Senses And Sensibility

Have you been told that your son isn’t able to remain seated during circle time and has a hard time paying attention? Are you concerned about his lack of interest in, or avoidance of, playing with clay, paint or “messy” activities? Have you ever wondered why your son doesn’t want to play on the swings and slides with the other children? Do you worry he doesn’t seem to “fit in”? All of these behaviors could be related to ineffective sensory processing or inadequate sensory integration.

Sensory integration difficulties in children vary in severity and are often misunderstood. While you may hear the term “sensory integration” making its way into mainstream discussions about child development, education and behavior, it still remains little understood to many parents and/or educators.

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The theory of sensory integration has been around since the late 1950s. The research and work of the late A. Jean Ayres, Ph.D., OTR, an occupational therapist, provided the foundation of what we know today about sensory integration and its importance for child development and behavior, learning and daily functioning. The continued research since Dr. Ayres’s early findings has allowed us to identify and treat types of sensory integration difficulties that can negatively impact a child’s ability to participate successfully in his daily life.

What Is Sensory Integration?

In its simplest form, sensory integration is the ability to take in sensory information from our bodies and the environment and organize it for effective, functional participation in daily activities. The process of sensory integration is an automatic one, and when it works correctly, we don’t have to consciously think about it. On any given day the nervous system is constantly receiving sensory input, processing it, sending out commands on how to respond and eventually receiving feedback on how to adjust our responses for greater accuracy and effectiveness. Every minute our brain is involved in a balancing act of determining the relevance of sensory information and then either filtering out or focusing on what is needed to make a response.

We all grew up learning about our five senses: sight, hearing, smell, taste and touch. Sensory integration takes these five senses and adds two more: movement (vestibular) and body position (proprioception). While the theory of sensory integration does not ignore the importance of the other senses, it certainly views the integration of touch, movement
and body position as being the foundation of sensory integration development. Integration of these foundational-level senses is thought to give rise to more complex abilities and behaviors such as concentration, organization, self-esteem, academic learning ability, play skills and other essential abilities.

For most children, sensory integration develops as a result of typical childhood play activities and experiences. Specifically during the preschool years, children tend to be drawn to activities that encourage good sensory integration, i.e. water play, painting and outdoor gross-motor play. Research supports the finding that sensory integration begins in utero as the fetus is exposed to stimuli from the family and environment and continues through infancy and childhood. While the basic functions of sensory integration are thought to be matured by about 8 to 10 years of age, the process is ongoing and being refined throughout life. Sensory input is necessary to get this system going and enhance the process of sensory integration. However for those children where the process does not occur automatically or develop as efficiently as it should, a number of problems in learning, development and/or behavior may become evident.

Problems With the Process

Breakdowns can occur anywhere in this process; however, the most common concerns reported by parents and teachers are associated with how sensory information is processed and how behaviors are observed in the environment. It’s easiest to understand atypical responses to sensory input if you think of them on a continuum. On one end of the continuum you have responses that are considered to be hypersensitive or overreactive, and on the opposite end of the continuum you have responses that are considered to be hyposensitive or underreactive. Ideally, a child should exhibit responses to sensory information that fall somewhere in the middle of the continuum. Following are a few examples of responses to sensory input and behaviors that may indicate difficulty with the processing of sensory information.

Tactile System: Touch
• Hypersensitivity
  • Extreme reactions to minor cuts, scrapes or other injuries
  • May withdraw or shy away from being touched
  • Does not like to play with wet, “messy” activities, i.e. shaving cream, glue
• Hyposensitivity
  • Not aware of temperature or pain
  • Likes to touch everything
  • Seeks cuddling or being held constantly

Vestibular System: Movement
• Hypersensitivity
  • Avoids and is afraid of movement
  • Exhibits uncoordinated movements and poor balance
  • May exhibit carsickness
• Hyposensitivity
  • Appears to be always “on the go”
  • Can’t sit still
  • Can spin/twirl around without getting dizzy for long periods of time

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Proprioception: Body Position
- Exhibits stiff and uncoordinated movements
- Falls frequently and may appear clumsy
- Has difficulty executing activities without looking

Attention and Arousal Level
- Activity level is unusually high or low
- Difficulty modulating emotional responses/reactions
- Impulsive and distractible

Other Behavior and/or Social Problems
- Poor self-concept
- Difficulty making friends
- Sensitive to stress and change
- Difficulty with transitions and new situations
- Difficulty with learning new things

The symptoms provided do not include all behaviors that might indicate sensory integration difficulties and are not correlated with specific ages. Many of us on any given day might exhibit any one of the outlined behaviors. Does this mean we have sensory integration problems? Probably not. Frequency, intensity and duration of observed behavior determine whether a professional should be consulted. A problem may occur when behaviors are interfering with a child’s ability to function in his daily routines, even if it might appear to be only at a minimum. For example, are tactile processing problems interfering with the ability to complete “messy” art projects? Does close proximity to classmates or friends cause inappropriate behaviors such as pushing? Does the lack of interest in gross-motor play activities and movement experiences set him apart from others?

Sensory integration is one way to explain behaviors in children. If you suspect your child is experiencing problems with sensory integration, an occupational and/or physical therapist that specializes in this area can provide a thorough evaluation. If the results indicate that the behaviors are not due to difficulties with sensory integration, referrals to other professionals can be made. If sensory integration difficulties exist, a comprehensive therapy plan can be developed. This will include determining the length of the session and frequency of therapy, creating measurable long- and short-term goals, developing a program of activities/ideas for parents to implement at home and offering suggestions for the school. Therapeutic sessions that address sensory integration difficulties are designed to be child-directed and incorporate a variety of sensory input that provide an array of experiences and challenges. Therapy plans are child-specific and vary depending on each child’s needs. They are designed to facilitate changes that make it easier to function at home and school.

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(Footnotes)