

Sensory Based Motor Disorder: Dyspraxia

Sensory-based Motor Disorder (SBMD) is defined as a motor challenge with an underlying sensory basis and has two subtypes: Postural Disorder and Dyspraxia. This hand-out will focus on Dyspraxia.

Unlike individuals with Sensory Modulation Disorder (SMD), the first primary pattern in which individuals have difficulty regulating sensory input, those with SBMD can regulate sensory input, but the individual exhibits atypical motor performance. Both SMD and SBMD can occur separately, but often individuals who exhibit one can exhibit the other at times.

What a motor action requires?

Dyspraxia is the inability or difficulty with three aspects of completing a motor action:

- 1) ideation,
- 2) sequencing, and/or
- 3) motor execution.

Ideation is the ability to generate new ideas, *sequencing* is planning out the steps needed to conduct the idea, and *execution* is implementing the motor plan (i.e., carrying out whatever actions are needed to complete the idea). Once we can execute an activity (e.g., getting dressed) automatically, a plan is no longer needed. Automaticity is the signal that the subcortical mechanisms (lower brain) have taken over and cognitive resources are no longer needed to complete that activity.



The following symptoms are red flags for Dyspraxia:

- Clumsy, awkward movements.
- Difficulty climbing.
- Difficulty finding way around a new environment.
- Poor body awareness.
- Poor sequencing of tasks.
- Slow motor reactions.
- Difficulty playing ball games.
- Difficulty with handwriting and other fine motor skills (e.g., buttoning, tying shoes, holding a pencil).
- Difficulty timing movements.
- Poor control of the oral-motor muscles needed to drink, chew, blow bubbles, and articulate well.
- Difficulty dressing, putting clothes on in proper order (i.e., underwear then pants, socks then shoes) and in the correct orientation (i.e., shirt is frontward, shoes on correct feet).

Learning in Small Steps

Try to remember the last new motor activity you learned. Maybe it was rollerblading, snowboarding, or square dancing. There were probably other people there who were doing what you were learning and could do it smoothly and easily. How did you feel? Clumsy? "What's wrong with me?" you thought. "It looks so easy. Argghh, I started on the wrong foot again!"

When was the last time you truly watched a young child learn to ride a bike? Initially he puts so much effort into consciously trying to keep the bike upright. You can see him concentrating as he thinks about pushing first one foot, then the other. Simultaneously as he stares at his feet willing them to go up and down, he must also look ahead so he doesn't run into anything, and try to keep balance. So many things to do all at the same time!

Today, many kids start on what is called a balance bike that has no pedals, and they master the postural control and steering first, then switch to a kid's bike and master the pedalling. Finally, the child can ride a bike.

Breaking the learning down into small pieces is the secret to success for anyone learning any new motor skill - whether he is typically developing or has special needs. All of these activities require a person to use his motor planning (or practice) skills.

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He must do the following:

- 1) have an idea of what he wants to do (ride his bike)
- 2) sequence the activity (i.e., put on a helmet, climb onto the bike)
- 3) execute the complex actions (e.g., pushing off to put feet on pedals, rotating pedals while also steering).

Dyspraxia can be a problem in any one (or more) of these processes.

Intervention for Dyspraxia

Practice generating new ideas:

Most children with Dyspraxia have ideation challenges, thus they need practice coming up with new ideas on their own. As often as possible, engage in pretend play with your child. Try not to direct the play; instead prompt the child to create the story. Ask, "What comes next?" and wait for the answer. Continue to guide him until he comes up with the idea. Start simple and general, then move toward more complex and specific ideas.

General Prompts

- > "What should we do next?"
- > "What can we make out of this big empty box?"

Specific Prompts

- > "Should we find the dragon, or get some other astronauts to join us?"
- > "How can we turn this box into a spaceship?"

