

Sensory Processing 101
 Implications of Sensory Challenges in ASD



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What is Sensory Processing?

A Process by which we:

1. Take in Information
2. Interpret the Information
3. Develop a Response or Action

1

Sensory Processes



Sensory Processes include:

- Sound/Auditory
- Sight/Vision
- Smell/Olfactory
- Taste/Gustatory

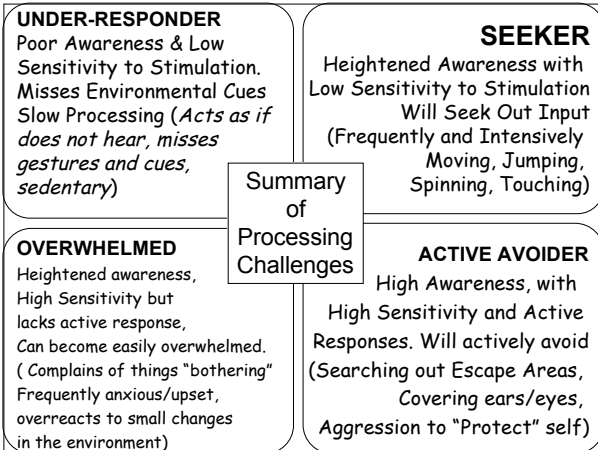
The *Power* Senses

- Touch/Tactile
- Vestibular
- Proprioception

<p>UNDER-RESPONDER Poor Awareness & Low Sensitivity to Stimulation. Misses Environmental Cues Slow Processing (<i>Acts as if does not hear, misses gestures and cues, sedentary</i>)</p>	<p style="text-align: center;">SEEKER</p> <p>Heightened Awareness with Low Sensitivity to Stimulation Will Seek Out Input (Frequently and Intensively Moving, Jumping, Spinning, Touching)</p>
<p>Summary of Processing Challenges</p>	
<p>OVERWHELMED Heightened awareness, High Sensitivity but lacks active response, Can become easily overwhelmed. (Complains of things "bothering" Frequently anxious/upset, overreacts to small changes in the environment)</p>	<p style="text-align: center;">ACTIVE AVOIDER</p> <p>High Awareness, with High Sensitivity and Active Responses. Will actively avoid (Searching out Escape Areas, Covering ears/eyes, Aggression to "Protect" self)</p>

<p>Seeker and Active Avider can appear similar</p> <ul style="list-style-type: none"> • Both may move frequently • Seekers are looking for the stimulation • Avoiders are attempting to escape the stimulation 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p style="text-align: center;">SEEKER</p> <p>Heightened Awareness with Low Sensitivity to Stimulation Will Seek Out Input (Frequently and Intensively Moving, Jumping, Spinning, Touching)</p> </td> <td style="width: 50%; padding: 5px;"> <p style="text-align: center;">ACTIVE AVOIDER</p> <p>High Awareness, with High Sensitivity and Active Responses. Will actively avoid (Searching out Escape Areas, Covering ears/eyes, Aggression to "Protect" self)</p> </td> </tr> </table>	<p style="text-align: center;">SEEKER</p> <p>Heightened Awareness with Low Sensitivity to Stimulation Will Seek Out Input (Frequently and Intensively Moving, Jumping, Spinning, Touching)</p>	<p style="text-align: center;">ACTIVE AVOIDER</p> <p>High Awareness, with High Sensitivity and Active Responses. Will actively avoid (Searching out Escape Areas, Covering ears/eyes, Aggression to "Protect" self)</p>
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<p>UNDER-RESPONDER Poor Awareness & Low Sensitivity to Stimulation. Misses Environmental Cues Slow Processing (<i>Acts as if does not hear, misses gestures and cues, sedentary</i>)</p>	<p>Under-Responder and Overwhelmed can also have some similarities</p> <ul style="list-style-type: none"> • May not appear as "sensory needy" as the seeker/avoider • Overwhelmed are vigilant and will have anxiety to the environment and will resist change • Under-responders also may not respond to environmental cues, however due to lack of awareness and not vigilance
<p>OVERWHELMED Heightened awareness, High Sensitivity but lacks active response, Can become easily overwhelmed. (Complains of things "bothering" Frequently anxious/upset, overreacts to small changes in the environment)</p>	



Creating The Sensory D.I.E.T.

DDo an Informal Assessment


IIndividualize

EEnvironmental Supports


TThe Power Senses

Do an Informal Assessment

Assess the Environment and the Individual's response to a variety of sensory experiences

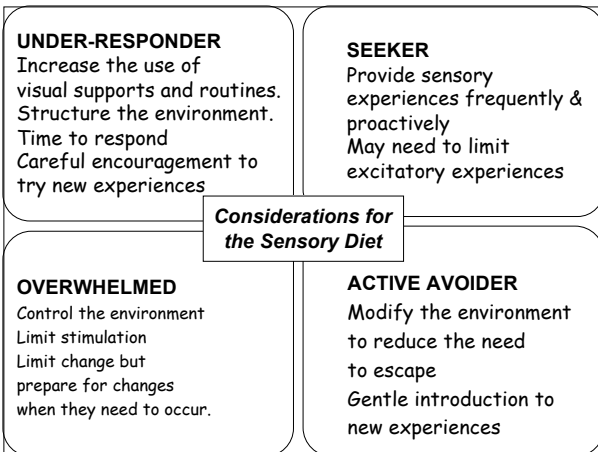


- Seeker?
- Active Avoider?
- Under-Responder?
- Overwhelmed




Individualize the Sensory Diet

What has worked for one person may not work at all for someone else!




