**Sensory Processing (Part 1 of 2): Sensory Processing and Dysfunction**

[HOST] Welcome to Perkins eLearning’s Webinar Series. My name is Robin -- Today, we’re welcoming Amanda Martinage for a presentation on Sensory Processing.

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Today’s presentation will address a range of sensory processing difficulties, and identify strategies for supporting educational goals in the presence of these conditions.

We are recording this in September of 2015 on the Perkins Campus. When viewing this recorded presentation, you will find that headphones or earbuds, or external speakers, give the best sound.

Amanda Martinage is a school-based occupational therapist working for CASE Collaborative. Amanda gained experience in a variety of settings, including residential, inpatient rehabilitation, outpatient and early intervention, providing a wide scope of practice as a frame of reference. She is committed to increasing others' understanding and skill when working with students with disabilities, and has traveled internationally to support this mission.

Welcome to Perkins, Amanda.

Thank you. And thank you for your interest in this webinar , Applying Sensory Processing Techniques to Positively Impact Behavior.

Part One will be discussing Sensory Processing and Dysfunction.

The objectives for this webinar are to

Provide an Overview of sensory processing

To outline sensory processing and dysfunction related to each area

Discussing sensory processing as an accepted diagnosis

Presenting the current assessment tools,

And the implications of sensory processing on behavior

Why is understanding sensory processing important?

Well, for educators and for parents, who live and work with children, and we pay attention to their behavior and their learning, sensory processing has implications on behavior and learning.

And research indicates that sensory-based techniques positively influence behavior.

And because of that, the Massachusetts Department of Mental Health made the use of sensory strategies mandatory for inpatient psychiatric settings in 2006.

So that’s a pretty important piece of information – having a large licensing agency dictating the use of sensory-based strategies really makes us take a look, and say, “All Right, these strategies really do seem to be working.”

So, what is Sensory Processing?

It is our bodies process and organize information from our senses.

So we’re using that information and responding appropriately – hopefully appropriately – in particular situations.

We’re using input from our senses, from movement, and from gravity.

Sensory processing is broken up into several different areas.

The first area we’ll discuss is Sensory Modulation.

And this is the area that you tend to hear about the most, that gets the most press these days.

Sensory modulation is the ability to take in sensory information, from your environment, decide what is relevant, and to make an appropriate adaptive/behavioral response.

So it’s really allowing you to screen out any meaningless information in your environment, and really respond to what’s important at that moment.

As we go through the different areas in Sensory Modulation, I am going to remind you that we all have a little bit of dysfunction in our lives.

When we have a difficulty…it’s how we manage that difficulty that really tells us whether or not there is dysfunction.

So, if you are having a difficulty during your day, but you’re able to manage that difficult time, and move on, then you are functional.

But if you come across some sort of difficulty and then you have a big tantrum, and you’re not able to complete your activity that you’re participating in, then that’s where we have an issue.

We’ll move on to the first section, which is your tactile system.

Your tactile system includes light touch, deep pressure, vibration, hot and cold, and pain.

And the major purpose of your tactile system, first and foremost, is to keep you safe.

Another very important component of your tactile system is that it allows you to bond with others and to develop social and emotional connections.

I’m going to show you some examples of tactile experiences.

This first one is a boy who’s in a ball pit. He has all sorts of bombarding of his tactile system. He’s swimming around in the ball pit so he’s getting all sorts of information to his arms and his legs, and to his body.

This next one is a little boy who is cuddling up in either a beanbag chair, or a “Marshmallow,” (people call them different things) . He’s snuggling in and getting that input to his body.

This picture shows a couple little ones feeling some… some people call them Stepping Stones, and they have a tactile component. They have their hands and their bare feet touching the different texture of stone.

Swimming is an example of a tactile experience.

And “tactile” also includes your mouth. So, this is a little girl who is chewing on a chew toy. Getting some tactile information to her mouth.

In all of the different areas we’re going to talk about that fall under sensory modulation, you have the ability to have a hypersensitivity and a hyposensitivity.

