

Sensory Integration/Processing Needs

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Aims of this training

- To learn about sensory needs and how our senses are integrated
- To learn what the eight senses are and how they might affect our day to day lives
- To recognise sensory needs both at home and at school
- To discover what impact sensory sensitivity has on neurodivergent children and young people
- To learn strategies to support autistic/neurodivergent children and young people with sensory dysregulation

Sensory Overload

The everyday environment of almost any mainstream school, supermarket, busy household can be a constant tumult of noises echoing, florescent lights, loud voices, people moving about, the smells of cleaning products, toilets, lunch etc. For anyone with the sensory hyper-sensitivities and processing differences typical of autism, the result is that these young people often spend most of the day perilously close to sensory overload.



Can you make it to the end

<https://youtu.be/aPknwW8mPAM>

The Sensory Integration Process

- **Register** - become aware of the sensation
- **Orientation** - pay attention to it
- **Interpret** - using current information and referencing past experiences for comparison
- **Organisation** - occurs when our brain decided what to do in response to the sensation
- **Execution** - what we actually do in response to the sensation

We have eight senses



Sensory processing and integration

Sensory differences can include hyper (high) or hypo (low) sensitivity in relation to the **eight senses** of sight, hearing, touch, taste, smell, interoception (understanding and feeling what is going on inside our bodies), balance (vestibular system), and body awareness (proprioception).

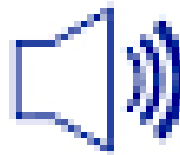
These differences will vary from person to person and can actually fluctuate in their responsiveness depending on a number of different factors (a bit like how we all have good days and bad days).

Hypersensitive and hyposensitive



DID YOU KNOW

Some people with autism can be **hypersensitive** to certain kinds of sensory input like sound, touch or fluorescent lighting.



autism speaks
CANADA®

Others with autism can be **hyposensitive**, meaning they need more sensory input than they are receiving.

Hearing - auditory

Hyposensitive

or

Hypersensitive



The perception of sounds

My hearing is like having a sound amplifier set at maximum loudness. My ears are like a microphone that picks up and amplifies sound, I have two choices, turn my ears on and get deluged with sound or shut my ears off.

(Temple Grandin)

A sudden noise (even a relatively faint one) will make my heart race

It is impossible for an autistic child to concentrate in a classroom, if he or she is bombarded with noises that blast through his or her brain like a jet engine.

Another trick my ears played was to change the volume of sounds around me. Sometimes when other kids spoke to me I could scarcely hear them and sometimes they sounded like bullets.

Ways Forward

- Try to provide warning of loud noises
- Ensure that you have the child's attention before giving important information
- Provide a visual cue when you want the child to listen
- Don't presume that the child can look and listen at the same time
- Provide a quiet place for the child to retreat to in the home or school
- Provide the child with a means of indicating that they can't cope with sounds/noise
- Provide the child with earphones to block out unwanted sounds

- Provide the child with background music to help them stay calm. *When I am feeling angry and despairing of everything, music is the only way of making me feel calmer inside. (Jolliffe 1992)*
- Music can also block out unwanted sounds
- Vary the tone of your voice to maintain interest and gain attention.
- Only have one person at a time speaking to reduce stress and misunderstandings.
- Remember that some people can only manage one sensory channel at a time, e.g. don't have TV, music on at the same time



Sight - visual

Hyposensitive

or

Hypersensitive



Spatial perception difficulties

I used to hate small shops because my eyesight used to make them look as if they were even smaller than they actually were.

Difficulties with colour

I also remember one Christmas when I got a new bike for a present. It was yellow, I would not look at it - extra orange was added to it and it blurred upwards making it look like it was on fire.

Difficulties with light and lights

Bright lights, midday sun, reflected lights, flickering lights, fluorescent lights each seemed to sear my eyes. Together the sharp sounds and the bright lights were more than enough to overload my senses. My head would feel tight, my stomach would churn and my pulse would run my heart ragged until I found the safety zone.