Build self-esteem:

Children with Dyspraxia have had lots of experiences trying and trying—only to fail. The importance of success cannot be overstated. Find something the child is good at and make sure he has lots of time in the schedule for that. Help a child experience success so he will want to try again. The child may need help coming up with an idea, sequencing a task, or executing a movement, but once he does it correctly with support, he will be willing to try again. Work on planning and sequencing. For our "sensational kids," there is no such thing as too much planning. Plan your day the day before, your week the week before, and your month the month before. The magnetic surface on the refrigerator makes a perfect "screen" for the child to use (with your support) for planning. What will tomorrow look like? Plan the day in chunks; for example, you could post the most relevant segments from the following chart and fill in the next day's actions after dinner.

Part of the day	Action
Morning	• Get dressed • Eat breakfast
Leaving the house	• Check to make sure homework and lunch are in the schoolbag.
At school	• Lunch time • Break
After school	• Homework • Leisure time
Dinner	• Set the table • Clear the table

For children with Dyspraxia, having a plan is invaluable. These children are often very talented, gifted even. But they are lost in time and space.

One way to think about it is this: because they don't feel their bodies well, they are not grounded in the world. They seem to sort of float from one thing to another. The more you can help them plan their work and then work their plan, the more they will be able to compensate for their lack of internal structure.

Play games that involve different body parts in space:

Twister is a game that's great fun (and therapeutic) for children with challenges feeling their bodies and sequencing movement patterns. Or, you can make up your own games! For example, play a take-off on Charades where you put movies, TV shows, phrases, or whatever seems to engage the child in a box and pull out one at a time. One person acts out what is on the card, and the other guesses the action.

Have the child build his own obstacle course. Make sure there are plenty of objects around for him to use such as an old tire, a sheet, a big box or something to climb into, an object to climb on, and so on.

Children need to be winners. Keep that in mind as you help your child navigate and negotiate his day. Whatever you can do to facilitate his success will come back many fold!

Sensory Based Motor Disorder: Postural Disorder

Sensory based Motor Disorder (SBMD) is defined as a motor challenge with an underlying sensory basis, and has two subtypes: Postural Disorder and Dyspraxia. This hand-out will focus on Postural Disorder.

Unlike Sensory Modulation Disorder (SMD) in which individuals have difficulty regulating sensory input, individuals with SBMD are regulated but have a sensory-motor challenge. SMD and SBMD can occur separately but often co-occur. Children who demonstrate poor postural control may also demonstrate the other SBMD subtype, *dyspraxia*, or motor planning problems. Sensory Under-responsivity - poor detection of sensory signals, usually co-occurs with Postural Disorder.

Postural Disorder

Children with Postural Disorder (PD) demonstrate poor core strength and decreased endurance. Thus they are weak, have low endurance, and often exhibit poor balance. They tend to move inefficiently and have poor body awareness. The sensory systems most affected are the tactile (touch) and proprioceptive (muscles and joints).

Behaviourally you will see slow, cautious movement, or an unwillingness to move, with a clear preference for sedentary activities. Moving on uneven surfaces (e.g., bumpy ground) is difficult. Concentration is required to maintain a stable position even during simple actions such as stepping onto an escalator, or on/off a kerb.

The decreased stability and poor body control in PD causes individuals to compensate by increasing their "base of support," widening the "platform" on which the body rests. For example, sitting in a "W-sit" position provides a wider base of support as does standing with legs shoulder width apart and raising arms with bent elbows in a "primitive" posture.

Children with PD often feel unstable, insecure, and unsafe; muscles that fire together automatically in most people often do not engage with equal force (e.g., quadriceps with hamstrings, abdominals with back muscles, biceps with triceps). Therapists call this poor muscle *co-contraction*.

Postural ability is needed to stand or sit in an upright position. Those with PD fatigue quickly, often leaning against furniture, slumping over, or propping their head on their hand when at a desk. An individual with PD exhibits problems on moving surfaces and doesn't automatically compensate when bumped by another person. This may cause a "fight, flight, or freeze" reaction if the individual with PD is forced to move; but often the person is simply sluggish and lethargic, choosing not to move.