HYPERsensitivity is when someone is overly sensitive to sensory input.

That person is feeling a more exaggerated version of what the typical individual would feel.

The opposite of that is HYPOsensitivity. And that’s when individuals require more input to feel what the typical individual feels.

If we’re talking about your tactile system, let’s talk about what dysfunction would look like.

Overall, individuals who struggle with tactile difficulties are going to have problems with socialization. Oftentimes, because they aren’t experiencing that emotional bond, because it hasn’t quite developed. Because they don’t like the way things feel, or hugs from other people…

And sometimes you’ll see individuals have this need for self-protection.

Let’s get into the hypersensitive student.

Hypersensitive students are feeling overly sensitive to touch.

What that looks like is they are often moving themselves away from people touching them; they’re overly aware of the tags in their shirts or their clothing, or the seams on their socks; there is discomfort with different kinds of clothing materials, so maybe cotton is fine, but wool is really aggravating.

Often these students are withdrawing from groups. And they are resisting playing with others. Many times, these students are arming themselves with a weapon – and when I say “a weapon,” I don’t mean something like a knife. But maybe if they’re out on the playground, they’ll find a stick , and they’ll hold onto that stick, so if anybody comes close to them, and there is risk of them getting bumped, they have something that they can protect themselves with.

Now, the opposite of that is hyposensitivity.

And these children are really unaware when people are touching them, unless it’s very intense. They are unaware when their face and their hands are messy, and they don’t show a whole lot of reaction to pain. They fall – they might even cut themselves, and they’re bleeding, but they don’t really seem to realize it. They don’t feel pain.

Because they don’t feel pain, they are often treating pets really rough, or harming other people because they just don’t understand what pain is.

Oftentimes, these individuals are really seeking out tactile experiences, so they’re liking to rub their hands on the table, or they’re kids that are rolling around on the carpet, or if there’s a cold surface, they’re bringing their face to it. They’re maybe licking or rubbing their hands along the walls when they’re walking! They really feel compelled to touch a lot of different surfaces, and often are seeking our messy experiences.

Then there is oral hypersensitivity, and hyposensitivities.

The hypersensitivity students are going to feel and experience taste much stronger than a typical individual would. And sometimes these individuals even have that gag reflex when they have… maybe not even food, but just someone touching their face, or their lips, or their mouth. It starts to elicit a gag.

Oral hyposensitivity is the exact opposite, where students aren’t realizing there’s food in their mouth. They’re unaware of which side of their mouth food is on. They’re overstuffing their mouth, and they really like that intense flavor: really spicy or really sour foods.

Many times, it’s not uncommon to see children with low vision having hypersensitivities in the tactile area.

If you think about it, a lot of the information that we get about how things feel, we’re first filtering it through our visual system.

I’ll take this ball for example.

If you were to touch this ball without seeing what it looked like – if I just put it in your hand , and you didn’t have an idea that it’s a spiky blue ball – and it has some resistance to it. It’s not squeezable.

If I just put this in your hand without any sort of information -- most of us get our information from our vision, so if you don’t have that, and somebody’s asking you to touch it, it can be a really surprising experience. A lot of times, people with visual impairments end up getting their hands put into different experiences

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The next sense we’re going to talk about is your vestibular sense.

That sense is really helping you develop a relationship with the earth.

It’s telling you whether or not you’re moving, how quickly, and in what direction you’re moving.

It’s really your sense of safety, and knowing that your feet are on the ground.

It allows you to maintain an upright body posture, which supports the visual system. And your receptors are found in your inner ear.

Some examples of vestibular activities are swinging on a swing.

This little boy is on a scooter board.

This little girl is doing a somersault, so moving her head in an upside-down position.

These little ones are bouncing on a Hippity Hop.

Let’s talk about what dysfunction looks like in the area of vestibular processing.

