

Sensory Integration & Processing Jargon Guide

A quick guide to some of the jargon:

Adaptive Response: an appropriate action in which the individual responds successfully to some environmental demand. Adaptive responses require good sensory integration, and they also further the sensory integrative process.

Auditory: This system provides information about sounds in the environment.

Body Image: a person's perception of his own body. It consists of sensory images or "maps" of the body stored in the brain. May also be called body scheme or body percept.

Cocontraction: the simultaneous contraction of all the muscles around a joint to stabilize it.

Coregulation: See regulation below.

Directionality: the ability to understand directions (up/down, front/back, left/right) as they related to function.

Dyspraxia: Difficulty in planning, sequencing, and carrying out unfamiliar actions in a skillful manner.

Gravitational Insecurity: an unusual degree of anxiety or fear in response to movement or change in head position; related to poor processing of vestibular and proprioception information.

Gustatory: This is our sense of taste.

Hypersensitivity (Over responsive): Over responsive to sensory information. A generalization could be that Hypersensitivity results in tendency to be fearful and cautious or negative and defiant.

Hyposensitivity (Under responsive): Under-responsive to sensory information. A generalization could be that Hyposensitivity results in a tendency to crave intense sensations or to withdraw and be difficult to engage.

Integration: the act of being able to integrate or bring together sensory motor functions in a useful, functional level of performance.

Interoception: our awareness of of sensations originating inside of our body, such as hunger, a full bladder, feeling tired, or ill and also includes recognition of body feelings as they relate to felt emotions such as heat from anger, heaviness from sadness, etc.

Kinesthesia: perception of the movement of individual body parts; dependent on proprioception.

Lateralization: the tendency for certain processes to be handled more efficiently on one side of the brain than on the other. In most people, the right hemisphere becomes more efficient in processing spatial information, while the left hemisphere specializes in verbal and logical processes.

Low tone/low endurance: the lack of supportive muscle tone, usually with increased mobility at the joints; the person with low tone has limbs that are floppy, appear to not be attached to the body, and have awkward movement patterns. This lack of muscle tone results in poor ability to act in a sustained state of alert performance.

Modulation (sensory): the brain's regulation of sensory information. Modulation involves facilitating some neural messages to maximize a response, and inhibiting other messages to reduce irrelevant activity.

Nystagmus: A series of automatic, back-and-forth eye movements. Different conditions produce this reflex. Rotary movement followed by an abrupt stop normally produces POSTROTARY NYSTAGMUS. The duration and regularity of postrotary nystagmus are some of the indicators of one aspect of vestibular system efficiency.

Olfactory: This is a sense of smell. This sense is involved in things like scented markers, scratch-n-sniff candles. Some individuals may prefer to limit olfactory input.

Perception: The meaning the brain gives to sensory input. Sensations are objective; perception is subjective.

Perseverate: To repeat or prolong an action redundantly.

Praxis: is the ability to interact successfully with the physical environment; to plan, organize, and carry out a sequence of unfamiliar actions; and to do what one intends, wants, and needs to do in an efficient, satisfying manner. It is a broad term which actually includes:

Ideation: the thought, planning an idea in the mind, ability to visualize the activity

Motor Planning: making a plan for the action

Execution: actually doing the activity or “executing” the action

Proprioceptive: The unconscious awareness of sensations coming from one's joints, muscles, tendons, and ligaments; the "position sense". Receptor sites are in the joints and the muscles. This sense underlies one's ability to place body parts in a position in space and to grade movements (i.e. the ability to judge direction of force and pressure).

Registration: the ability for the body to register that sensation has occurred.

Regulation: How we shift and maintain states according to the demands of the environment. In a balanced sympathetic/para-sympathetic nervous system 'regulation' toggles between unconscious and conscious as we shift between states of arousal according to internal and external context-dependent demands.

Co-regulation: When two people are connected / engaged there is a process of co-regulation (or other-regulation) that takes place where they contribute to one another's sense of calm and availability for the world. This impacts our ability to tolerate stressors and recover from stress. You can co-regulate OR co-escalate, in Daniel Siegel's work this connection is often called the interbrain.

Self Regulation: The independent ability to remain calm and alert and available to the world around us. Self Regulation is sometimes called self -or self-care, it is a process that is running in the background all the time everyday. We cannot entirely self-regulate at any stage of life. However in early infancy we rely a lot more on co-regulation than we do later in life.

Self Regulation: See Regulation above.

Sensory diet: A prescribed list of multi sensory experiences designed to support function and participation throughout the day.

Sensory Integration/Processing Disorder: "[A] condition that exists when sensory signals don't get organized into appropriate responses." (<http://www.spdstar.org>)

Sensory Integration: a neurological approach to enhancing occupational performance through supporting a more normalized response to sensory input.

Sensory Lifestyle: A dynamic approach to sensory health and wellness that incorporates and expands on environmental accommodations, sensory diet principles and advocacy work to optimize function and psychological well-being.

Social Cognition: The ability to understand the rules and concepts for social interaction to include understanding pragmatic speech, social rules of etiquette, proximity, objectics, gestures, inferences, abstractions, idioms, etc.

Somatosensory: Somatosensory refers to "sensations arising from the body" and includes tactile (touch) and proprioceptive input. Proprioceptive input refers to information from our muscles and joints and provides feedback to allow us to know where our body is, where it is moving, and how much force is being used.

Specialization: In general, the process by which one part of the brain becomes more efficient at particular functions. Most specialized functions are lateralized, that is, one side of the brain is more proficient in the function than the other side.

Tactile Defensiveness: A sensory integrative dysfunction in which tactile sensations create negative emotional reactions. It is often associated with distractibility, restlessness, and behavior problems.

Tactile System: Information taken into the body through the sense of touch (skin). Can be through the deep pressure receptors (activates discriminative system) or light pressure receptors (activates the protective system).

Vestibular: The sensory system that responds to changes in head and body movement through space, and that coordinates movements of the eyes, head, and body. Receptor site is in the inner ear. Intimately connected to receptors of auditory (hearing) and visual senses.

Visual: Visual system provides information about where other objects are in space and their features.

Visual-spatial organization: the ability to perceive and interpret what the eyes see. Need to be able to take in information through the sense organ (eyes) and interpret it (occipital lobe) and organize it for use (frontal lobe, sensorimotor areas, etc). Includes depth perception, directionality, form constancy, position in space, spatial awareness (distance between you and objects), visual discrimination, visual figure-ground (between objects). Also includes vertical/horizontal/diagonal perception and plane integration. Essential for success in mathematical performance.

Ocular Motor Jargon:

Saccades: Rapid eye movements that enable us to redirect our line of site.

Pursuit: The ability to follow an object smoothly while maintaining a stable image on the fovea.

Optokinetic Nystagmus: Evoked by visually following moving objects in the visual field.

Fixation: Eye movements associated with keeping the eyes still.