

Understanding the Neurodivergent Student:

Sensory Processing Differences

Sensory processing refers to how an individual takes in, understands, and responds to sensory information. Sensory preferences vary from person to person, and misalignment between these and the sensory environment can affect behavior.

Some students may be more sensitive to sensory stimulation, which can make certain situations feel overwhelming. Others may be less sensitive, which may cause them to seek sensory stimulation. While issues with sensory processing can affect a student's social and school participation, atypical sensory processing is not classified as a learning disorder and doesn't have an official medical diagnosis. Sensory processing issues can be experienced alone or in combination with ASD, ADHD, OCD and other disorders.¹



Facts About Sensory Processing

Up to

13%–16%

of neurotypical children experience sensory processing differences.²

88%

of children with neurodevelopmental disabilities have sensory processing differences.²

Children's tolerance levels to the five well-known senses (sound, touch, taste, sight, smell) as well as the two lesser-known senses (proprioception and vestibular sense) can affect their ability to participate, either positively or adversely, depending on the sensory environment.³



Key Traits of an Individual With Sensory Processing Differences^{3,4,5}

Everyone has a unique sensory processing profile that can include higher or lower tolerance to various forms of sensory input.

Hypersensitivity means an individual is more sensitive to sensory stimulation. They may be:

- Unable to tolerate bright lights and loud noises like ambulance sirens.
- Bothered by clothing that is “too itchy” or “too tight”.
- Distracted by background noises that others don’t notice.
- Startled by surprise touches.
- Overly wary of swings and playground equipment.
- Distressed or anxious when exposed to sudden, strong, or strange stimuli.

Hyposensitivity means an individual is less sensitive to sensory stimulation. They may:

- Not recognize when they are intruding on another’s personal space.
- Have an extremely high pain tolerance.
- Fidget and be unable to sit still.
- Enjoy rough-and-tumble play, or deep pressure touch (e.g., tight bear hugs).
- Seem uninterested or daydream during lessons.
- Prone to accidents (e.g., bumping or slamming something).





Supports that Help with Sensory Processing Issues

While there are no “right” or “wrong” sensory processing profiles, evaluation can help identify sensory triggers and determine appropriate supports and strategies.

Some classroom supports might include:^{1,6}

- Giving movement breaks, or incorporating movement into learning activities.
- Allowing students to wear noise-canceling headphones if they find noise distracting.
- Eliminating buzzing and flickering lights.
- Offering an inflated cushion or pillow to enable movement while seated.
- Allowing fidget and chewable items.
- Posting a visual schedule and allowing time for transitions.
- Teaming up with an occupational therapist, who can help choose the right supports to meet the specific needs of the student and determine if other services like physical therapy, behavioral health therapy, speech therapy or other therapies might be beneficial, depending on individual needs.





Resources to Help Students with Sensory Processing Issues

Wondering how you can better support students who have sensory processing issues?

Here are some resources to consult:



All Things Sensory podcast, which features two pediatric therapy practitioners who answer questions related to sensory issues, occupational therapy and more.



STAR Institute for SPD, which provides treatment, education and research for children, adolescents and adults with sensory processing issues.



The Sensory W.I.S.E. Solutions Podcast, hosted by an occupational therapist who “educates on the impact that sensory processing has on a child’s learning and behavior... the ‘why’ behind the behavior, how to identify their sensory profiles and how to support them using sensory strategies.”



Pearson’s Sensory and Behavior page, which offers a variety of training and other resources, including Sensory, Motor-Sensory, and Sensory Perception assessments, that may be useful for identifying and supporting sensory processing differences.

“For years, the common language of *disability* suggested something broken that needed to be fixed. But now we understand that these are *differences* to be understood and supported.”

Kara Canale

Certified school psychologist and
clinical assessment consultant at Pearson

Sources:

1. <https://childmind.org/article/how-sensory-processing-issues-affect-kids-in-school/>
2. https://www.researchgate.net/publication/392897539_Children's_Sensory_Processing_in_the_Classroom_A_Cross-Sectional_Study_Using_Teacher_Rating
3. <https://childmind.org/article/sensory-processing-faq/>
4. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9688399/>
5. <https://pmc.ncbi.nlm.nih.gov/articles/PMC12194364/>
6. <https://www.childrenscolorado.org/just-ask-childrens/articles/sensory-processing-disorder/>