Oftentimes, children with vestibular dysfunction have a poor self-esteem, because they don’t really feel secure . That hypersensitivity is considered an intolerance for movement. Children with hypersensitivity often do not like playground activities, like swinging, spinning…. They’re often very cautious and slow-moving. They may appear to be sedentary, but it’s more because they are afraid of how that movement feels, and they are more likely to resist taking risks.

They may be uncomfortable in elevators, and escalators, they have motion sickness, and oftentimes they like to have that continued support from a trusted adult.

Then you have the opposite of that, which is hyposensitivity. Where these children are really craving a lot of movement. They really need to keep on moving. There’s excessive jumping, rocking, they really like to move their head in an upside-down position. They are the thrill seekers that you work with.

And they do not experience dizziness. So they’re moving around a ton.

When I think about children with dysfunction in this area, I want to just mention that your vestibular and your visual system run close together in the brain. Sometimes (we’ll get to our visual processing in a couple minutes) but sometimes when students are doing things like… hand flapping, they’re giving themselves two different kinds of input . You have to kind of decide…figure out where it’s coming from.

This, to the average person, might look like it’s a visual self-stimulation. However, that also is giving your body the idea of movement , because when you’re moving your hands in your periphery, that almost makes it seem as if something’s going by you. There’s often some of these self-stimulatory behaviors that we see in children with low vision, that might actually not be due to their low vision. It might be due to their need for vestibular input.

The last section I need to just mention in this vestibular dysfunction is gravitational insecurity, which is just a fear of falling.

They are anxious when your feet are leaving the ground. Some really functional tasks that you could see this in are going up a flight of stairs.

If you think about, when you go upstairs, you have to lift up one foot and take that foot off the ground for a moment. Then put it onto the next step. That’s something you could see a lot of anxiety around.

Another thing is when you are completing a bathing routine. Inverting your head back, is another… it causes some anxiety, because your head is inverted. And that gravitational insecurity doesn’t like any sort of head being inverted or your feet leaving the ground.

The next area we’re going to talk about is proprioception. And proprioception is telling us about our own movement, or body position.

It’s really integrating your sense of touch and your movement sense.

It’s contributing to your body awareness, motor planning, and motor control.

Proprioceptive receptors are found all throughout your body: in your muscles, joints, ligaments, tendons, and connective tissues. It’s really your unconscious sense of where your body is in the movement in space. Without proprioception, you’d have to rely on your vision to know what your body is doing.

If you’re a woman, picture your purse. If you’re a man, think about reaching into your pocket. When you reach into your purse or your pocket, you’re using your proprioceptive sense to find what it is that you’re looking for.

If you didn’t have proprioception, you’d have to open up your purse, or look into your pocket, to really find what it is that you are looking for.

Some examples of proprioceptive activities:

This is a little boy squishing another boy with a big therapy ball.

Any sort of weighted equipment is considered a proprioceptive activity. Weighted vests, or weighted blankets.

This is a bunch of kids getting buried in these kind of beanbag-like “rocks.” When you’re using a beanbag, it kind of works on both your tactile sense and also if you’re being buried in it or you’re snuggling into it, that’s working more of your proprioceptive sense.

This is a little boy in a body sock. It’s this Lycra “sock,” that you put on, and then when you push against the Lycra, it’s giving input to your joints.

And then, Tug-of-War, you’re really pulling. Anywhere where you’re pulling, or pressing against something, that’s bringing attention to your joints and muscles.

This is a little boy who’s pulling a therapy band. So that resistance is giving proprioceptive input to his body.

So what does dysfunction look like?

Generally, [with] proprioceptive dysfunction, children or individuals look clumsy.

When you have a hypersensitivity, this is less common. I won’t spend a whole lot of time discussing it. Hypersensitivity is when you are so aware of your muscles and your joints, to the point where it’s uncomfortable. Sitting certain positions is really bothersome.

There’s the example of the difference between wearing flat shoes versus heels. It just puts your joints in a different position. And that awareness is so uncomfortable for individuals. But hypersensitivity in proprioceptive areas is very uncommon.

