



Sensory Processing and Occupational Therapy

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What is Sensory Processing?

- ▶ Sensory processing is “a term used to refer to the way the nervous system receives messages from the senses and turns them into appropriate motor and behavioral responses” (SPD, 2014). Or brain is constantly receiving input from our different sensory receptors that it has to interpret and organize.
- ▶ Sensory input comes from the seven senses:
 - ▶ Tactile
 - ▶ Visual
 - ▶ Auditory
 - ▶ Olfactory
 - ▶ Gustatory
 - ▶ Proprioception
 - ▶ Vestibular



Sensory Modulation Dysfunction

- ▶ Sensory modulation dysfunction occurs when an individual has motor and behavioral responses that are disproportionate to the nature and intensity of the incoming sensory input.
- ▶ The prevalence of individuals with sensory modulation dysfunction symptoms is 1 in 20, with the incidence being higher in children with ASD, ADHD, and Fragile X (SPD, 2014).
- ▶ It is thought to be caused by both genetic and environmental factors. Some identified risk factors include multiple births, prenatal and birth complications, and c-sections.



Sensory Modulation Dysfunction

- ▶ Hyper sensitivity - when an individual is overwhelmed or over stimulated by sensory input.
- ▶ Hypo sensitivity – when an individual does not notice or correctly use sensory information.
- ▶ Sensory seeking – a form of under responsivity in which an individual actively seeks out additional sensory input in order for their brain to register the information.
- ▶ Dyspraxia (impaired motor planning)
 - ▶ Motor planning is a complex process that relies on sensory feedback, language, memory, and cognitive skills (Building Bridges, 2002).



Sensory Modulation Dysfunction and Occupational Therapy

- Assessment
 - Parent and child report
 - Observation
 - Standardized assessments
 - Sensory Profile
 - Sensory Processing Measure
 - Sensory Integration and Praxis Test (SIPT)



Regulation and Function

- ▶ Self-regulation is the nervous system's ability to attain, maintain, and change levels of arousal or alertness. It is our ability to balance (regulate or modulate) sensory input from our environment (Building Bridges, 2002).
 - ▶ Sensory Diet
 - ▶ Specific activities
 - ▶ Coping strategies
 - ▶ Environmental adaptations
 - ▶ Zones of Regulation
 - ▶ Teaches feelings and behaviors in all zones
 - ▶ Develop tool box strategies for all zones



Regulation and Function

- ▶ Examples of Sensory Goals
 - ▶ Child and child's family will learn and utilize 8-10 novel sensory strategies as part of his/her sensory diet that will help improve his/her regulation and participation in age-appropriate daily activities.
 - ▶ Child will independently identify his/her current emotional state on a leveled chart indicating differing levels of emotional arousal, on 4 out of 5 opportunities.
 - ▶ When experiencing emotional arousal (e.g. feeling sad, mad, etc.) child will utilize a tool-box chart to accurately identify an appropriate strategy to respond without behavioral escalation, on 4 out of 5 opportunities per parent/teacher report.



Occupational Therapy

- ▶ Therapy based on engagement in meaningful activities of daily living (such as self-care skills, education, work, or social interaction) especially to enable or encourage participation in such activities despite impairments or limitations in physical or mental functioning (Merriam-Webster, 2019).
 - ▶ Fine motor skills
 - ▶ Handwriting
 - ▶ Self care skills
 - ▶ Feeding



Goals



- ▶ Fine Motor
 - ▶ Developing inferior pincer grasp, manipulating fasteners during dressing, using utensils
- ▶ Handwriting
 - ▶ Efficient handwriting grasp
 - ▶ Pre-writing strokes
 - ▶ Letter formation, line orientation, spacing, sizing
- ▶ Self-Care
 - ▶ Dressing, toileting, grooming/hygiene, bathing
- ▶ Feeding
 - ▶ Self-feeding skills, tolerating a variety of tastes and textures, oral motor activities



Resources

- www.sensorysmarts.com
- www.spdfoundation.net
- www.merriam-webster.com
- “The Out-of-Sync Child” by Carol Kranowitz
- “Raising a Sensory Smart Child” by Lindsey Biel and Nancy Peske
- “Building Bridges Through Sensory Integration” by Ellen Yack, Paula Aquilla, and Shirley Sutton
- “The Zones of Regulation” by Leah M. Kuypers, MA Ed. OTR/L



Questions?

