6. Provide awareness and education among the interviewing child life team regarding "code switching" (switching between different languages or dialects), and how tone, speech, and articulation can be difficult to deliver at times, in order to reduce bias (Brdarević-Čeljo et al., 2024).
7. **Weight for additional considerations:** UPMC Children's Hospital of Pittsburgh's practicum program takes into consideration additional factors like work experience outside of child related experience, recognizing that finances are a barrier to entrance to the field of child life. For those who must work, instead of being penalized for having less child related experience, students' experiences working other types of jobs are weighted into their scoring matrix. Perhaps, these types of considerations to experiences can be incorporated into internship scoring matrixes as well.

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# UNDERSTANDING SENSORY NEEDS:

## Meeting a Child's Unique World with Compassion and Care

**By Elise Huntley, MA, CCLS**

It's a familiar scene. A child and family are in the pre-procedure space and while the healthcare team is trying to speak with the caregivers, the patient is exploring the room by pushing furniture, hitting buttons, pulling cables, and flipping the light switch. Tension is rising in the room and the child life specialist wants to provide preparation and support to the child prior to their procedure. But the patient is communicating via their behavior that they are too dysregulated to engage in that type of intervention right now. Children with sensory needs often communicate through their behaviors that they have a sensory need that is not being met. By meeting their sensory needs, these children are often able to regulate and reengage. This article is a brief introduction to sensory processing differences along with some strategies that child life specialists can used when supporting these patients.

It's estimated that 1 in 20 children have sensory processing differences (Miller, 2014). Research has found that sensory processing differences can be found not only in children with autism but also children with ADHD, visual impairment, prematurity and higher childhood trauma scores (Fabio et al., 2024; Houwen et al., 2022; Wickremasinghe et al.,2013; Jeon & Bae, 2022). The goal of this article is to provide readers with a basic understanding of various types of sensory processing differences as well as provide practical strategies that can be used in clinical practice.

The senses are how one explores and learns about the world around them. The primary five senses that are discussed are sight, sound, smell, taste and touch. But there are three "hidden" senses that we often don't discuss but are important to know. These are vestibular, proprioception and interoception (Kranowitz, 2022). Vestibular is the sense of balance, it helps one recognize where their body is relative to the ground and other object around them. The proprioceptive sense helps one understand where their body is, this sense helps one to know where their body is in relation to other body parts. Activities that provide proprioceptive input include pushing, pulling and carrying heavy items. And third hidden sense is interoception which tells us about the internal state of the body such as if we're feeling hungry or need to use the bathroom. These eight senses all work together to help one understand the world.

## Sensory Processing Differences

Sensory processing is a broad term that is used to describe the process of receiving information from the senses. One definition of sensory processing is "the neurological procedure of organizing the information we take in from our bodies and the world around us for use in daily life" (Kranowitz, 2022). When the body can properly process sensory input, the individual receives information in through the senses, the brain identifies and organizes the information it received, and then the brain sends instructions to the body about what to do with the sensory information. But sometimes

one's body isn't able to process the senses and this is what is called sensory processing differences or SPD. The "D" can stand for a variety of things including differences, disorder, dysfunction, difficulty or delay but the word "differences" indicates that each person processes the senses in a unique way (Kranowitz, 2022). SPD is a neurological condition where the sensory signals are not organized into appropriate responses, there is a break down somewhere in the process from receiving sensory input to responding to the sensory input.

Sensory processing differences are typically broken down into three categories: sensory modulation disorder, sensory discrimination disorder, and sensory-based motor disorder (Miller, 2014). Sensory modulation disorder is a difficulty with regulating oneself and organizing the intensity or degree of sensory input. This is the most common type of sensory processing difference that is discussed, the three subtypes are over responsivity, under responsivity and craving. For a child that is over responsive to sensory input, they likely prefer dimmed lights and quieter areas as they're easily overwhelmed. The child who is under responsive to sensory input probably needs more sensory input such as brighter lights, louder shows and deep pressure. For a child who is sensory craving, they're typically seeking sensory input. This might be the child who is pushing chairs, spinning and actively exploring their environment.

Sensory discrimination disorder is trouble discerning between the types of sensory messages that the body is receiving. Kranowitz (2022) calls this the "sensory jumbler" as individuals struggle to respond appropriately to sensory input or may misunderstand the message that the sensory input is communicating. An individual with sensory discrimination disorder might have trouble distinguishing between different sounds or textures. If they have a coin in their pocket and feel it without looking, an individual with sensory discrimination disorder might struggle to know if the coin is a quarter or a dime.

Sensory based motor disorder is difficulty with movement due to inefficient sensory processing. If a child has a sensory based postural disorder, they may struggle to stabilize their body often due to low muscle tone or poor core strength. Sensory based dyspraxia is difficulty with steps involved in a multi-step task or command. Regardless of which specific category of sensory processing differences that a child falls into, adapting a child's sensory environment and recognizing their needs can help us provider supportive interventions.