HYPOsensitivity is really what you tend to see.

Individuals with a hyposensitivity are deliberately bumping and crashing into items and materials. So they’re really seeking out a lot of input to their joints and their muscles. They’re getting it by stomping their feet, slapping their feet while they’re walking, maybe kicking the back of the chair of the person who is sitting in front of them. They’re crashing into things, maybe rubbing their hands together, or on a table… Maybe they’re biting their fingers, or sucking on their fingers.

They often like their clothing to be really tight – so their shoelaces are tied really tight, or wearing hoods or belts really tight.

Another thing that you’ll see in the hyposensitivity range is a decreased graded movement.

When you’re not really aware of how much force you’re using to complete an activity. So oftentimes, individuals are holding materials too tightly\. Because of that, they have really messy written work. They’re often breaking toys or materials because they don’t realize that they’re squeezing it too hard, or they’re using too much force during the play.

Oftentimes, they are picking up objects with too much force.

And then, decreased body awareness, or motor planning, also falls under this area. And that’s really just planning and executing movement.

Oftentimes, a very functional task you’ll see difficulties with is dressing and undressing. Because if you’re really not sure where your body is in space, it’s really hard to get your arm through the sleeve, and push that other arm through the sleeve, to put the shirt over your head. There is a lot of knowing where your body is during dressing activities.

We’ve gotten to visual processing!

Visual processing is how our bodies are interpreting visual input . So it’s not only just the acuity of seeing things, but it’s how you’re seeing things. It’s distinguishing color, it’s depth perception, and visual perception.

Some examples of some visual tasks are …

This is a glitter wand. When you turn it upside-down, you see all the glitter fall to the other side.

Lava lamps. If you have had the fortune of seeing a lava lamp, they’re pretty cool. You just get to look at the way the globs of color move through the liquid.

This is a wand that lights up when you press the button – it lights up, and then it also spins around. That gives a lot of input to your visual system.

So, for dysfunction, if you’re hypersensitive to light, you’re overly sensitive to visual input. It’s not only just light, but it’s all sorts of visual input. These individuals may have trouble making or keeping eye contact. They’re withdrawing from bright light, and having a hard time visually attending to work on paper… maybe it’s visually attending to a conversation, or some sort of activity.

Individuals in this area also often have trouble finding objects in a really cluttered area. So if you’re opening up a drawer, and you say, “Get the pencil,” and they have to reach in and there’s scissors and glue sticks in that same drawer, they’re going to have a harder time being able to take that material that you’re asking for.

Hyposensitivity is when you are seeking out visual stimulations.

In this case, you’ll see individuals staring into bright lights. They’re really liking spinning objects, or very visually stimulating objects. And sometimes you’ll see these students lining up materials.

So just a little side note on that: Some of the things I say you may see in these sensory processing dysfunctions you might also see in some other diagnoses. Some of the things I’ve said I could say I also see these features in children with autism. So you have to think about what the diagnosis is, and if that’s part of an overall diagnosis versus maybe having components of sensory processing dysfunction.

Auditory processing is how our bodies are interpreting auditory input.

It’s including volume, tone, direction of sound, distinguishing the differences between sound.

So, listening to music, or listening to anything in headphones, will give you an auditory experience. And sometimes too much auditory information is a lot!

So noise-cancelling headphones might eliminate some of the auditory information in your environment.

And what does dysfunction look like?

So you have a hypersensitivity, where there is an over sensitivity to noise… so many times students become very upset in response to loud sounds, like fire drills or bells. They might cover their ears, or become really agitated when the noise in the environment gets to be a certain level. They’re easily distracted by other sounds inside or outside of the environment. I often think about when you’re in a lecture, in a room where there’s a fan going on. If you have typical sensory processing, you would be able to notice that fan, but filter it out and pay attention to the person who’s lecturing the information that’s important at the time. Somebody with dysfunction in this area are going to notice that fan, and then become so distracted by that fan that they are unable to concentrate on any of the information that the presenter is giving or really any information in the environment.