Although children with PD are less likely than children with SMD to have self-control issues (e.g., temper tantrums), they often exhibit poor self-esteem and self-confidence.

They tend to play alone because they cannot keep up physically with their peers and are at risk for becoming "loners."



The following symptoms are red flags for Postural Disorder:

- no internal motivation to move (e.g., run, jump, skip, hop)
- poor bilateral coordination—difficulty using both sides of the body simultaneously (e.g., catching a ball, rotating trunk to cross the midline of body needed to ride a bike or hit a baseball)
- challenges with ocular-motor abilities (e.g., following a moving object with eyes, noticing what happens around him using peripheral vision)
- inefficient vestibular (awareness of where he is in space) and proprioceptive (awareness of position of muscles and joints) processing

Sensory Based Motor Disorder: Postural Disorder

Ways to Help a Child with Postural Disorder

Play is the platform for strengthening overall core muscles, increasing endurance, and improving motor skills. The activities must be fun! Exercises do not work the same way that play does because play is internally motivating.

Activities may include:

- lying on stomach while trying to bring arms and legs in the air like a flying "Superman"
- squatting down to pick up an object, then reaching up high to place it in a bucket
- using gravity to create "heavy work" (e.g., climbing upstairs or a hill with a heavy backpack on [always less than 10–15 percent of the child's body weight on back])
- having the child pull another child/adult on a scooter board
- crawling through and over an obstacle course of tunnels, barrels, and swings/tires (the child can construct the obstacle course with your assistance!)

Many children who experience SPD can have symptoms in multiple subtypes. A child with Postural Disorder is greatly affected in day-to-day function. Increasing a child's postural strength and control increases his capability to move more efficiently in space, walk on uneven surfaces without tripping, balance, sit or stand upright, and more.

Once a child feels more confident about how his body moves, he demonstrates increased self-esteem, which in turn makes it easier to have solid peer relationships, play sports, and trust that he will be safe.

Sensory Discrimination Disorder

Sensory discrimination disorder can occur in any combination of sensory domains: visual, auditory, proprioceptive, vestibular, tactile (touch), olfactory (smell), and gustatory (taste).

Discrimination is the ability to interpret information. It allows you to compare various details, disregarding irrelevant information. A disorder of discrimination means that you have difficulty interpreting information (i.e. differentiating stimuli in the affected sensory systems).

For example:

Auditory: Did she say 'cat, cap, or pack'?

Tactile: Is that a quarter or a nickel in my pocket?

Visual: 'Where is the key that looks like this'?

Proprioceptive: 'How hard should I push this forward to move it, but not break the glass'?

Vestibular: 'Which way am I turning'?

This handout highlights how discrimination challenges in each sensory domain might affect a child.

Tactile domain

Children with tactile discrimination difficulties typically have difficulty determining what they touch "by feel"; they must see it (stereognosis). We use stereognosis many times a day. We just don't think about it because it comes to us automatically.

For example:

- Buttoning a shirt or pants while holding mobile phone to ear
- Touching something that just got out of the microwave to know if it's the right temperature

Proprioceptive domain

How do we choose "just the right amount" of tension or force required to interact with an object (e.g. how hard is it to lift to be able to carry a box up the stairs)? It is our proprioceptors that give us the information about how hard our muscles have to contract to accomplish the box-lifting task.

If a child demonstrates difficulty in this area, he/she may show some of the following problems:

- Rough & tumble play to the point of someone getting hurt
- Judging how much force to use when throwing a ball

Vestibular domain

"The vestibular system helps determine where our head is in space, relative to gravity. If a child has difficulty with vestibular discrimination, he may not feel when he is starting to fall and will not be able to catch himself before he gets hurt" (Bialer and Miller, 2011, 160).

