Sensory Processing Problems in Children and Youth

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Summary: Sensory processing problems (note the related term sensory processing disorder) are when a person has troubles processing sensory input, and this can lead to individuals having problems with moods and behaviours. Affected individuals may be overwhelmed by what otherwise appears normal amounts of sensory input (i.e. normal noise, light or touch) to others. Recognizing when someone has sensory processing problems is important because there are ways to recognize sensory triggers, and provide a healthier 'sensory diet'.

Introduction

A boy is so sensitive to being touched that he can't stand being hugged or touched, his parents even need to cut tags off his clothing. A girl is so sensitive to noise that when it gets loud, she starts to cry or have tantrums. Another girl needs to move constantly to the point where teachers and other students find her constant moving disruptive. What's up with these children? Are they simply being oppositional or difficult children? Is it bad parenting? Or could it be something else...

Sensory Processing Problems

Sensory processing problems is a complex condition where a person misinterprets information from the senses, such as touch, sound and movement.

We are all constantly taking in information from our senses.

Types of sensory input include:

- **Visual** or vision input: What you see
- **Auditory or sound** input: What you hear
- **Tactile** or touch input: What you feel through touching, or through your skin, etc.
- **Olfactory** input : What you smell
- **Gustatory input: What you taste**, such as when you eat or drink
- **Vestibular or movement input**: What you feel when you are moving, such as your arms, legs or your body

These senses all work together to allow us to carry on our daily activities. It becomes so automatic, that we don't even think about it, but we are processing sensory input every single moment.

Our sensory preferences are quite individual. Remember the story of Goldilocks and the Three Bears and what happens when she tries the porridge? The first one was "too cold". The second was "too hot". But luckily, the last one was "just right".

When we are able to process sensory input efficiently, our nervous systems regulate input without effort. We feel "just right". When in this "just right" state of arousal, we are calm, alert, focused and ready to work and learn.

What Do Sensory Processing Problems Look Like?

Common types of sensory processing problems include:

1. Sensory Defensiveness

These are kids whose nervous systems feel sensation easily or intensely and they become overwhelmed from too much sensory information. **For these children, things feel too loud, too fast, or too bright**.

Different types of sensory sensitivities include:

- **Touch / tactile hypersensitivity**: Easily overwhelmed with touch input, such as tags on clothing or food textures that are either too mushy or too crunchy, leading to being a picky eater.
- **Visual hypersensitivity**: Easily over-stimulated by visual input, such as fluorescent or bright lighting or environments with a lot of visual input, such as classrooms, malls and fairs.

Vestibular hypersensitivity: (things tend to get "too fast"): Tends to feel movement too intensely and thus may easily feel car sick or be afraid of activities where one's feet leave the ground, and dislike ladders or amusement park rides.

- **Auditory hypersensitivity**: Gets easily upset by noise created by home appliances, lawnmowers or school buses or noise occurring within a classroom or school assembly setting. Individuals who are hypersensitive to sounds may sometimes create noise (e.g. making their own noises or making white noise) in an attempt to drown out other distressing noises.

Fight, Flight or Freeze Response

When a child is overwhelmed by sensory input their responses may include:

- **Fight** - anger, irritability, tantrums or explosive rages.
- **Flight** - panic, running away or withdrawal.
- **Freeze** - where a child is so overwhelmed that the child simply is unable to speak or move.

2. Sensory-Seeking Children

These are children whose nervous systems crave more sensory input, and they may seem almost like they have an insatiable desire for sensory stimulation. For example, they may seek out movement stimulation rocking on their chairs. They may seek out oral motor stimulation by chewing on their shirts. Those who are unable to meet their own sensory needs may complain of ‘being bored'.

3. Sensory Under-Responsive Children

Sensory Under-Responsive kids appear sedentary and passive. They do not actively seek out sensory stimulation and may appear lethargic and unmotivated when completing their daily activities. These children may need significantly increased sensory input in order to register the information. For example, having the child take part in a body break before sitting to learn and hands on learning.

