

Sensory Integration

"Sensory Integration is the ability to take in information through senses,...to put it together with prior information, memories and knowledge stored in the brain, and to make a meaningful response."

The child may frequently respond to or register sensory information without the ability to screen out non-essential sensory information, or the child may fail to register the input from one or more senses.

Effects of Disordered Sensory Integration

- Distractible, hyperactive, uninhibited
- Behavior Problems
- Poor Speech Development
- Difficulty establishing sleeping and eating patterns
- Disorders of muscle tone
- Poor Gross and/or Fine Motor Coordination
- Learning disabilities
- Social problems
- Unable to calm or console themselves
- Irritable, difficult to soothe, emotionally liable
- Hypersensitive to touch
- Aggressive
- Avoidant, withdrawing
- Intolerant of daily routines
- Rigid about textures, "feel"
- Hypersensitive to auditory, visual, olfactory, vestibular stimuli
- Lacks purpose in activity
- Does not manipulate toys or play with them creatively
- Does not explore the environment
- Plays very repetitively with toys
- Prefers only one type of activity
- Seeks excessive or vigorous sensory input
- "Fight, flight, or fright" response to sensory information most people would consider harmless

The theory of sensory integration is based on the work of A. Jean Ayres (1972a) who recognized a common picture in some children with learning difficulties that related to difficulties in processing sensory information. Based on many years of research with these children, she formulated hypotheses about deficits in neurobehavioral processes that are thought to be associated with learning disabilities.

These sensory integrative difficulties were hypothesized to reflect disorganization of the central nervous system's ability to process sensory information about the child's body and environment. This, in turn, interferes with complex processing required for the child to perform during daily activities. This could be viewed as a basic adaptive response in play, physical interaction with other children through tasks, learning daily living skills involving coordination of body movements, or classroom learning.

Every day, we receive a great deal of information from our senses. We use this information to organize our behavior and successfully interact in the world. Our senses give us information about the physical status of our body and the environment around us. Think of the senses—sight, hearing, touch, taste, and smell. Yet, there are many other sensations which are just as essential to survival. Our nervous system also detects changes in movement and gravity. These sensory systems include: 1) balance and movement (our vestibular sense); the knowledge of the position of one's head in relation to gravity and movement which is used to come down a slide, or ride a playground swing without falling off, and 2) muscle and joint sense (proprioception); the internal awareness of the position of one's joints and muscles in space which allows you to lift a spoon to your mouth without spilling your soup.

What happens if one or more of our senses are not being interpreted properly? A child with vague or hazy feedback about his sense of touch, body position, or movement and gravity is in a world totally foreign to ours. Imagine yourself in a world where something as basic and reliable as the pull of gravity or other children's touch upon you is perceived as something unreliable, inconsistent, or threatening. The child would not feel the usual security, safety, and fun that other children experience. When considered from this child's perspective, it is no wonder they behave as they do!

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From A. Jean Ayres (1979) and Ginger Grass, OTS, Cincinnati Public Schools
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