And then your hyposensitivity is where you’re under-registering noise from the environment. This is when you really don’t notice when your name is being called; you can’t locate the source of sound; they’re not responding to their name; they may like to make a lot of sounds with their mouth, because they…need more sound to feel typical.

So if there is no sound in the environment, they will produce it by their own mouths or hands or feet, or tapping on the table. They’re producing more sound. And they may not speak as clearly as other children.

Smell is another sense not to be forgotten. That’s considered your dominant sense in humans. It’s important for survival, because it can help us -- it warns us whether or not there’s something hazardous in our environment.

And smell and taste are closely linked.

In all of the different areas, you can have a sensory defensiveness . And sensory defensiveness is response to a certain harmless situation as if it were dangerous or painful .

So it’s an over-activation of our protective system. It activates that “Fight or Flight” response.

Many people are familiar with tactile defensiveness; that seems to be the most well-known – where children are actually feeling very overwhelmed by any sort of tactile information.

Because of that, Patricia Willbarger developed the Brushing Protocol, and the purpose of the brushing protocol is to really bombard the tactile system in an attempt to normalize your tactile receptors. The brushing protocol is a very strict protocol. It is completed every two hours, and it’s in a very specific manner. So if you have any questions about brushing, you should look at your Resources, and talk to your Occupational Therapist. Because if you do start brushing somebody, and they don’t have true tactile defensiveness, or they have that defensiveness but you brush them with the wrong technique, it could actually cause a lot of aversion, and anxiety. So you don’t want to do that.

This slide really shows us that the middle range of this is our Optimal Arousal Level. The typical individual : you wake up in the morning, and you have some sort of activity that’s going to spike. On the bottom, you see those little pyramids of this chart. And those pyramids are showing some sort of activity.

Say you wake up in the morning and you take your shower. That’s going to be the first spike. That will spike your arousal level. And then you eat breakfast. And that’s going to increase your arousal level. And then you get in the car, and you drive, and that spikes your arousal level. And throughout the day, whatever you do – whoever you are – your arousal level increases. So at the end of the day, you’re more likely to end up at a higher arousal level than you woke up in the morning.

For a typical individual, that ‘s OK, because you end up in that optimal level of arousal for most of the day. And maybe you only end up in that higher arousal level at the end of the day.

But if you have somebody who already starts out and they’re hypersensitive, and they have a lot of anxiety with sensory activities, they’re already starting out at that over-aroused level. Then you’re trying to do things throughout their day to help bring them down. Some calming activities, to help them be able to get into that optimal level of arousal.

On the other side of that, on the bottom of this chart, which would be the blue line, you have students that are Low Arousal. For whatever reason (it might be their neurological state, maybe it’s due to medication, or whatnot), but you’re constantly doing things throughout the day to try to spike their level of arousal , to get them into that optimal level of arousal so that they can learn.

Like I said earlier, regardless – everybody’s level of arousal increases as the day goes on. That’s really important to consider.

I worked at a local hospital and they had a Behavioral Support team that they would call whenever there was a crisis. They took data on the frequency of those calls, and found that the highest numbers of calls were happening between 5:00 and 7:00 pm. Which isn’t really a huge surprise, knowing this information, because we know that’s probably the time where students were able to hold themselves together all day long, and then during that 5-7 time, they really just couldn’t hold it together anymore – and that’s when they had those behavioral outbursts.

I think about working at a school, and oftentimes, parents will say “My child just falls apart at the end of the day, and they have all these difficulties in the area of sensory processing, “ but we don’t necessarily see it at school. That’s not uncommon. It’s just something to consider when you’re working with families, or if you’re a parent that really struggles at the end of the day, there may be a reason. We’ll talk about some sensory strategies in Part 2, that you can use to help avoid that meltdown time.

We finished talking about Sensory Modulation, and we’re going to talk about Sensory Discrimination now.

Sensory discrimination is using sensory input to complete functional activities.

It allows us to understand things about ourselves and the world around us without having to test them every single time .