Poor Motor Coordination

Due to difficulties processing sensory information, many children with sensory processing issues may present as clumsy and awkward in their day to day life. For example, the child who has a weak grasp because his tactile system under registers the information. Other examples would be difficulties with stairs, bicycle riding and skating.

A Few Words about Diagnosis

At the moment, there is poor awareness about sensory processing problems because the condition is not (yet) a recognized condition under the DSM (Diagnostic Statistical Manual of Mental Diseases). However, there is a movement underway to have sensory processing problems officially recognized as a condition, under the term, ‘Sensory Processing Disorders'.

Sensory processing problems can be seen alone but are often seen along with other conditions such as Attention Deficit Hyperactivity Disorder, Developmental Disorders, Learning Disabilities or Autistic Spectrum Conditions.

If You Suspect Sensory Processing Problems

Bring your child to a family physician (or paediatrician) to make sure that there are no contributing medical problems. Although the doctor can rule out contributory medical problems, note that many doctors may not be all that aware of sensory processing problems.

The next step would be an evaluation by an Occupational Therapist (OT), in which the OT meets with the child and parents. This meeting typically involves obtaining: a sensory history since birth, developmental history, current symptoms and function, and completion of a variety of parent-report measures related to the functional impact of sensory processing difficulties. In addition, the child may be evaluated using a standardized assessment, and reactions to sensory input and coordination and motor abilities will be clinically observed.

How are Sensory Processing Issues treated?

At most publicly funded facilities in Canada (such as Children's Hospitals), sensory processing issues are addressed by OTs using the following methods:

1. **Environmental Adaptations and Accommodations, such as:**

- Allow a child with sound sensitivity to sit away from the busy door in the classroom
- Cut tags out of clothing for a touch sensitive child
- Work out a way to figure out when the child is getting sensory over-stimulated, and then give the child a soothing space to go to in order to calm down

2. **Suggestions for Interaction**

For example, for a child who requires extra sensory input in order to focus, use multi-sensory input such as:

- Voice (e.g. talking, sound, music)
- Visual (e.g. drawings, pictures)
- Manipulatives (objects that a child can physical handle or fidget with, such as ‘stress balls', etc.)

3. **Activities embedded into daily routines/Sensory Diets**

The child takes part in regular calming or alerting activities to help them maintain optimal alertness for daily routines.

Examples of such activities might include:

- Jumping on a mini trampoline in the morning to help wake up
- Doing some "heavy muscle work" to calm down before going to the dentist

Ideally, the child's treatment plan would be created with a qualified Occupational Therapist.

Self Regulation

Self regulation is defined as the ability to maintain optimal alertness for the task at hand. For example, being able to remain focused during a class. Children with sensory processing issues often have difficulties with self regulation.

Simply put, there are 3 main states of regulation:

Understimulated	**<-->**	**"Just Right"**	**<-->**	**Overstimulated**
Sleepy, lethargic, sluggish, spacey. Difficulties focusing.		**Calm, alert and focused. Able to play and learn**		**Hyper, overexcited, angry, worried, out of control. Difficulties focusing.**

An occupational therapist can work with your child to determine what will help them with their self regulation.

Websites with More Information

- The Sensory Processing Disorder (SPD) Foundation, www.SPDfoundation.net. An exceptional source of information for sensory processing issues, including videos.

Further Readings

- Sensational Kids: Hope and Help for Children with Sensory Processing Disorders, 2007, by Lucy Jane Miller
- Building Bridges through Sensory Integration, Second Edition, by Ellen Yack, Shirley Sutton, Paula Aquilla, 2003
- The Out of Sync Child, by Carol Kranowitz, 2005
- The Alert Program for Self Regulation, by Mary Williams and Shelley Shellenberger, 1996. Website: http://www.alertprogram.com

About This Fact Sheet

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