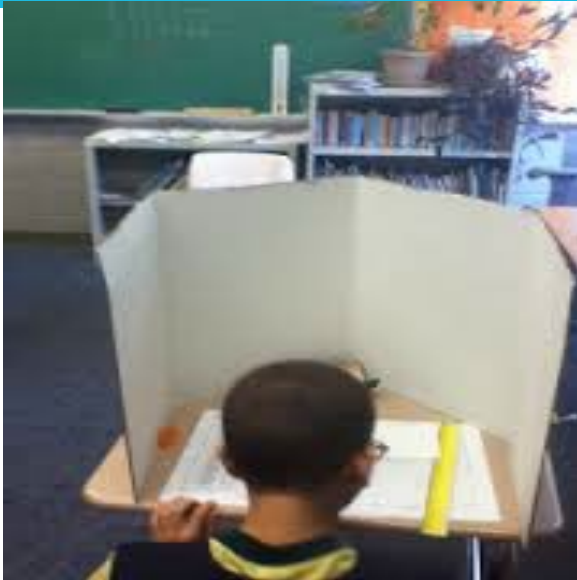
Possible responses to visual sensitivity

- Sensitive to changes in natural light and may find it difficult to be outside at certain times of the year
- Use fingers to filter light.
- Have difficulties finding what they are looking for requiring extra time for activities
- Problems concentrating when in a room with fluorescent lighting
- Possible difficulties with certain colours may avoid them or seek them out.
- Bumping into things and people.



- Try to identify colours that may cause a problem for your child by observation and experimentation and control exposure to them.
- At school try breaking up long corridors etc. with colour to provide a point of focus and so facilitate movement.
- Put tape on edges of steps to help with processing depth
- Allow the young person to explore new environments
- Have an area with reduced visual stimuli (tent within a room) or plain blank wall (workstation) or in bedroom
- Remind the child what and who to look at
- Teach the meaning of facial expressions - don't insist on looking at people.

Strategies for Hypersensitivity



Keep
environments
less cluttered

Strategies for Hyposensitivity



Touch - tactile

Hyposensitive

or

Hypersensitive



Therese Joliffe preferred using touch to learn about her environment because it was easier to understand things through her fingers. Her hearing and vision were distorted and provided unreliable information. She was better able to see if she felt items first.

“I hated having showers as a child, and preferred baths. The sensation of water splashing on my face was unbearable. I still hate it. I would go for weeks at a time without bathing and was amazed when I found out that kids had a regular shower, every day even.”

Touch Related Sensitivities

- Doesn't like the feel of towel on skin or being splashed with water - can result in avoiding bath times or swimming.
- Becomes upset when touched, particularly if unexpected.
- Doesn't like wearing new clothes or clothes of certain textures.
- Doesn't like getting hands dirty (paint, glue) or food around mouth.
- Avoids activities that involve being touched.
- Seeks out touch experiences
- Explores environment through touch – runs hand around the perimeter of objects

Ways Forward

- Gradually introduce new clothing over time.
- Try different lengths and textures of clothing
- Observe the child's responses to different textures in the environment and make adjustments.
- Heavier or weighted blankets may help with sleep difficulties or just be generally calming
- Try to give warning of touch – avoid friendly or affectionate touch if hypersensitive
- Provide opportunities to receive deep pressure, e.g. weighted blankets, press ups, climbing, jumping, trampoline, shoulder massage if touch tolerated.

Taste - Gustatory

Hyposensitive

or

Hypersensitive



Possible Sensitivities

- Will not eat certain foods
- Maybe sensitive to certain textures and refuse them
- May only eat foods of a certain texture
- Diet becomes limited



Smell - Olfactory

Hyposensitive



Hypersensitive



Possible Sensitivities

- Finds it difficult to be in certain environments due to smells (may be aware of smells we don't pick up on)
- Close proximity of people may cause the young person to feel uncomfortable
- Refuses certain foods due to smell.
- May lead to fight, flight or freeze responses.

