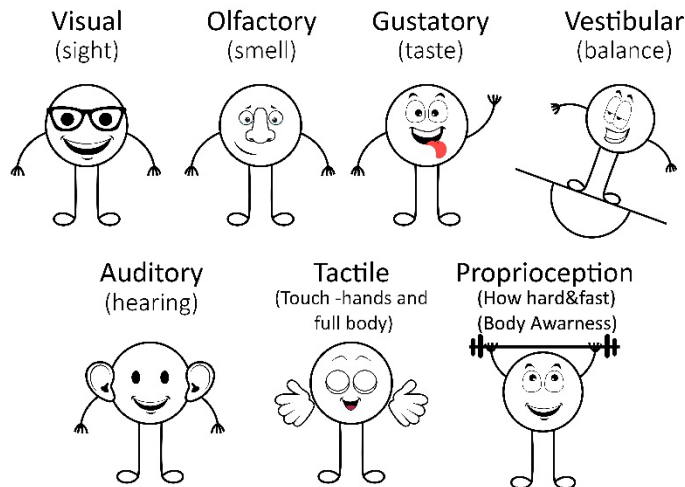


**NTDC Right Time Training
SENSORY INTEGRATION
QUESTIONS AND ANSWERS**

Question 1: What are the senses?

The five basic senses are touch, sight, hearing, smell and taste. We also get information from two internal senses: vestibular (our sense of balance) and proprioception (our sense of fast or slow movement and of how much force -- hard or soft pressure -- we use or can tolerate).

Sensory Differences



Question 2: What is sensory processing disorder (SPD)?

Sensory processing disorder (SPD) is a condition in which the brain has trouble receiving and responding to information that comes into the body through the senses. Our brains constantly are filtering and reacting to all of the stimuli or inputs from our senses. The brain of a person with sensory processing disorder cannot process all the information entering through seven senses at the same time to develop a clear picture of what's happening internally and externally.

Imagine that you're sitting in a classroom. Think about how much sensory input your brain receives in the room from the lighting, the noise level, the room temperature, the feel of your clothes against your skin, the texture of your desk and the smell of the person next to you. The brain of a child with SPD might be able to filter some of these sensory inputs; but because of

heightened sensitivity to certain sensory inputs or a lack of responsiveness to others, the lights might be too bright, a clothing label feel too scratchy or background noise be too loud for the child’s brain to filter out these distractions. As a result, these inputs dictate the child’s behavior in the classroom. Sensory processing disorder often is identified when children are in their toddler years. A diagnosis of SPD must be determined by an evaluation conducted by an occupational therapist. Even a child who is not diagnosed with SPD can have sensory integration challenges that need to be addressed.

Children with sensory processing disorder may engage in seeking, discriminating or defensive behaviors or a combination of all three of these. Children with sensory seeking behaviors may seem to require “more than usual” amounts of certain inputs or actions. Children with sensory defensive behaviors may seem “overwhelmed” by certain situations and sensations; so, they try to avoid these any way that they can. Children with sensory discrimination behaviors may struggle with determining differences in sizes, shapes and textures. They also may have difficulty determining the sources of sounds and the position and movement of their bodies.

Some of the indications or signs that a child might have **sensory integration challenges** are identified in the behaviors in the three charts below.

Tactile: Sense of touch

TACTILE		
SEEKING BEHAVIORS	DISCRIMINATION BEHAVIORS	DEFENSIVE BEHAVIORS
Seeks out difference in temperatures, vibrations, & sensations	Difficulty knowing where they are being touched	Distressed by clothing (tags/ seams)
High pain tolerance (bite or pinch self or others)	Difficulty knowing what they are holding without looking	Avoids certain textures
Seeks oral stimulation (sweet, salty, or bitter; carbonation or frozen food)	Difficulty searching with hands through a bag	Avoidant of light touch (tickling) but may crave deep touch (bear hug)
Always touching things & always messy/ dirty “impulsive”	Difficulty describing how an object feels (smooth, bumpy, etc.)	Distorted walking (walking on toes)

Vestibular: Sense of balance, movement and spatial orientation through head position, centered in the inner ear