Sensory Discrimination allows us to perceive qualities of sensations; similarities of sensations; and then the differences between sensations.

Sensory discrimination develops with neurological maturation. So it’s always going to take precedence over that sensory defensiveness in day to day situations.

As a child or an individual matures, he or she becomes less self-protective to every single sensations in the environment, and becomes more discriminatory about what is happening to their body at that moment in the environment.

Because we learn – at least in an environment like the United States, or an environment that’s pretty stable, true threats rarely occur. You learn to function with that sensory discrimination versus the defensiveness.

Now, if you were in a country where there really was a true risk of bombings , or some sort of animals, that might be a threat to you, then you might start to work under that defensive arena, versus discrimination.

But generally speaking, you learn that threats rarely occur.

Postural responses are what is allowing upright posture against gravity. Your balance and bilateral coordination allows you to experiment with movements an positions.

Bilateral coordination is using both sides of your body in a coordinated way. So, you can use both sides of your body to complete the same action, like clapping your hands together -- both sides of the body doing the same thing. You can use both sides of your body in an alternating way, like climbing the stairs. Both sides of the body are doing the same exact thing, just in a reciprocal or alternating manner. Or both sides of the body could do two different things, where you’re stabilizing a material and using your other hand to manipulate it.

Another component of sensory processing is praxis.

Praxis is known as “motor planning.” It’s really your ability to plan, sequence and execute motor movements. Motor planning does not occur at birth. This really develops over time with practice.

If you think about an infant when they’re first laying on their back. They’re using, maybe, reflexes for their movement patterns. Their reflex..and their arms are kind of moving, and somehow if you have toys positioned above them, maybe their arms are bumping into those toys, but they don’t really have a whole lot of control. But they start to realize, “Oh! Hm.. Ok…”

As they start to move out of those reflexive patterns, and they’re experimenting with their body, they start to realize, “Ok.. this movement in this manner gets that toy to move!” And then you start to do it over and over again and learn, “ok – this is reaching! “ I’m reaching out to this toy, and this is getting me what I want.

So that’s the very basic beginnings of motor planning, but if you think about during your life now as an adult, you may do things that require new motor learning.

I’ll take an example of myself. I’ve been trying to learn how to do a headstand in yoga. The first time I did it, I could not do it at all! There was no way! I couldn’t just look at somebody doing a headstand and replicate it. I had to practice getting my body into that position. It really helped when I had somebody guiding my limbs so I knew how it felt. And then slowly and slowly, I’ve been able to do it on my own. But it took lots and lots of repetition, lots of opportunities to practice it.

This is a video of a little girl who is in ballet class, and she is trying to follow the directions to learn first position. You will listen to the teacher give directions, but then also watch her respond to her peers around her , and then the strategies she uses to help herself try to get into that position.

This video is not auditorily described, but I will discuss it at the end of the video.

BALLET TEACHER: All right! See if you can make your shoes look just like my shoes. Can you get those heels to touch – that’s it, Ashley! Good… good… Oh, this looks so nice! Brianna, can you get your heels to touch for me? See how I’m making a kind of like a letter V? It’s tricky. Miss Kimberly, will you make sure that everyone is trying it? All right… I know, it’s so tricky! She’s doing it great. All right, let’s hold out our umbrellas again. Hold them over here by the right side, we’re going to…CLICK! Here’s what we have to do to pretend: Now we have to pretend that we’re reaching outside the umbrella to see if we feel a raindrop. Look at this: Try and reach for a raindrop! Guess what? I felt a raindrop! So my arm comes back in like this: IN! It’s OK if your shoes aren’t doing it. Don’t worry, OK?”

When you were paying attention to that video, things that you should notice is that first, the little girl wasn’t able to just listen to the verbal directions about the position of her hands and her feet. So then she started looking around at the people around her . And she was looking and looking, and trying to get some visual cues from those around her. When those visual cues didn’t quite work, she then went to actually picking up her feet and moving her feet so that she would position them correctly – or try to position them correctly. And she still was struggling.