- Use unscented products
- Try to identify smells that cause particular problems and remove them from the home for a period
- Try to gradually increase tolerance
- Provide a box of smells that the child enjoys and finds either relaxing or stimulating
- Use a preferred smell on a tissue or sweatband to help the child manage an environment where there is a smell that is disliked

Body awareness - Proprioception

Hyposensitive



Hypersensitive



Proprioception

The muscles and joints and joints send messages to help us carry out basic movement functions such as standing, sitting, holding things and balance.

This system allows us to carry out movement tasks without looking.



Possible Sensitivities

- Difficulty maintaining good posture when sitting
- Visually checks out hands and feet to ensure that they are doing right thing
- Shuffles and fidgets a lot
- Can't get comfortable
- Difficulty climbing and descending stairs
- PE lessons cause difficulties
- Difficulty using right amount of pressure when writing
- Poor muscle tone

- Try using heavier items (plates, cups) so that they are more easily registered
- Provide visual information for sitting at desk
- Encourage the use of squeeze balls etc
- Provide opportunities for large motor activities, pushing, jumping and pulling
- Do activities that encourage and develop use of whole body and coordination
- Consider the type of fasteners on clothing
- Use clay etc. to develop hand strength
- When writing/working use weighted blanket

Strategies for proprioception



Now I know what
to do!

Balance - Vestibular

Hyposensitive



Hypersensitive



Vestibular System



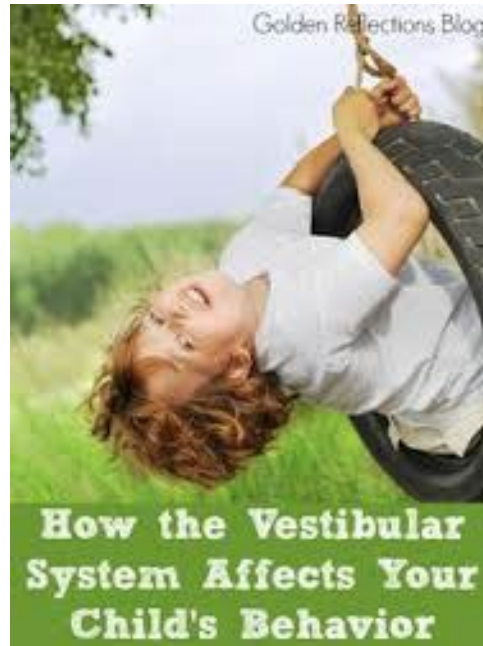
integra.
schools

- The vestibular system is involved in movement, posture, balance and coordination of both sides of the body
- Approximately 50% of autistic children and young people experience sensitivities in this area
- Can be hyper or hypo sensitive
- Hypersensitive children have difficulties with anything that involves movement particularly involving changing direction, speed. This group can fear having their feet off the ground (gravitationally insecure)

Possible Sensitivities

- Difficulties changing directions
- May find sports difficult
- May have difficulty changing speed
- May be afraid to have their feet off the floor
- May lose their place when reading from smartboard
- Putting trousers on may cause problems
- May turn whole of body to look at a person rather than only head
- Engages in bouncing, spinning
- Enjoys being upside down