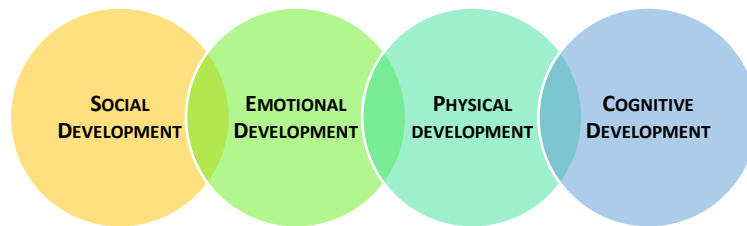
VESTIBULAR		
SEEKING BEHAVIORS	DISCRIMINATION BEHAVIORS	DEFENSIVE BEHAVIORS
Engages in risky behaviors	Difficulty in determining body posture	Excessive fear of falling during daily movement activities (biking, climbing)
Runs instead of walks	Unaware of body in space	Avoids hanging upside-down
Engages in constant motion (often DX ADHD)	Falls out of their chair	Avoids movement (spinning, swinging, level changes, rocking)
Seeks out spinning, swinging, rocking	Poor perception of elevation	Prefers sedentary activities

Proprioception: Sense of self and movement through receptors in muscles and joints

PROPRIOCEPTION		
SEEKING BEHAVIORS	DISCRIMINATION BEHAVIORS	DEFENSIVE BEHAVIORS
Seeks out hard pressure (stomps feet when walking, tight clothing, tucked in tightly, bear hugs)	Difficulty regulating pressure to pick up or hold an object	Avoids pushing, pulling, & carrying activities
High pain tolerance "rough houses"		Difficulty holding objects
Uses too much pressure to complete an activity (breaks crayons/ pencils)	Difficulty regulating body output to perform a physical activity	Oral defensiveness (difficulty chewing/ sucking)
Biting/ sucking of fingers, clothes, & objects		Prefers sedentary activities

A child can have challenges with integrating sensory inputs without meeting the criteria for a SPD diagnosis. Even if the child is not diagnosed with SPD, the child might have sensory needs that will impact the child's abilities and behaviors and that therefore need to be addressed.

Every individual has personal sensory preferences. Our reaction to a particular stimulus or sensory input might be based on our arousal level or our ability to self-regulate at the time when our brains receive and process that input.



Question 3: How do sensory integration challenges impact a child?

Our ability to make sense of the environment around us— which is called ***sensory processing***— affects whether we will be successful or act appropriately in a given situation. Therefore, sensory challenges will have an impact on every area of a person's life, including a child's social, emotional, physical and cognitive development. Sensory integration challenges can cause a child to have a hard time concentrating, to experience difficulty with organization, to feel low self-esteem and a low sense of confidence, to lack self-control, to have difficulty self-regulating, to have challenges forming attachments and relationships, and to experience problems with feeding.

Question 4: How do sensory integration challenges impact a family?

Successfully supporting a child with sensory processing issues involves the whole family. A family fostering or adopting a child may find the process of identifying and then accommodating the child's needs very time-consuming and stressful. All family members will need to have plans and strategies for self-care so that they can cope with the child's behaviors and adapt to meet the child's needs. Informing immediate and extended family members, school personnel and community members about the child's sensory processing issues and proactively educating them about the best ways that they can support the child are important. This proactive work will hopefully help to increase appropriate responses to and acceptance of the child and to decrease the possibility of persons overreacting to the child's behaviors, incorrectly interpreting them or blaming the child.

Question 5: How do a child's sensory needs change as the child's regulation and arousal levels change?

Our sensory needs go up and down throughout the day. Depending on a child's arousal level and degree of ability to self-regulate, the child might be set up for success or might face sensory challenges.

If the child's brain and whole body are nourished with everything that the child needs — sufficient restful sleep, adequate and frequent water and food (stabilized blood sugar level), purposeful movement and meaningful interaction — then the child will be more likely to respond appropriately to sensory inputs.

However, if the child is hungry, thirsty, tired or lonely or has begun a new activity that is challenging, then the child's brain and body already are having a hard time regulating, making sense of all the sensory inputs and figuring out how to meet those needs. When a child is juggling too many needs, sensory challenges are more likely to occur.

A child who has experienced trauma, separation or loss already has a difficult time with self-regulation and handling all of the child's needs. Trying to handle many different needs at the same time — relational and sensory needs plus needs for dealing with trauma and regulation — can be overwhelming for the child.

Question 6: How can a child's sensory needs change with age? Can a child outgrow sensory integration challenges?

