







Sensory Processing: Implications for Behavior and Learning

An OCALE Parent Package



Ohio Department of Education
Division of Educational Services




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Objectives

Participants will:

1. Gain an understanding of the impact of sensory processing challenges on the individual and his/her ability to learn, work, and participate in family and community life.
2. Become familiar with behaviors that may indicate sensory processing difficulties.
3. Understand how to make environmental modifications to accommodate for an individual's sensory challenges.



Everyday we are exposed to thousands of sensory experiences...



proprioception



touch



move



vision



hear



smell



taste





What is sensory processing?

A process by which the brain:

1. Takes in information
2. Interprets information
3. Develops a response or action

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Effective sensory processing provides us with...



Protection from
Danger



Alertness and
Attending

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Meaningful
Engagement

Homeostasis Is...

Maintaining a balanced sensory system in response to external events while demonstrating appropriate levels of alertness to exhibit adaptive responses



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Tactile - Touch

Location: The skin—areas of greatest concentration are the mouth, hands, and soles of feet

Activated by: Contact with the skin. There are different types of skin receptors including those for pressure, temperature, pain, as well as different types of touch sensations

Functions: Two separate systems: the protective and discriminative. One lets us know if we are in danger and the other where, what, and how we are touched

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Vestibular - Movement

Location: The inner ear

Activated by: Movement of the head in space relative to gravity

Function: Vestibular input gives us information about where we are in space, how fast we are moving, and what direction we are moving. It contributes to our posture and tone

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Proprioception - Space

Location: In the joints, tendons and muscles

Activated by: Bending, straightening, compressing, pulling, contracting, and stretching the receptors

Function: To provide information about our position in space and general body awareness

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Visual - Seeing

Location: Structures of the eye (retina)

Activated by: Light

Function: To detect light and give us information about objects and people such as multi-dimensional awareness, patterns, colors, etc. To provide an awareness of surroundings beyond arms' reach such as distance, proximity, and depth perception

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Auditory - Hearing

Location: Structures of the ear

Activated by: Vibrations produced by sound

Function: To process sound so that speech, music, or noise can be distinguished

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Olfactory - Smell

Location: Nasal cavity

Activated by: Chemicals called odors

Function: To assist in the discrimination of people and things. Alerts against volatile/dangerous substances

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Gustatory - Taste

Location: On the surface of the tongue, along the soft palate, and in the epithelium of the pharynx and epiglottis

Activated by: Chemicals in foods/items interacting with the receptors

Function: Partners with the sense of smell to perceive flavors

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What are your sensory preferences?

What is Your Response to.....

- ☐ Cold shower
- ☐ Wool clothing
- ☐ Panty hose
- ☐ Sweatpants
- ☐ The feel of Jell-O in your mouth
- ☐ The sound of birds
- ☐ Bright colored walls in the bedroom
- ☐ The smell of perfume
- ☐ Elevators
- ☐ Roller coasters

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What happens if the sensory system is not working effectively?



Low-Sensory Threshold



A small amount of sensory input can create feelings of being overwhelmed and elicit responses such as...



...shut down

...extreme sensitivities

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High-Sensory Threshold



A large amount of sensory input is needed by the child and without that input the child may...



...appear unmotivated with low energy

...be very active

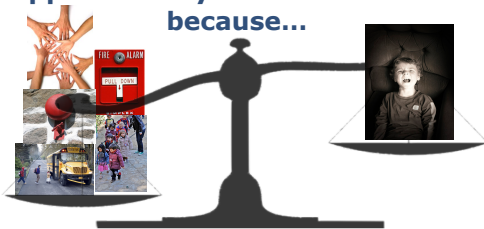
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In Sensory Processing Disorder (SDP), we may see behaviors that seem unusual and difficult to explain...and the behaviors may not respond to conventional behavior management techniques



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Looking at the behavior from a traditional behavior management approach may not be successful because...

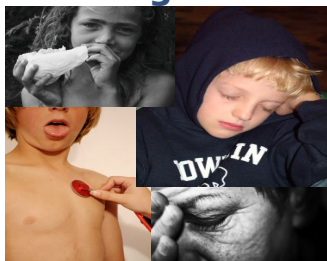


...the behavior is often the sum of many sensory events over a period of time, not just the event prior to the behavior!

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Other factors that can influence sensory processing

- Illness
- Fatigue
- Novel vs. Familiar
- Stress
- Hunger



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It's not always what it seems...