Strategies for hypo sensitivity to vestibular



Strategies for hypersensitivity to vestibular



Support if feeling unsteady



Keeping head straight and still



Awareness

Interoception – the 8th sense

Hyposensitivity

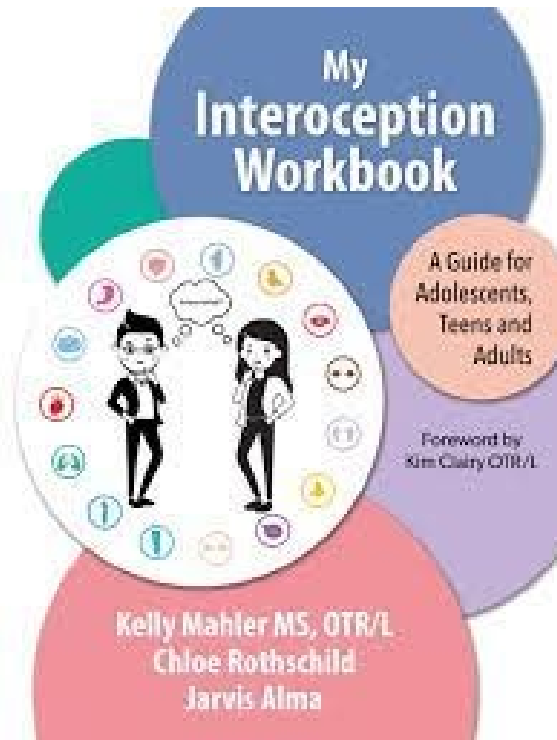


Hypersensitivity



Interoception – Kelly Mahler

integra.
schools



www.kelly-mahler.com

Distress can be caused by sensory dysregulation

- Sensory dysregulation is very common in many children, young people and adults
- Oversensitivity – hyper – can cause pain, fear, distress
- Environments can become limited
- Cycle of distress and anticipated sensory experience
- Vital to understand sensory dysregulation and find ways to help the person to regulate

Sensory profiling

- Use a sensory questionnaire to check child's individual responses to each sense
- Hypersensitive or hyposensitive or both
- Consider the impact of sensitivities on a child's day at school and at home
- With school, put together a sensory 'diet' for the day
- Review regularly and if environment changes
- Work with school and if needed an occupational therapist for further advice

Sensory processing and integration

Consider conducting a sensory audit of the child/environment and identify the sensory triggers that may increase anxiety.

You may also want to make adjustments so that sensory soothing items are on hand to reduce anxiety

SENSORY NEEDS ANALYSIS

Name of Child/Young Person:

Name of Parent/Professional:

Date:

For each behaviour described in the green, pink columns please tick the box that represents the frequency with which this behaviour has occurred over the last month i.e., never, rarely, sometimes, or often.

	HYPOSENSITIVITY Sensory seeking				HYPERSENSITIVITY Sensory avoiding			
		Never or rarely	Sometimes	Often		Never or rarely	Sometimes	Often
BALANCE (VESTIBULAR)	Seeks all kinds of movements and this interferes with daily routines				Fearful of activities involving movement (e.g., swings, slides, see-saw etc); anxious about moving from place to place			
	Seeks rough and tumble playful interactions				Dislikes trying new movement activities and may have difficulty learning them – related to moving head and not need for control			
	Becomes overly excitable during movement activity				Becomes anxious or distressed when feet leave the ground			
	Need for rocking, swinging, spinning or jumping - please indicate which				Fear of heights, climbing, open stairs, escalators			
	Head bangs to gain head movement – not due to frustration or anger				Resists change to head position/movement; tenses or becomes irritable if moved by someone else; dislikes head upside down			
	Enjoys swings, roundabouts, being spun round				Avoids participation in sports or active games (because of head movement)			
	Bumps into people and objects				Feels sick or vomits from excessive movement (swings, merry-go-round, car)			
	Often tilts head back or holds head in unusual positions				Avoids activities that involve balancing such as walking on narrow beams or			



ear defenders



noise cancellation
head phones (block
out specific frequencies)



spinning
office chair
for
movement



swing- linear movement
can be calming

Sit-n-move
cushion



cushions
for
relaxing



gas bar
stool
for
movement



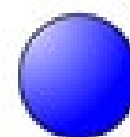
listening to music
to chill out

Sensory Strategies

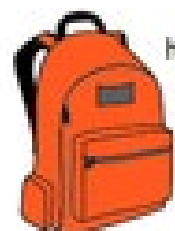
For students with autism



mini trampoline



gym ball for
vestibular input
and balance



heavy
backpack

lifting heavy objects
gives deep pressure
input (proprioception)



hoodies can
reduce auditory
& visual input

extra tip- try putting
weights in the pocket



weighted vest
for deep pressure



rocking chair for
calming linear
movement

Curriculum
Autism

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Sensory support and education