For example:

- Poor awareness of movement of body in space (gets disoriented easily)
- Knows he's falling, but can't tell which way and can't protect himself

Auditory domain

Children with auditory discrimination challenges may be mislabelled with attention deficit hyperactivity disorder (ADHD) or disciplined for "never listening" because they appear to ignore what is said to them. It may be difficult for them to hear the difference between background noise and the teacher asking "Take out your science books and turn to page 103".

Symptoms may include the following:

- talks too loudly or softly
- experiences confusion when given directions
- appears to ignore others

Sensory Discrimination Disorder

Visual Domain

Children with poor visual discrimination tend to have trouble in school. It may be difficult for them to "read" emotions or to recognize letters and symbols. This causes problems such as letter reversals, problems finding pictures in a busy background, or difficulty reading.

Other symptoms may include difficulty with the following:

- lining up numbers in a math problem
- scanning a page to find the keywords in a story
- judging the distance between oneself and an object or person

Olfactory/Gustatory Domain

Smell and taste discrimination do not cause as severe a social problem, so they are usually only treated when they occur with another sensory discrimination issue.

For example:

- difficulty telling the difference between things that are somewhat sweet and those that are too sweet
- cannot tell if bread is burning, but has general sense something is wrong
- does not know familiar smells (e.g., grandma's perfume, coffee shop you frequent)

Ways to Help a Child with SDD

It is important to make sure that a child is regulated before intervening with discrimination issues. You will know when a child's over-responsivity causes a meltdown. You will know if he is a sensory craver and runs around trying to get more, more, more! But discrimination challenges are harder to see. Often discrimination issues, which are frequently missed by diagnosticians, are the cause of school problems.

Children who have poor discrimination need sensory-rich activities in the domain in which they have issues.

Visual: category games (e.g., find everything in the room that's a circle, while driving point to all food-related signs)

Auditory: Play the 'same and different' game, "I am going to say two words, and you tell me if they are the same or different. Then it will be your turn to trick me".

Proprioceptive: Play Simon Says or Mother May I? performing unusual, novel body movements.

Reference:

Bialer, D. S., and L. J. Miller. 2011. No Longer A SECRET: Unique Common Sense Strategies for Children with Sensory or Motor Challenges. Arlington, TX: Sensory World.

Sensory Modulation Disorder: Sensory Craving

Individuals who crave sensory stimulation appear to be obsessed with obtaining additional sensory input. We label this subtype as Sensory Craving (SC). The difference among a) enjoying "fast or intense" sensation, b) seeking sensory input (a normal function), and c) craving sensation (never appearing to satisfy the individual's desires) is poorly defined in the literature.

For example, many people enjoy pressure-point massages (intense sensation) or regularly complete an aerobic workout (providing fast sensation that is "normal"). Other individuals might seek an intense sport like skydiving, or even extreme kayaking (seeking sensation, still within the scope of normal sensory activity).

However, SC refers to even more intense, extreme behaviour. SC is distinguished by observing that the receipt of sensory input is directly related to the degree of disorganisation the person experiences (i.e., the more sensation, the more disorganised the person becomes).

"Children with SC display extreme over-arousal with constant movement. They are in your face and in your space. Children with under-responsivity, on the other hand, are extremely under-aroused, lethargic, and withdrawn.



The following symptoms are some of the red flags for Sensory Craving:

Visual: Likes flashing lights, spinning objects, prefers TV and/or video games

Auditory: Uses loud voice, makes background noises, enjoys noisy environments

Taste/Olfactory: Licks or chews non-food objects; bites on many objects; smells people, animals, or objects; sometimes prefers one type of food (e.g., spicy, sour, sweet)

Vestibular: Constantly spins or wants to swing, engages in fast activities (e.g., biking, running, skiing, roller coasters); wants to be held upside down or tossed in the air

Proprioception: Obsessive jumping, crashing, and pushing into things; unhappy unless clothing is tight fitting; likes to wear weighted vest; grinds teeth

Tactile: Seems unable to stop constant touching, feels textures everywhere, messy play for long durations, mouths or bites objects

Differentiating children with attention deficit hyperactivity disorder (ADHD) from sensory cravers can be challenging.