Thinking about your prompting hierarchies, using you verbal strategies, using your visual supports, and then using your physical assistance. When it comes to motor planning, especially with students with visual impairments, especially with students who have motor planning difficulties, it is actually helpful to provide that physical cue. So, actually allowing them to feel what that movement or that position is going to feel like. Even if you’re helping them, put them in that position, their brain is forming a connection – synapses in the brain are forming – and it’s going to reinforce that motor learning.

This is a graphic of how your body develops. It shows that at the very very foundation of our development, sensory processing occurs.

If you think about being able to do anything higher level, you first have to get that sensory modulation in check.

And then you’re going to be better able to learn the sensory discrimination skills, like bilateral coordination, motor planning. Then you’re able to jump up and work on social skills, work on visual perceptual activities. So really getting that foundation is helpful for learning.

You really need to do some bigger gross motor organizing activities in order to get some fine motor learning.

Sensory processing disorders was first recognized by Dr. Jean Ayres , and it was originally called sensory integration dysfunction. When there is sensory processing dysfunction, all sorts of other social, emotional, motor, functional problems can result .

Dr. jean Ayres really described sensory processing disorder as this “neurological traffic jam,” that’s preventing certain parts of the brain from getting information that it really needs to interpret that information correctly.

The causes of sensory processing disorder are still being researched. The Sensory Processing Foundation cites preliminary research saying that it’s inherited. But there’s other theories that include… prenatal and birth complications, or environmental factors that might be involved.

A question we received: “What are the major physical aspects that affect sensory processing during infancy?” And I would say basically, your experiences.

Everything that you are doing as you are going through your day-to-day life is providing you sensory experiences. And in Part 2 of this webinar, I’m going to discuss how we really can address sensory processing difficulties.

Most of the treatment of sensory processing difficulty is all around exposure, and practice.

Sensory Processing Disorder is not an accepted diagnosis in the ICD-10. It was a proposed diagnosis for the DSM-5, but is not accepted. It was considered that there was more research required.

But it is an accepted diagnosis in Stanley Greenspan’s Diagnostic Manual for Infancy and Early Childhood . It’s called Regulation Disorders of Sensory Processing.

The proposed diagnosis for the DSM-5 are

Sensory Modulation Disorder

Sensory-Based Motor Disorder

Sensory Discrimination Disorder

I’m not going to go into detail the definition of these proposed diagnoses, but if you’re interested, ask your occupational therapist.

Assessment. There’s, unfortunately, not a whole lot of assessment tools out there that don’t rely on a parent report or clinical observation. So that’s the Number One: the really big thing that we rely on as occupational therapists to diagnose some sort of sensory processing disorder.

The Sensory Profile and Sensory Processing Measure are two questionnaire-based assessments that are often used. The Sensory Integration Praxis Test, otherwise known as the SIPT (“sipped”) is a very standardized test, and it has norms… and the difficulty with that test is it tends to test more of your higher functioning sensory discrimination skills, like balance, coordination, motor planning. And you have to have a fair amount of ability to follow directions to participate in that testing. So it might not be appropriate for many individuals that your questioning for sensory processing difficulties.

There was a question from an Occupational Therapist who was asking about the limited assessment tools that he or she had, and… it’s not limited. That’s kind of where we are as a profession right now. We really rely on a lot of the clinical observations.

So: Sensory processing Dysfunction impacts your ability to attend and focus

Your ability to achieve and maintain an optimal state of alertness for learning

It’s influencing social skills and behavior

I just want to highlight some resources that might be helpful, especially for parents. There’s a bibliography that will be associated with this webinar, and on it, The Out of Synch Child is a really great resource that explains all of these different areas of dysfunction in a very succinct way. So that’s a resource that might be worth checking out.

[HOST] Thank you so much for Part 1 of this 2-part, and as you said, we’re going to get into Part 2 in a little more depth.