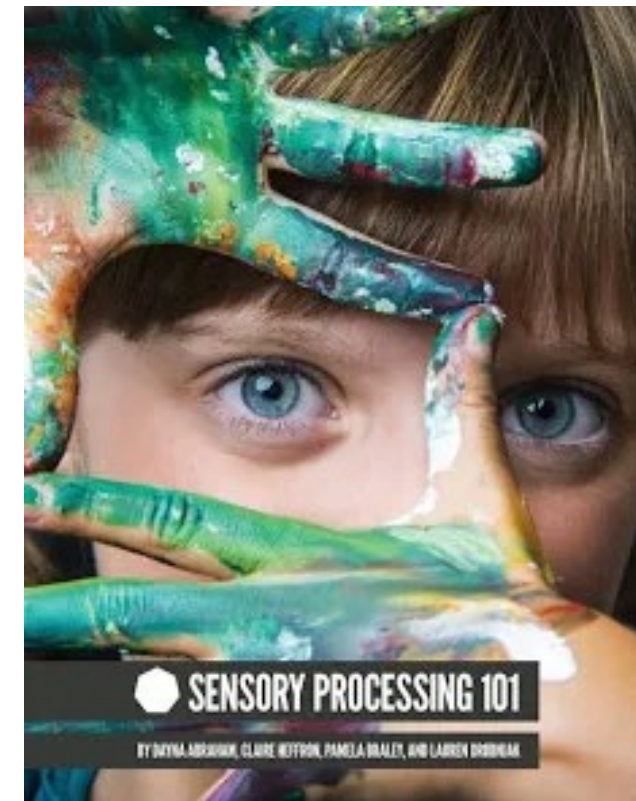
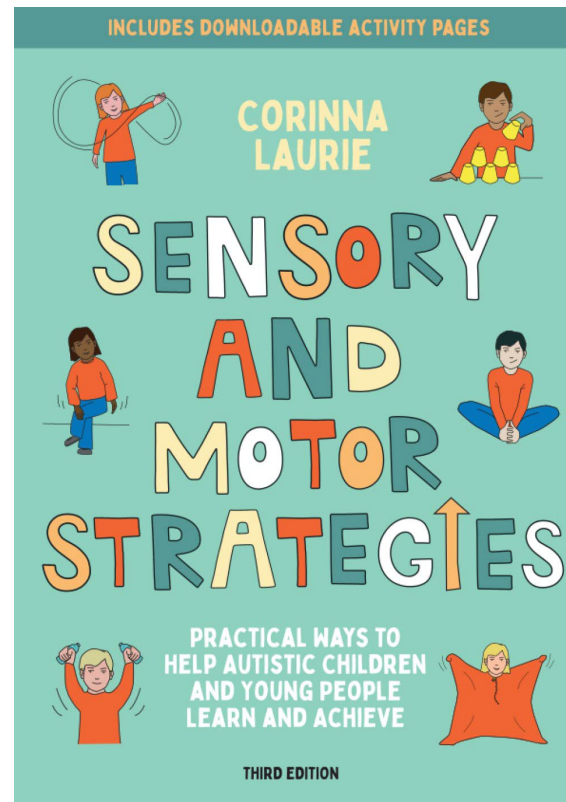
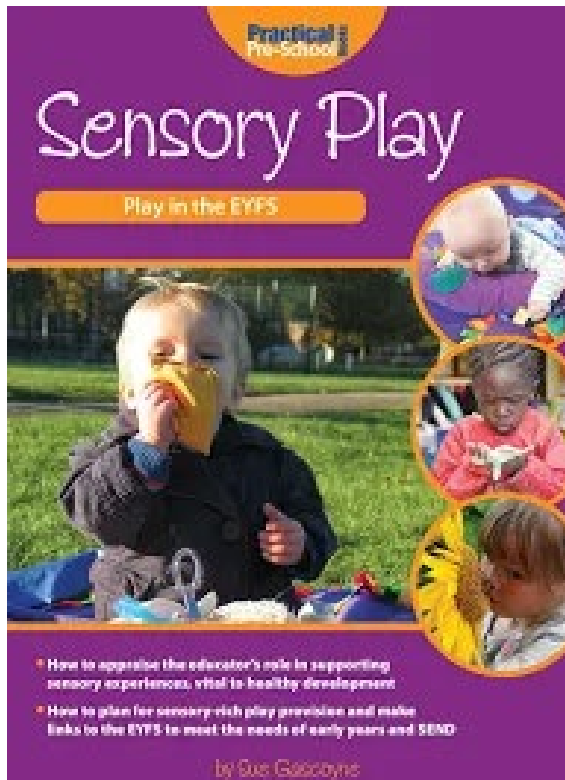
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Griffin OT