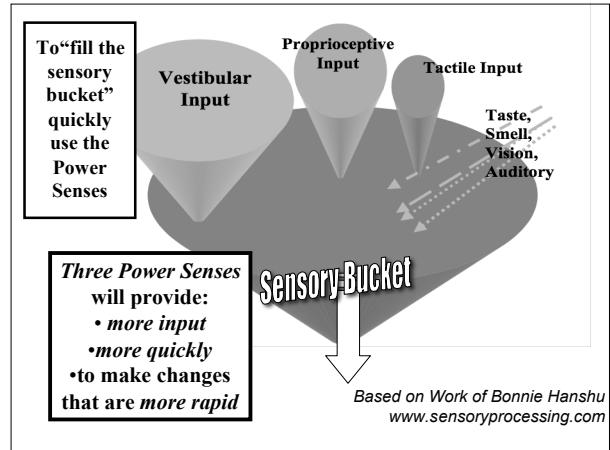
Environmental Supports

- Other People
- Organization
 - Predictable, Structured, Consistent Environment
 - Task or Curriculum
- Visual Supports
- Escape Environments



The Power Senses


- Vestibular
 - Movement
- Proprioception
 - Input through joints and muscles
- Tactile
 - Deep Pressure Touch






Proactively Schedule Sensory Activities

- Use the *Power Senses* throughout the day in order to help a person alert, attend, act, and react
- Activities should be non-contingent on behavior!
- Additional activities or input may be needed based on the behaviors observed

The Power Senses

Tactile System 

Proprioceptive System 

Vestibular System 


Protective

Two Tactile Systems

Discriminative

Protective System

- Activates "Fight, Fright, or Flight"
- Born with this system- "Primal"
- Stimulated by light touch, pain, temperature
- Processed through the emotional, excitatory portion of the limbic system
- NOT** a cognitive response



Discriminative Pressure Touch

- Deep touch/pressure, and vibration
- Activates Parasympathetic System
- Calms and organizes
- Allows for more cognitive response
- Helps us learn and think



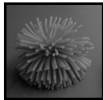
Dysfunction of the Tactile System

- Distractibility
- Hyperactivity
- Over/Under Sensitivity
 - Hyper-vigilant
 - Inappropriate pain sensation
 - Avoids getting hands dirty
 - Difficulties with clothing/textures
 - Avoids whole hand
 - Disorganized when touched
 - Intolerant of wearing glasses/hearing aide
- Difficulty with Social Space



Choose carefully.....

Seeker may want this....



- Better for the Under-responder
- Light Touch Excites!

....But need this to avoid getting too high



- Safer for the Avider-Overwhelmed
- Smooth/hard/squeezes leads to cognition/calmness

What Others Can Do

- Avoid unnecessary touch and Ask Permission
- Avoid touching face to gain attention



- Move slowly and provide "Waiting Time"- up to 10 seconds

- When touch is necessary, use Deep Pressure Touch

The Power Senses

Proprioceptive System



Proprioceptive System



Muscles, joints, and tendons provide a person with a subconscious awareness of body position via the feedback from receptors in the muscles, tendons and joints



Proprioceptive System



Motor Planning

Awareness of body
without constant
visual monitoring



Dysfunction of Proprioceptive System

- Clumsiness, a tendency to fall
- Lacks awareness of body position/odd posture
- Difficulty with small objects (buttons/snap)
- Disorganized..... Materials & Thoughts
- Poor or resistance to handwriting
- Eats in a sloppy manner
- Resists new motor movement activities

Activities that Provide Proprioceptive Input

- *Joint compression or extension*
 - *"Heavy work" activities*
- *The larger the joint, the more proprioceptive input*

The Power Senses

Vestibular System



Vestibular System



The vestibular system refers to structures within the inner ear (the semi-circular canals)

These structures detect movement and changes in the position of the head



- The brain *needs* vestibular input in order to function



- Vestibular input provides the Strongest Sensation

- Movement can change an individual's attention, arousal and alertness in the shortest period of time
- The effects from vestibular activities can last longer than any other input



Hyper-sensitive Active Avoider and Overwhelmed

- Fearful reactions to ordinary movement
- Apprehensive walking or crawling on uneven or unstable surfaces
- Seem fearful in open space
- Appear clumsy
- Want their feet on the ground!



- These folks need gentle experiences and support as they become more comfortable



Hypo-sensitive Under-Responders and Seekers

- **Seeker:** Actively seek and demonstrate a need for intense movement experiences (whirling, jumping, spinning, spinning objects, pacing)
 - May include visual stim
- Be aware: Seeker can become over-excited
 - Needs monitoring
 - “Cap-off” vigorous vestibular activity with proprioception (“heavy work” or joint compression)
- **Under-Responder** may need gentle encouragement to engage in movement activities



Activities that Provide Vestibular Input

- **Seeker/Avoider/Overwhelmed**
 - Linear, Calm, Slow, Controlled movement to Gain Attention
- **Under-Responder**
 - CAREFULLY: Unpredictable, multi-directional, spinning (*if individual requests*) to alert the under-responder
 - *Be very cautious imposing vestibular movement – can be very frightening*

Post-Assessment



- More alert?
- More “tuned in”?
- Able to respond more quickly?
 - Able to focus on task?
- Able to attend for longer periods?
- Calmer - Less “explosive” or unpredictable?
- More interactive?
- Less stressed?

