Sensory Processing & Sensory Processing Disorder

Meg Harris, M.S., OTR/L

What is 'sensory processing'? Sensory processing is our ability to *receive physical information* (**visual, auditory, olfactory, gustatory, tactile - as well as vestibular, proprioceptive, and interoceptive**), *transmit that information* via effective neural pathways, and perceive or *consciously experience the sensation*. A critical 'next step' is ACTING ON this sensory processing in a way that permits you to function and participate with people, materials, and occupations. Effective processing/integration of sensory information – and actively seeking and/or ignoring this information – allows us to maintain the appropriate state of arousal (this is called '**self-regulation**,' and we all do it *all the time*) in order to learn from and participate in everyday occupations.

What is 'Sensory Processing Disorder'? SPD is a life-span neurological disorder in which sensory information perceived from the environment or one's own body is processed abnormally, resulting in an inappropriate or ineffective response/behavior. **Perception** of the sensory information **is affected** (things can be perceived with greater or lesser intensity than what is typical) - **and, as a result, behavior** (in an attempt to cope with this sensory input) **is affected**.

What is the prevalence of SPD? Research on SPD has primarily focused on children; however, **SPD is a life-span disorder**. The estimated prevalence of SPD ranges from **5% to 16% for children *without* disabilities** - and from **40% - 80% for children *with* disabilities**. The most common comorbidities are diagnoses of Autism Spectrum Disorder, Attention Deficit / Hyperactivity Disorder, Fragile X, Prader-Willi Syndrome, PTSD, and some Learning Disabilities (e.g., dyspraxia, dysgraphia, dyscalculia) [Source: STAR Institute for Sensory Processing Disorder].

What do people with SPD need? Since SPD results in environmental information being perceived with either greater OR lesser intensity, people with SPD **need to have many options for** either avoiding (**taking a break from!**) **or** seeking out (**getting more of!**) all kinds of sensory information (visual, auditory, olfactory, gustatory, tactile...as well as proprioceptive and vestibular).

Sensory Processing through the lens of Universal Design & the concept of Design Empathy - The principals of Universal Design – *Equitable Use * Flexibility in Use * Simple & Intuitive Use * Perceptible Information * Tolerance for Error * Low Physical Effort * Size and Space for Approach & Use* could be applied to evaluating the *sensory experiences* of an environment [Sources: NCSU Center for Universal Design and Centre for Excellence in Universal Design]! In terms of crafting sensory-friendly spaces, the idea of "**design empathy**" has emerged out of these concepts of Universal Design, moving to include both physical accessibility and sensory accessibility [Sources: ArchNet and The Globe and Mail].

By providing multiple avenues to experience PLAY,
we can promote access, inclusivity, and community well-being.