

Sensory Integration Therapy, its Related Procedures, and its Effects on Speech, Language, and Communication in Individuals with Developmental Disorders

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Background

- Sensory integration therapy (SIT) is a commonly suggested supportive service in addition to traditional therapies for individuals with developmental disabilities. The goal is to assist individuals in using their bodies appropriately & effectively to interact within their environment.
- SLPs utilize comprehensive treatment approaches designed so that sensory and communication skills depend on one another, allowing for increased organization within the brain and faster generalization.
- Sensory materials & activities are designed and incorporated together to create the most supportive environment. There are several different types of materials that are integrated, depending on the individual characteristics & needs.
- Common characteristics professionals may encounter in affected individuals include difficulties with sequencing thoughts, organizing, planning, beginning and finalizing tasks, attention, and motor skills, as well as challenges associated with rigid, routine behaviors.

Research Question

The intention of this research review was to indicate whether the addition of sensory regulating items, relating to sensory integration therapy, could improve an individual's speech, language, and communicative abilities. Research question: Does the addition of sensory integration therapy or procedures have a positive effect on speech, language, and communication, in children with developmental disorders?

Results

- Autism - increased spontaneity, complexity of utterance, improvements in play, improvements in adult interactions, and engagement in about 80% of participants, no participants improved with peer interactions
- Aphasia - vestibular processing had a definite relationship with expressive language
- Apraxia - children increased their imitation attempts by 6.7 times, consonant sounds by 1.4 times, and two-syllable words by 1.5 times, on average
- Speech sound disorders - most participants displayed improvements with accuracy of speech movements, participants showed a more permanent change in the maintenance phase
- Language disorders - SIT's effects on language learning has shown inconclusive results, with some studies showing improvement and others showing no effects
- Developmental delay – using vestibular stimulation, 80% of participants showed an increase in verbal responses and language

Discussion

Most studies reviewed showed positive or neutral findings but lacked evidence to be considered significant enough to have a direct correlation with communication skills. Future intervention planning should take these results into consideration, especially when working with individuals with developmental disorders, as they have shown positive results using sensory integration procedures. Sensory integration in small increments, such as brushing or popping bubbles, or larger increments, such as swinging or jumping, may have an impact on an individual's overall functioning, leading to improvements in attention, focus, and behaviors in the clinical and everyday environments.



Summary

There is no consistent, direct correlation between sensory integration and various aspects of speech, language, and communication based on the results of the studies investigated. However, several studies did show effectiveness when SIT is used in combination with additional treatments and with distinct diagnostic populations. While many studies have been critiqued for small sample sizes, conflicting definitions, and fluctuating independent and dependent variables and sensory integration treatment, the research behind the effectiveness of sensory integration procedures remains inconsistent. Although the results from many of the studies are inconclusive, notably there were no negative communication results published to contraindicate the addition of sensory integration or sensory-based procedures into intervention plans. The best choice likely is to determine its effectiveness for individual clients, particularly those with comorbid disorders.

References

- Ayres A., & Mailloux Z. (1981). Influence of sensory integration procedures on language development. *AJOT: American Journal of Occupational Therapy*, 35, 383–390.
- Baranek, Grace. (2002). Efficacy of sensory and motor interventions for children with autism. *Journal of Autism and Developmental Disorders*, 32(5), 397–422.
- Ottenbacher, K. (1982). Sensory integration therapy: affect or effect. *American Journal of Occupational Therapy*, 36(9), 571–578.
- Padmanabha, H., Singhi, P., Sahu, J., & Malhi, P. (2019). Home-based sensory interventions in children with autism spectrum disorder: A randomized controlled trial. *Indian Journal of Pediatrics*, 86(1), 18–25.
- Perkins, S. (2015). *Sensory integration therapy and speech-language therapy*. The Koomar Center.
- Preis, J., & McKenna, M. (2014). The effects of sensory integration therapy on verbal expression and engagement in children with autism. *International Journal of Therapy & Rehabilitation*, 21(10), 476–486.
- Salokorpi, T., Rautio, T., Kajantie, E., & Von Wendt, L. (2002). Is early occupational therapy in extremely preterm infants of benefit in the long run? *Pediatric Rehabilitation*, 5(2), 91–98.
- Samayan, K., Dhanavendan, K., & Nachiketa, R. (2015). Allied health professionals' perceptions of the role of sensory integration therapy in managing challenging behaviours. *International Journal of Therapy & Rehabilitation*, 32(4), 167–172.
- Wallace, M. T., Woynarowski, T. G., & Stevenson, R. A. (2020). Multisensory integration as a window into orderly and disrupted cognition and communication. *Annual Review of Psychology*, 71, 193–219.
- Weitlauf, A., Sathie, N., McPheeters, M., & Warren, Z. (2017). Interventions targeting sensory challenges in autism spectrum disorder: A systematic review. *Pediatrics*, 139(6), 1–22.