Todd Ognibene (2002) found that children with ADHD are more impulsive than children with sensory processing disorder (SPD) and children with SPD have more difficulty becoming accustomed to sensory stimuli than those with ADHD. When children with SPD are introduced to a new sensory stimulus (e.g., a loud noise), they have a large response and difficulty getting used to the new sensation.

Imagine a fan that goes on and off. The first time it turns on you notice, but your brain says, "Don't worry, it's not important or dangerous," so each subsequent time the fan turns on you notice it less. Individuals with SPD often do not get the "all's fine" message from their brain, so they continue to process each stimulus (as if it were the first time they were exposed to it).

In contrast, a person with ADHD has a large initial response but does get used to new sensory stimuli. After a large response to a new sensation, the brain of a person with ADHD sends a message "no fear, this is safe." Then the person can disregard the sensory stimulus the next time he hears it. This difference is crucial!

Sensory Modulation Disorder: Sensory Craving

Ways to Help a Child with Sensory Craving:

The following suggestions, adapted from Bialer and Miller (2011), will help organise Sensory Cravers:

- Create organised movement experiences that are goal directed and purposeful.

A child who desires constant movement must be interrupted with functional tasks or else he is likely to become over-aroused. For example, if running he could be guided to pick up an object, take it to the next station, drop the object, and then run back to the start.

- Use intermittent, varying, or interrupted vestibular input.

Providing a spinning or swinging sensation to an individual with SC increases his arousal level and tends to disorganise the person. If the person likes to swing high, swing him only to a certain count (e.g., 5); then guide the person to pick up a stuffed animal and place it in a container. Then swing again to the specified count and pick up another object and place it in a different container. The child receives some of the input he is looking for (e.g., swinging), but it is paired with an organising game or task.

- Incorporate heavy work activities.

Many individuals with SC benefit from "slow, heavy work." This includes tasks that involve sustained pushing, pulling, and carrying (e.g., taking out trash, vacuuming).

- Use small spaces to control activity, especially when playing with friends.

Help the child with SC learn personal boundaries when playing with peers. Provide a defined space and make a game out of being able to stop. Construct small spaces like tents or forts to help contain and organize the child with SC during an activity. Try to stay away from hectic environments, such as funfairs, which will likely cause a child with SC to become over-aroused.

Sensory Modulation Disorder: Sensory Over-Responsivity

What Is Sensory Processing Disorder?

SPD is a complex disorder of the brain that causes people to have problems with interpreting and regulating responses to everyday sensory information. The issues can be seen in one or more of the seven sensory systems - the five well-known sensations:

- Tactile
- Auditory
- Visual
- Olfactory
- Taste
- Vestibular (sense of movement through space)
- Proprioceptive (sense of muscles and joints)

In this hand-out, we will focus on Sensory Over-responsivity (SOR), one of the subtypes of SPD called Sensory Modulation Disorder (SMD).

People with SMD cannot regulate the sensory information they feel. It's as if their filter is turned down too low, so they feel bombarded by information. Or their filter is up too high, so they are unaware of certain sensations. A third possibility is that they crave and seek out additional sensory input - often getting into people's faces and spaces.

Sensory Over-responsivity

Individuals with SOR are more sensitive to sensory stimulation than most people. Their bodies feel sensation too easily, too intensely, or for too long.

Often these people have a "fight, flight, or freeze" response to a sensation (e.g., being touched unexpectedly, loud noise). People with SOR may try to avoid or minimise sensations (e.g., withdraw from touch, cover ears to minimise loud sounds). They may feel so overwhelmed they melt down and/or lose the capacity to pay attention and learn when faced with sensory experiences they find threatening. When a person is over-responsive, he may appear to avoid certain tasks when actually he is afraid of the activity. His brain is sending a danger signal!