Out of all of the sensory stimuli, I wonder if you have a feeling of what would be the most important sensory stimuli for students who have visual impairments?

Well, I can’t say that there’s one area that’s more important than the others. It really depends on what the profile of the student is looking like. So, if you have a student with low vision who is demonstrating defensiveness in the area of tactile information, you would want to maybe limit the amount of tactile input they are receiving , and help giving them those verbal cues, and the opportunities to explore materials at their own pace and at their own level. But you also really want to provide access to other different areas. Your vestibular system is a really important one. Oftentimes you’ll see people with low vision rocking . They’re seeking out that vestibular input. Providing other, maybe more “typical,” ways of getting that input. Maybe using the swing, or having opportunities to bounce on the ball to get that input in a way at an appropriate time, so that when they have to sit , it’s not interfering. But… then you have to think about -- Is that rocking really interfering with what they’re doing? And making that call.

But I would say, access to all of the different sensory components are important. I wouldn’t say one is greater than the other. It really just depends on the profile of that student.

[HOST:] One thing that you talked about when you were talking about motor planning , and particularly watching the little girl in ballet class… it made me think about you describing your yoga experience. And how, when you’re in yoga class, you have to feel that posture, and the instructor walks around, and helps you feel the stretch or the position, or the balance, and I thought that too for kids with visual impairments. Because they can’t observe, as you said, to start with that observation and then move to that… Some of that hand under hand technique, or modeling, to show them a position. Then they can understand physically what that position is if they can’t get a verbal description of it.

Exactly.

[HOST:] We had a question from one of our O&M instructors that was really interesting. I’m going to read part of it, just to make sure that I capture what his question was, but it had to do a lot with environmental monitoring. When you’re teaching O&M, and using sound cues and auditory information to learn your route, or to make decisions, and to monitor your safety…. He talks about the absence of a positive signal. And what he means by that is , he says,” students are instructed to cross the street in the absence of traffic…” and he was wondering how you respond to the absence of something. He says, “Is responding to the absence of sensory information the same or is it different than responding to the presence of sensory information?” Or do you just ignore that distinction, saying the absence of traffic is the presence of silence?

I think this question gets to what is “processing” auditory information?

The processing of that auditory information is what it is. So, you’re either processing that you hear something, or you don’t hear it. Then you go with the cognitive component of not hearing something means “do this.” Or hearing something means “do that.”

The sensory processing of it is similar. It remains pretty constant. You’re processing it… I guess I would look at it as if they didn’t hear the sound, or they weren’t aware of the sound, then that would maybe be some dysfunction. But if you’re thinking about what your response is, to whether there is sound or not sound, that is more of that cognitive learning, that cognitive component that you have to teach.

[HOST:] Thanks. That’s helpful.

It was interesting to hear him think about it that way, and to think about all the other service providers in the student's educational program who are not necessarily in the classroom, or content teachers. That may be their speech, or OT, could be their speech therapist, could be their personal assistant. And all of them have to be aware of what this student’s processing abilities are and how to help them use that information in a more positive way.

[Amanda:] I think that’s really, from my perspective, as the Occupational Therapist working with teams of people, that it’s the OT’s job to kind of help you manage these dysfunctions, but much of the information that we get, that help us say this student does seem to have a hypersensitivity or hyposensitivity,… many times, an Occupational Therapist isn’t in the classroom as many hours as teaching assistants, teachers… and so we’re really relying on that information, which is why I think it’s really helpful for people to understand what these different components of sensory processing are, what that dysfunction looks like, so that you’re able to bring it to either the parents, or the OT (if you’re fortunate enough to work with an OT) and say Here are the things . Can you look into that further? What should we do?

And that’s why I think it’s really important to have this information.

[HOST:] Great! And that’s what we’re going to get to in part 2.

So, Part 1, helping to outline what all of those sensory processing areas are, and as we get into part 2, we will be able to talk about how to use that information in your daily educational plan.

Again, our thanks to Amanda Martinage, and to our participants who submitted questions and ideas for this talk.

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