

Sensory Integration

Sensory Integration refers to the way that the brain is able to take all the sensations which a person receives from life, mix them together (a major spot this happens is in the thalamus, deep within the brain), and then send them to the higher centers of the brain for motor planning, understanding of what is occurring in the environment, and overall sense of well-being. Sight, smell, touch, taste, and hearing are the most heard about. But, a person's vestibular sense (balance and also sense of orientation to the earth) and the proprioceptive sense (body awareness, sense of movement, and pressure/force) are also very important and may lead to more subtle challenges in a person's life. Sensory integration can be described in two categories:

- **Modulation:** This refers to any of the senses listed above. Modulation is the ability to determine what sensory information is important and what is not, and filtering out what is not needed. A knob light switch, in which a person can adjust the brightness or dimness in a room, is an example of modulation. A simple on/off switch has no modulation. Likewise, a person in a very stressful environment who is able to stay calm is demonstrating one type of modulation, whereas without that modulation, that person would quickly become stressed themselves.
- **Discrimination:** This most commonly refers to the touch, vestibular, and proprioceptive senses, although visual perception may also be included. If modulation refers to the 'how much?', discrimination refers to simply the 'what?' of sensation. A school child with poor touch discrimination may feel someone next to them in line brush them, and them may either or notice, or feel that they were just hit.

How can it affect a child?

Many areas of life can be affected by difficulties in sensory integration. A child may have trouble developing normal fine motor skills because they are not receiving correct information about where their fingers are in space, or how much pressure they are using on a paper. Or a child may have a hard time interacting with others because they are having difficulties in receiving information as to how close or far others are from them, or correctly reading body language.

Perhaps they do not play on the play ground, or play in a group, but not with the group, because it is too challenging. Some children will display what appears to be difficult behaviors, such as acting out, running away, or other avoidant behavior because they are having such a hard time simply responding to a situation with their senses.

Many children have difficulties in integration of sensation. They may benefit from skilled occupational therapy (with training in sensory integration) when these difficulties interfere with normal life, keeping up with peers, and succeeding in school. Although many children have sensory integration difficulties without any other diagnosis, it is common to see sensory integration difficulties in children with diagnosis of autism, aspergers syndrome, pervasive developmental disorder, cerebral palsy, attention deficit disorder (with or without hyperactivity), anxieties, and developmental delay (as well as others).

With therapy, a child with sensory integration difficulties can learn to both better understand and interpret information they receive, and/or learn coping strategies for better living in life.



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