This response can be seen in one or more sensory systems. Symptoms of SOR may include the following:

Vestibular: does not engage in climbing, swinging, or spinning activities

Tactile: avoids touching sticky or gooey things

Auditory: may get extremely disorganised in noisy environments

Visual: uncomfortable in sun unless wearing sunglasses

Olfactory: runs from smells such as dinner cooking

Taste: will only eat small set of foods

Proprioception: may not like to feel pressure on their feet or legs, and refuses to jump, hop, or skip

Emotional Responses as a result of SOR

Often children with SOR feel panicked, nauseated, nervous, and/or anxious, and refuse to participate in activities. Their meltdown - which is due to fear or danger signals and may look like a bad behaviour - may actually be a profound emotional response to a sensory stimuli. Once the sensory precursor and emotional response are identified for the person, they often feel less anxiety and are able to cope with their over-responsivity in a more mature fashion.



Sensory Modulation Disorder: Sensory Over-Responsivity

Ways to Help a Child with Sensory Over-responsivity

Developing trust and a strong relationship together with arousal regulation are the two keys to help a child with sensory over-responsivity.

When you are overexcited or overanxious, you become aroused, or are in a heightened state. Regulating arousal is crucial for those with SMD. The child and adult bond through play. By focusing on a strong foundation of fun in treatment, the adult is better able to guide the child to tolerate sensations that make him anxious or scared. When the relationship is strong, the adult can begin to challenge the child to engage in activities that typically would provide a defensive or oversensitive response.

For example, if a child is oversensitive to vestibular stimulation, but proprioceptive stimulation is calming, the adult can pair the two types of stimuli so that the child has proprioceptive input before and after vestibular stimulation. In this example, a child is interested in trying to ride a scooter board down a ramp, but from past experience with slides, she is afraid of the ramp. The activity is calling to her because it looks fun! The adult uses her knowledge about proprioception and has the child first build a tower with heavy blocks, then push the scooter board up the ramp. Next the child lies on her stomach while the adult controls the scooter so that the ride down is slow (vestibular stimulation).

The child's scooter runs into the tower causing it to fall down, then the child stacks up the heavy blocks again (proprioceptive stimulation). Thus, proprioceptive input, which is calming, is paired with vestibular input, which is arousing. The effect of enough proprioceptive input is that the over-responsivity to vestibular stimulation is lessened. As a result the child feels the flush of success from riding down and can be excited instead of scared.

The key to success is the strong relationship with the child, which encourages him or her to try things that typically are aversive.

Sensory Modulation Disorder: Sensory Under-Responsivity

Individuals who are under-responsive to sensory stimuli are often quiet and passive, appearing to disregard stimulation by not responding. When they are exposed to the usual intensity of sensory stimulation that others respond to, they often appear oblivious to the stimulation.

For example, when a child's name is called, he may not seem to notice that you spoke to him. You may have to call the child's name several times, or position yourself directly in front of him so that he's aware that you are addressing him. Another symptom may be that the person with SUR is self-absorbed. They are often difficult to engage and seem uninterested in interacting with people. This may be due to a core deficit in relating, but can also be due to intense concentration in an area in which they have strengths.

For instance, when I first went over to Jonny's house, he was happily playing with his cars. I said "hi" to him and he did not even look up at me. Jonny is a child on the spectrum who loves to play with Matchbox cars. He has almost every Matchbox car ever made, and knows the entire history of Matchbox cars. During our visit Jonny stated, "About 30 years ago Matchbox started to switch to more conventional plastic and cardboard 'blister packs' used by other cars such as Hot Wheels. But I much prefer to collect the box-style Matchbox cars that have been recently re-introduced for collectors, starting when the '35th Anniversary of the Superfast' series was released in 2004."