When children are feeling overwhelmed or stressed in respond to the sensory input, they try to communicate this with caregivers. Sometimes this is words and saying that things are "too loud" or "too bright." But other times, children communicate with their behaviors. When a child exhibits aggressive or self-injurious behaviors, they are often communicating how they are feeling. These escalated behaviors are a sign that the child is not coping and not in control over their actions. When children are overwhelmed or struggling to cope, they will figure out ways to compensate and this can include stereotype behaviors, withdrawal, aggression and self-injurious behaviors (Bogdashina, 2016). These escalated behaviors are often a child's way of protecting themselves from the effects of their sensory processing differences (Miller, 2014). Stimming is also another behavior that individuals will use to self-regulate when trying to organize and process the sensory input that they are receiving (Kapp et al, 2019). When we stop to listen to what our patients are saying, even if they aren't using words, we can respond in a supportive manner.

## Conclusion

The first step to supporting patients with sensory processing differences is assessment. Children often alternate between seeking and avoiding sensory input so it's important to first assess whether the child is currently seeking or avoiding sensory input. Another helpful strategy is creating individualized support plans prior to the encounter with the patient or upon meeting the patient. Patients with autism spectrum disorder were found to have fewer challenges with anxiety and coping when they had individualized care plans (Liddle & Sonnentag, 2020). For patients in the preoperative setting, individualized care plans were found to be essential in managing stress and safety for patients with autism spectrum disorder (Winterberg et al., 2022). These individualized plans can also be created and applied to patients with sensory processing differences. By assessing what makes the environment hard for a child, child life specialist can appropriately support these patients in the medical setting. Doherty et al. (2023) uses an acronym SPACE to identify the areas for support. These are Sensory needs, Predictability, Acceptance, Communication and Empathy (Doherty et al., 2023).

When creating a sensory sensitive space, it's important to think not just about sensory space but also understanding the individual, adjustments and recovery space (MacLennan et al., 2022). Providing education can give the child predictability so they know what to expect. Along with preparation, it can be helpful to give children space and time to recover when they do start to feel overwhelmed. By assessing what it helpful at home or in the school environment, the child life specialist can try to create similar safe spaces in the medical setting.

The next step is to minimize undesirable behavior. How can the child life specialist stop the patient from hitting on the keyboard when the doctor needs to type a note or stop the child from turning off the lights because the nurse can't see the paperwork? One strategy is to meet that sensory need and provide a safe and appropriate way for the patient to get that sensory input they are seeking. If they like hitting buttons, there are keyboard and remote fidget toys available on Amazon so the child can get the sensation without disrupting the other staff. Instead of saying no, the child is given a way get the sensory input that they are seeking. When working with patients and providing interventions to help them remain calm, our aim should be to help the child cope with their problem or in this case the sensory need they are seeking (Bogdashina, 2019). There are safe and appropriate ways to help patients meet the sensory need they are seeking with minimal disruption to the visit.

Another way to meet the sensory need is to provide sensory input, this is especially helpful with sensory seekers. Those patients who can't stop moving and are constantly pushing and pulling things are often communicating that they are seeking sensory input. Alternative seating can be a great way to provide sensory input. Research has found that the use of therapy balls or textured seats increased attention and engagement (Pfeiffer et al., 2008; Schilling et al., 2004). Vibrating seat cushions are another great option for sensory input as it provides the sensory sensation without the child needing to wiggle or move around. Sensory rooms and adaptive sensory environments are another intervention that can help to meet a child's sensory need. Sensory rooms are evidence based interventions that decrease anxiety in the hospital setting and support positive coping (Bevan et al., 2023; Shapiro et al., 2009; Fallea et al., 2022). Through the use of projectors, light up fiber optic strands, dimmed lights, gel floor tiles and sensory toys, a hospital room can be transformed to a sensory friendly space. Removing furniture can be another easy way to adapt a room to create space for patients to stim and run and jump so they can get the proprioceptive sensory input that they are seeking. For patients that benefit from deep pressure, weighted blankets or weighted gel lap pads can be used to provide that calming pressure. Another deep pressure intervention can be as simple as squeezes on the patient's hand, arm or shoulders as this joint compression can be very calming for patients. Patients with sensory processing differences might also feel uncomfortable with their feet hanging off a chair as that can feel destabilizing so a footrest for the patient to place their feet on to stabilize their bodies while sitting in a chair for an exam can be helpful. A dedicated sensory room is amazing but even if there aren't resources or funding for that, there are simple ways that a room can be adapted and changed to meet each patient's sensory need.

At our hospital, we have seen incredible results from recognizing that patients have different sensory needs and working to meet those needs. Besides countless caregiver feedback of the impact of sensory rooms and sensory support provided throughout the hospital setting, we've also need data driven changes. In surgery, the use of anxiolytic medication has decreased since introducing sensory rooms to the pre op experience. In our ophthalmology clinic, the length of visit time decreased since meeting patient's sensory needs through preparation and sensory support during their appointments. Behavior is communication and when we start listening to what patients are telling us through their behavior and meeting the sensory need they are expressing, we can change the trajectory of a patient's hospital encounter.

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