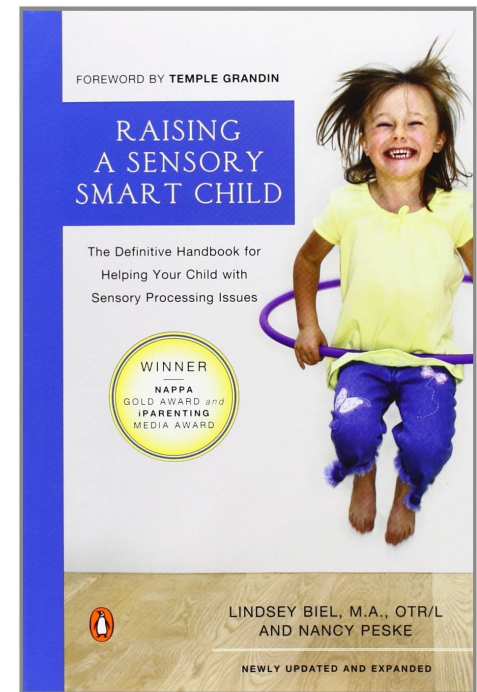
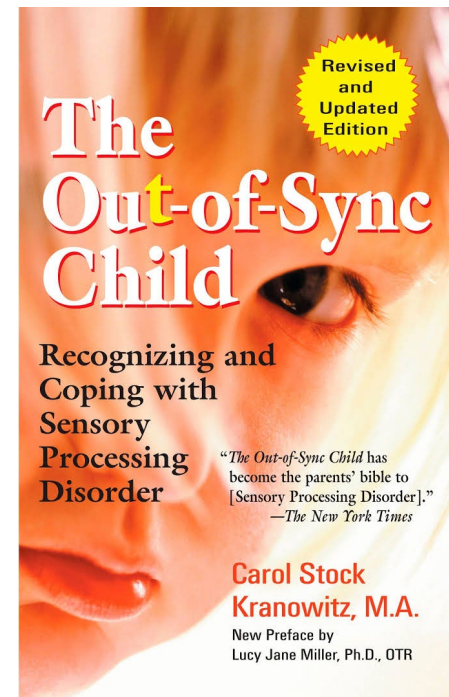
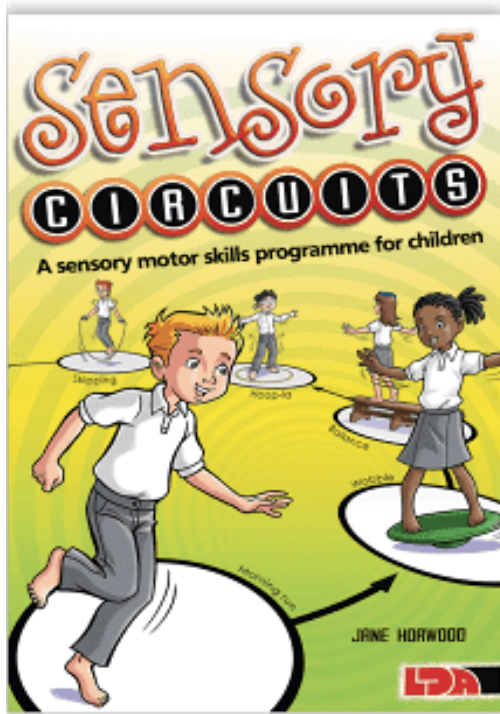
<https://www.griffinot.com/>

[Sensory differences | Autism Central](#)

Sensory reads 1



Sensory reads



Sensory resources websites

<http://www.specialneedstoys.com/uk/>

<https://www.rompa.com/>

<https://www.sensorydirect.com/>

<https://www.tts-group.co.uk/primary/sen-special-direct/sensory/>

Thank you for listening

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