We need to be a good detectives together!

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Behaviors in the Home



refusal to brush teeth



doesn't understand the difference between indoor and outdoor play



may play too rough with siblings



messy eater
...plays in food



afraid of toilet flushing



hates baths



sits too close or
turns TV up too loud

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Behaviors in the Community



doesn't sit to eat meals



doesn't understand safety/
takes risks in play



makes noises and as
a result has difficulty
being in quiet places



fearful of climbing
activities



sights and smells at
grocery are overwhelming

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Behaviors in School

 does not appear to notice alarm for fire drills	 involved in disagreements/fights when in line	 may try to lick or eat non-edible materials
 dislikes going to the cafeteria for lunch	 involved in disagreements/fights while on the bus	 personal possessions are often in others' space



Concerned About Your Child's Sensory Processing?

Ask for an Occupational Therapy (OT) assessment specifically related to sensory processing – the OT can recommend specific interventions to meet your child's specific needs



Sensory Processing Evaluations


Interviews and Questionnaires

- *The Sensory Profile* (Dunn 1999)
All age ranges (home and school versions)

Informal and Formal Observations

Norm-Referenced Tests


- *Sensory Integration and Praxis Test* (Ayers, 1989)
4yrs-8yrs 11mos
- *Sensory Processing Measure* (SPM) (Parham et al)
k-6th grade
- *Miller Assessment for Preschoolers* (Miller, 1988)
2.9-5.8 years



Intervention Approaches for SPD

Traditional Individual Sensory Intervention
 typically provided by an occupational therapist in a clinic.
 in a special sensory intervention treatment room


Environmental Adaptions/Supports



Intervention Approaches for SPD

Sensory Diet



- May be provided in the child's natural environment (i.e. home, school, etc.)
- Diet is designed by an occupational therapist specifically for the child's individual sensory needs based on assessment.
- Caregivers are trained by the OT to provide the interventions at regular intervals throughout the day and often times integrated into routine activities.
- Interventions are carefully monitored and adjusted based on the child's responses



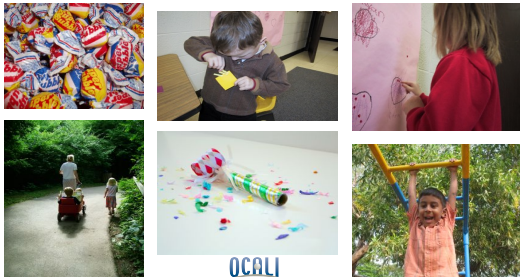
Sensory Interventions Proprioception

These interventions are used to assist with organizing, calming, attending, body awareness for individuals with both low and high sensory thresholds

Activated by: Heavy Work and Resistive Activities

Sensory Interventions Heavy Work and Resistive Activities School-Age



Sensory Interventions Heavy Work and Resistive Activities Adolescent/Young Adult



Sensory Interventions Calming Area



- Used to provide an area of reduced sensory input
- Generally used for those with low sensory thresholds

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Be a Good Environmental Detective for Your Child



Be aware of random sensory input from your child's environment and make adjustments if possible

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Sensory Interventions Sensory Exploration Area



areas for free exploration of sensory experiences

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Sensory Visual Support Strategies



sensory alert signs



sensory choices on VOCA

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Social Stories and Sensory Stories


Sensory
Themed
Social
Stories
by Carol Gray



Sensory
Stories
by Therapro





Sensory Visual Support Strategies




sensory
behavior
escalation
scales

behavior/
sensory
choice
boards

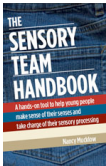





Empowering Kids



How Does Your Engine Run
by Mary Sue Williams and Sherry Shellenberger



The Sensory Team Handbook
by Nancy Mucklow



...Other Key Concepts

- When engaged in sensory activities observe behaviors and adjust activities as needed.
- Ask for feedback from the individual.
- Sensory activities that work one day may not work another day.
- Be proactive rather than reactive when using sensory strategies to manage undesirable behaviors.
- Never force participation in sensory activities. Integration occurs during active, relaxed participation.

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Sensory Processing Resources OCALE Lending Library



Search Key Word: Sensory

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of Education
Provided by your district or your state for
Ohio Department of Education's Office for Exceptional Children

AUTISM SOCIETY
Improving the Lives of All Affected by Autism
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