Jonny is only a seven-year-old, and his knowledge in this area is clearly precocious. When he is discussing his favourite topic, he becomes more animated and appears somewhat interactive; however, his style is actually somewhat pedantic as he lectures the listener on the finer features of Matchbox cars.

You may hear the term self-absorbed applied to this kind of behaviour, not because the person is selfish or absorbed in himself but because he is focused on an area of interest to the exclusion of other topics. Many people think of this as a cognitive style, but in our experience it can often be due to under-responsiveness to sensory input. Because ordinary sensory input is not detected, individuals may turn to a cognitive world of ideas to obtain the stimulation their brains need. Individuals with autism spectrum disorder (ASD), who also have SUR, can become quite animated, alert, and involved when discussing their areas of interest (e.g., Matchbox cars).



The following symptoms are some of the red flags for SUR:

Visual: loses place when reading, complains of eyes being tired

Auditory: does not respond to name being called, may hum while working on a task

Olfactory: does not notice a strong odour in the refrigerator that others instantly notice

Taste: does not notice or care if foods are spicy or bland

Vestibular: does not voluntarily choose to play on playground equipment, preferring sedentary tasks

Tactile: may not notice if they get hurt or bumped

Proprioception: slumps in chair or leans on walls, may have weak muscles

A classic symptom of SUR is hypo-responsivity to touch and deep pressure stimulation. This often leads to inadequate body awareness, poor endurance, and movements that are not appropriately graded. Movements that have the correct amount of force for the task are considered "graded."

Sensory Modulation Disorder: Sensory Under-Responsivity

Those with SUR may not perceive objects that are too hot or cold, and classically do not notice pain in response to bumps, falls, cuts, or scrapes. We label children with SUR as "low and slow." Children who are under-responsive seem to have poor inner drive and lack a spontaneous desire to play and explore (Bialer and Miller 2011). They often appear lethargic or tired. At school a child with SUR may appear not to listen in class and/or may slump down in his chair. He may have trouble making friends because either he cannot keep up physically with fast-moving children on the playground, or by the time he has become alert enough to engage, the other child has moved on to the next thing.

We use the "gas tank" analogy to explain the concepts of Sensory Over-responsivity (SOR) and Sensory Under-responsivity (SUR). The gas tank is like our nervous system. Each car has a different sized tank. Some cars have small tanks and fill up quickly, as kids who are SOR to sensory input do; other cars have large gas tanks and need a lot of fuel and frequent refuelling to get and keep them going such as kids who are SUR (Bialer and Miller 2011).

Emotional Outcomes of SUR

Children who are under-responsive may have low self-esteem. They may prefer sedentary activities to high-energy movement activities and they may be labelled "herds," "stuck up," or "a loner." Due to their inability to participate with peers, they tend to have fewer opportunities to develop normal social and relational skills. As a result they may have less practice taking turns, sharing, and participating in pretend-play scenarios. They also may lag behind in their work because it takes them longer to detect what the teacher is requesting (i.e., when the teacher directs everyone to take out their papers and begin a spelling test), so they are always behind. These children may begin to feel as though they are not as smart or athletic as the other children around them.

Ways to Help a Child with Sensory Under-Responsivity

Individuals who have SUR need "fast blast" types of activities that can alert their sensory systems. Listening to loud music and swinging on a swing with fast, high movement can increase their arousal level. Do whatever it takes to engage individuals with SUR with movement activities even though they may prefer sedentary activities like playing on the computer.

Incorporate things like the Wii or Xbox Kinect to get them up and moving. Try adding spice to food as well as crunchy and chewy textured food and pungent odours (garlic/onion) to increase arousal.

Find out what is motivating to the person and present opportunities for the individual to work toward motivating rewards.

Reference

Bialer, D. S., and L. J. Miller. 2011. *No Longer A SECRET: Unique Common Sense Strategies for Children with Sensory or Motor Challenges*. Arlington, TX: Sensory World.