

Sensory Integration (SI) and

Sensory Processing (SP)

SENSORY INTEGRATION

Sensory integration, also known as SI, is an approach that was developed by Jean Ayres (Ayres, 1972; Andelin et al., 2021). It explains that sensory integration is the process by which sensory information is categorized and processed, whether it is touch, smell, sound, taste, or visual (Ayres, 1972; Andelin et al., 2021). In addition, it was recognized that proprioception, tactile, and vestibular are components that influence body awareness, motor movements, and self-efficacy (Ayres, 1972).

SENSORY INTEGRATION IS SURROUNDED BY A TRIGGER OR SENSORY INPUT FROM THE ENVIRONMENT AND SENSORY PROCESSING HOW IT IS INTERPRETED.

SENSORY PROCESSING

The sensory processing, also referred to as SP, refers to how sensory is organized, adjusted, and perceived (Schaaf et al., 2010).

Example:

- Hyperactivity
 - A child is crying when his parents force him to wear long sleeves and pants, during winter.
- Hypoactivity
 - A child is not aware of the hot water when washing hands



REFERENCES

Andelin, L., Reynolds, S., & Schoen, S. (2021). Effectiveness of occupational therapy using a sensory integration approach: A multiple-baseline design study. The American Journal of Occupational Therapy, 75(6). https://doi.org/10.5014/ajot.2021.044917

Ayres, A. J. (1972). Sensory integration and learning disorders. Western Psychological Services.

Crasta, J. E., Salzinger, E., Lin, M. H., Gavin, W. J., & Davies, P. L. (2020). Sensory processing and attention profiles among children with sensory processing disorders and autism spectrum disorders. Frontiers in Integrative Neuroscience, 14, 22. https://doi.org/10.3389/fnint.2020.00022

O'Brien, J. C., & Kuhaneck, H. (2019). Case-smith's Occupational Therapy for Children and Adolescents - E-book (8th ed.). Mosby.

Schaaf, R. C., Schoen, S. A., Roley, S. S., Lane, S. J., Koomar, J., & May-Benson, T. A. (2010). A frame of reference for sensory integration. In P. Kramer & J. Hinojosa (Eds.), Frames of Reference for Pediatric Occupational Therapy (3rd ed., pp. 99-186). Philadelphia: Lippincott Williams & Wilkins.

Yoshimura, S., Sato, W., Kochiyama, T., Uono, S., Sawada, R., Kubota, Y., & Toichi, M. (2017). Gray matter volumes of early sensory regions are associated with individual differences in sensory processing. *Human Brain Mapping*, 38(12), 6206-6217.