A child's sensory needs can change moment-to-moment, day-to-day and year-to-year. A child will not "grow out of" sensory processing challenges. However, with support, the child can learn to tolerate and to develop strategies for responding more appropriately to these challenges. To have a positive impact over time on how a child copes with sensory processing challenges requires intervention and therapy by a professional. The goal of this intervention is to increase the ability of the child to self-identify arousal levels and sensory inputs that trigger the child's challenging behaviors while increasing the child's ability to self-regulate. The therapy and skills learned will affect how the child's sensory processing challenges change as the child grows and matures.

Question 7: How do a child's early experiences of trauma, neglect or both affect the child's current sensory experiences?

It is estimated that two out of every 20 children who have had healthy developmental experiences will have sensory processing challenges. In contrast, 18 out of every 20 children who have experienced trauma, separation or loss will have these challenges. Much of how we learn to interact with people and the world around us is learned through our earliest

relationships and experiences. When the brain and the rest of the body are not given the nourishment that they require consistently (restful sleep, adequate food and water, purposeful movement and meaningful interaction), this lack of nourishment impacts everything from arousal status and the ability to self-regulate to cognitive development. Babies are completely dependent on adults to meet all of their nourishment needs and to provide a safe, stable environment that is ideal for growth and development. Young children as well depend on adults to provide almost everything that they need for a safe, stable environment.

Human beings are designed to be in relationship with one another. If a young child's early interactions with adults were harmful, scary or neglectful, then that child likely will not grow up trusting an adult to meet the child's needs. In these situations, the child will try to begin to meet their own needs in an attempt to emotionally and physically self-regulate, but in ways that are faulty or inappropriate.

Our capacity for self-regulation depends on trusting relationships. Early childhood trauma impacts brain growth and development. The emotional parts of the brain often become exaggerated and grow physically larger due to the early experiences of a child subjected to trauma, separation and loss. The thinking parts of the brain, which are not fully developed until our mid-twenties, are often underdeveloped when the brain and body resources have had to be dedicated to survival.

Our earliest memories are body memories, not verbal memories. What our body experiences sends a message to the brain, which then links that experience with a positive or negative experience from our past. The brain categorizes the new experience as either safe or unsafe. If the event (such as a touch or a sound) is classified as unsafe, this might trigger a trauma response known as the **fight, flight or freeze response**. Verbal memories come later in development and enable the brain to define the "who, what, where and when" of an event. Memories of past trauma can trigger exaggerated responses to sensory inputs in the present.

If a child's early relationships are inconsistent or unsafe, the child later might misinterpret the sensory cues linked to relationships. For example, if a perpetrator of sexual abuse always spoke in a kind, calm manner and stroked the child's arm in a gentle way before the abuse occurred, the child now might react negatively when the parent who is fostering or adopting speaks in a calm manner or strokes the child's arm while asking about the child's day at school. Children who have lived in orphanages or group care settings or who have been neglected often have been deprived of basic sensory or relational experiences. This can impact their sensory processing later in life.

Question 8: How can I know if a child is exhibiting a sensory integration challenge versus a behavioral challenge?

One of the easiest ways to detect whether the child is exhibiting a sensory integration challenge versus a behavioral challenge is to note what brings an end to the behavior.

- A child experiencing a sensory integration challenge might need the parent who is fostering or adopting to provide **external regulation** by changing the environment (for example, by lowering the lights or turning off loud music) or by offering an intervention such as wrapping the child in a weighted blanket that feels like a hug. A child with a sensory integration challenge might try to meet the child's own sensory needs in a poorly adapting or dysfunctional way, such as by repeatedly hitting the head against a wall or throwing the body onto the ground to receive the sensory input needed.

I have Sensory Processing Disorder



- If the child is exhibiting a behavioral challenge instead of a sensory integration challenge, the behavior often ends when the child is given a reward or the item or activity that the child wanted. The child might use a challenging behavior to attract the attention of the parent who is fostering or adopting. If the child displays the behavior while the caregiver is giving the child attention but not when the caregiver looks away, this might indicate a behavioral challenge instead of a sensory integration challenge.

