste



Taste receptors in the mouth sense bitterness, acidity, sweetness, saltiness and umami.

Smell



Olfactory receptors in the nose can discern approximately 10,000 smells.

Hearing



Sounds are detected by cells in the ear and are converted into mechanical vibrations and then into electrical signals.

Vestibular



Information about the static (in place) and dynamic (in motion) balance of the body is processed in the inner ear.

Created by Stéphanie Baril, ps.éd.

Processing Sensory Information

Sensory information is processed by **sensory modulation** and **sensory discrimination**.

The seven senses process sensory information in the environment and then drive a social, emotional or behavioral response. **Sensory modulation** allows the individual to maintain an optimal state of alertness, to maintain a level of vigilance and to pay attention to certain stimuli that are relevant in the context of a situation.

Sensory discrimination distinguishes and interprets the characteristics of stimuli and enables the person to respond easily and appropriately.

References : Chrétien-Vincent, M., Rossini-Drecq, & Tétreault, S. (2017). *Mon enfant apprivoise ses sens : Stratégies d'adaptation aux particularités sensorielles*. Édition CHU Sainte-Justine., <https://enova.qc.ca/ressources/difficultes-sensorielles/>

Personal Preferences and Discomforts

Everyone has the same physiological mechanics for receiving stimuli in the environment, but perceptions and reactions vary. Thus, each person has their preferences and sensory discomforts.

Difficulties in processing sensory information can affect one or more of the senses. They occur when a person has significant difficulty in functioning due to their reactions to stimuli.

References : Chrétien-Vincent, M., Rossini-Drecq, & Tétreault, S. (2017). *Mon enfant apprivoise ses sens : Stratégies d'adaptation aux particularités sensorielles*. Édition CHU Sainte-Justine., <https://enova.qc.ca/ressources/difficultes-sensorielles/>

Please note that some information or resources may have changed since the last update (2021/08/17).





Sensory Modulation Difficulties

There are three profiles associated with sensory modulation difficulties.

Hypersensitivity Behaviors

The person has a sensitivity greater than the norm, detecting a greater number of stimuli. He/she may overreact despite the low intensity of the stimuli. He/she tries to avoid stimulation and can withdraw or isolate himself/herself.

Hyposensitivity Behaviors

The person has a lower sensitivity than the norm, which interferes with the detection of certain stimuli. He/she may have an unresponsive or weak reaction despite the large presence of stimuli in the environment.

Seeking Stimulation Behaviours

The person receives a lack of stimulation and actively seeks it in order to be more comfortable and to meet his/her sensory needs.

Reference : Chrétien-Vincent, M., Rossini-Drecq, & Tétreault, S. (2017). *Mon enfant apprivoise ses sens : Stratégies d'adaptation aux particularités sensorielles*. Édition CHU Sainte-Justine.,

Ressources / Resources

Ligne Parents (24/7) : 1-800-361-5085, <https://www.ligneparents.com/LigneParents>
8-1-1: Info-Sociale, <https://www.quebec.ca/sante/trouver-une-ressource/consulter-un-professionnel/info-social-811/>
Tel-Jeunes (24/7): 1-800-263-2266, text 514-600-1002, chat : <https://www.teljeunes.com/Tel-jeunes>
Jeunesse, J'écoute - Kids Help Phone (24/7): 1-800-668-6868, text : 686868, <https://kidshelpphone.ca/>
Suicide Action Montréal (24/7): 1-866-277-3553, <https://suicideactionmontreal.org/>
L'Autre Maison Crisis Center (24/7): 514-768-7225, <https://centredecrise.ca/lautre-maison>
West Island Crisis Center (24/7): 514-684-6160, <https://centredecriseoi.com/>

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Evaluation And Follow-Up

An occupational therapist can evaluate sensory needs.

In The Public Sector

-Possibility of receiving an evaluation and/or a follow-up in the school environment, depending on the resources.
-Possibility of receiving an evaluation and/or follow-up in certain programs of the health and social services.network.

Livres / Books

Biel, L., & Peske, N. (2009). *Raising A Sensory Smart Child*. Penguin Books.

Caron Santha, J. (2020). *Les hypersensibilités sensorielles chez l'enfant et l'adolescent : Mieux comprendre pour mieux intervenir*. Midi Trente Éditions.

Chrétien-Vincent, M., Rossini-Drecq, & Tétreault, S. (2017). *Mon enfant apprivoise ses sens : Stratégies d'adaptation aux particularités sensorielles*. Édition CHU Sainte-Justine.

Kranowitz, C.S. (2005). *The Out-Of-Sync Child : Recognizing And Coping With Sensory Processing Disorder*. Penguin Books.

Miller, L.J. (2014). *Sensational Kids : Hope And Help For Children With Sensory Processing Disorder*. Penguin Books.

Voss, A. (2013). *Understanding Your Child's Sensory Signals*. CreateSpace Independent Publishing Platform.

Équipe Santé mentale jeunesse
Youth Mental Health Team
CIUSSS-ODIM

Douglas
FONDATION
FOUNDATION

In The Private Sector

Consult the Ordre des ergothérapeutes du Québec :
<https://www.oeq.org/>

Internet

<https://naitreetgrandir.com/fr/nouvelles/2020/11/1/1/connaissez-vous-hypersensibilite-sensorielle/>
<https://www.oeq.org/>
<https://www.esantementale.ca/Canada/Les-troubles-du-traitement-sensoriel-chez-les-enfants-et-les-adolescents/index.php?m=article&ID=8890>

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