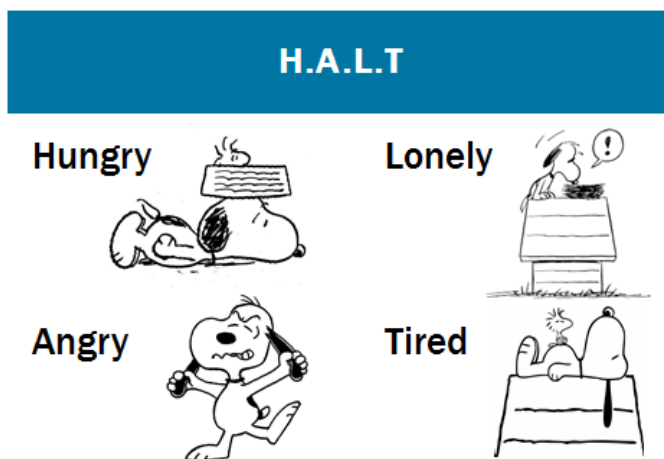
However, it is important to remember that all behaviors are the child’s way of communicating needs.

Question 9: Which strategies can parents who are fostering or adopting use to manage a child’s sensory integration challenges?

As a parent who is fostering or adopting, you need to become the child’s sensory detective. Identify specific details about the times when the child is experiencing more challenges — the time of day, what is happening and whether the child’s basic needs (sleep, food, water, etc.) are met at the time of the occurrence. Identify elements in the environment that cause a negative reaction from the child, such as crowds or particular noises, smells, types of touch, types of clothing and so forth. Write down all of these clues, and keep a journal of your observations over time. This journal can help you not only to meet the child’s sensory needs but also to share the clues with a professional who is helping you to determine the child’s sensory needs.

After you have been able to identify some of the child’s sensory challenges, be proactive by developing or finding strategies that will help you to control the situation and to give the child a regulating sensory experience. Examples of proactive strategies include having the child wear a weighted lap pad while traveling in a car, letting the child swing on a playset in your yard before leaving home or buying socks and other clothes for the child that don’t have seams or tags. Recognizing patterns and becoming proactive (rather than reactive) can reduce drastically the number of sensory difficulties that the child experiences.

It is important for a parent who is fostering or adopting to perform a basic needs check with the child many times throughout each day. You can use the acronym HALT for the check-in.



Siegel, D. J., & Bryson, T. P. (2012). *The whole-brain child: 12 revolutionary strategies to nurture your child's developing mind*. Brunswick, Vic.: Scribe Publications.

You might try these strategies as well:

- Develop a **sensory diet** with the help of an occupational therapist. A sensory diet is an individualized, scheduled and strategic activity plan to address the child's sensory needs.
- **Co-regulation** is important in providing sensory interventions for a child. Co-regulation involves using your physical and emotional presence to help the child become calm and to attain balance (for example, rocking back and forth while holding a baby to calm the infant). When using co-regulation, be sure that you are able to model the calm behavior that you want the child to exhibit. If you are not calm and regulated yourself (if you are upset, angry or agitated, etc.), then your own lack of balance will have a negative impact on your attempt to use co-regulation to balance the child.
- Identify the child's sensory preferences, and adapt to them. For example, if the child prefers strong bear hugs, runs up to you and gives you a big, strong hug, then you need to accept those types of hugs from the child.

Question 10: Which strategies can parents who are fostering or adopting use to meet a child's sensory needs in school?

Children who have sensory processing challenges can experience difficulties in school. If you are aware that the child has sensory processing challenges, share that information with the child's teacher and school administrators. Because not all educators are familiar with sensory processing disorder or sensory challenges, you need to give them basic information about the child's challenges, along with ideas about how to make changes in the classroom that will help the child to feel safe and secure. If the child is seeing an occupational therapist, then you can have the therapist develop strategies that are specific to the child. Otherwise, find out whether the school system has an occupational therapist who could help to provide strategies that will work for the child.

Some examples of strategies to use in the classroom include:

- Change the child's chair so that it's a better fit for the child. Some schools allow students to sit on large balls that let them move around. Alternatively, provide an inflated seat cushion or pillow for the child's chair at school.
- Eliminate or reduce potential trigger noises such as buzzing and flickering, fluorescent lights.
- Allow the child time for sensory breaks such as walking in circles, jumping on a mini-trampoline or sucking on sour candy.
- Allow the child to bring to school an item to use for fidgeting or a chewable items that can help to calm the child if the child becomes triggered by a sensory experience.

- Allow the child to avoid loud assemblies and loud cafeteria rooms. Sometimes children with sensory integration challenges perform better in quieter areas with fewer people around them.
- Have a clear, visual schedule posted that includes plenty of preparation time for transitions.