

Interprofessional Practice: The Perceptions of Speech Language Pathologists on the use of Sensory Strategies and Sensory Integration

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Abstract:

Children with autism spectrum disorder (ASD) often have poor language skills and sensory processing differences and receive occupational and speech therapy. Sensory processing differences are associated with poor language and social development and impact the attention to speech, joint attention, and attention shifting (i.e. Efimova & Nikolaeva, 2020; Feldman et al., 2021). By addressing underlying sensory processing difficulties, children are better able to attend, focus, and engage to increase joint attention and symbolic awareness needed for language and communication. An interprofessional approach to treatment for children with ASD has been shown to increase the effectiveness of interventions and sensory processing is a natural area of collaboration for the SLP and OT. However, there is little known about how SLPs view or understand sensory processing and integration. Therefore, the purpose of this study was to examine the perceptions of SLPs on the understanding and use of sensory interventions within speech sessions. Researchers used a qualitative approach with semi-structured interviews of SLPs who were working with at least one child with ASD. Narrative content analysis was used to analyze transcribed interviews. Results revealed three main themes: sensory environment impacts success in speech sessions, sensory regulation impacts behavior in speech sessions, and relationships as part of the intervention process. Definitions of sensory integration themes included sensory systems, environment, and threshold/seeking. Most frequently used sensory strategies included visual supports, tactile input, and movement. This study concluded that SLPs have a basic understanding of sensory integration and sensory strategies and utilize a variety of sensory strategies within their sessions. Impact Statement: The study supports SLPs having a foundational knowledge to build on to support sensory needs within speech therapy and OT sessions through interprofessional practice.

Background

- Sensory processing differences are associated with poor language and social development and impact the attention to speech, joint attention, and attention shifting (i.e. Efimova & Nikolaeva, 2020; Feldman et al., 2021).
- Sensory processing is important to support language development (Howie, 2016; Watson, 2011).
- Children with sensory processing disorder (SPD) may have limited progress with speech therapy goals as compared to children without SPD Tung et al. (2013)
- There is little evidence on if speech language pathologists utilize sensory interventions and how they define sensory integration and processing.

Methods

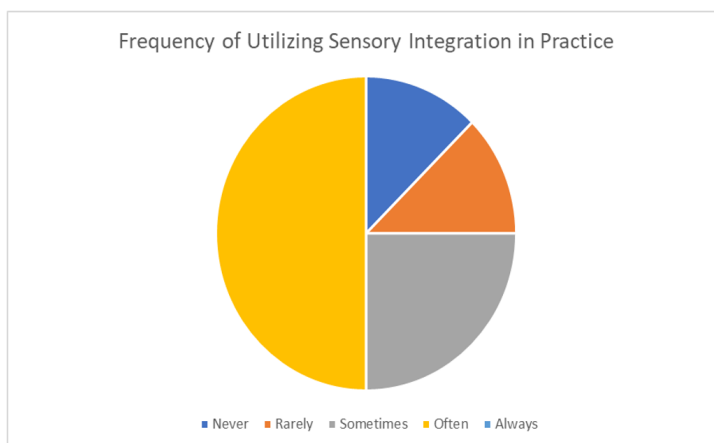
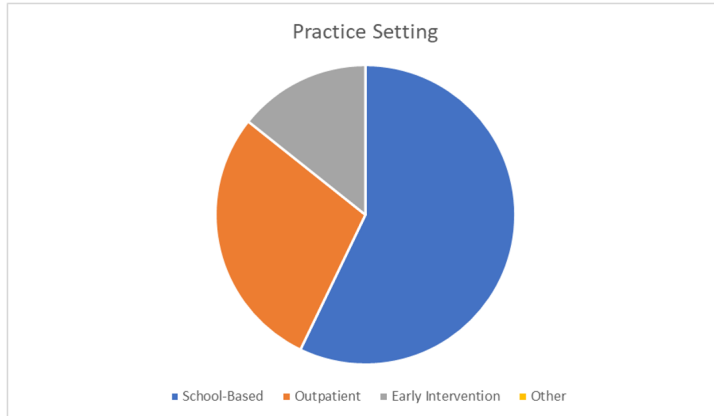
- Qualitative methodology with semi-structured interviews wit quantitative survey
- Inclusion criteria: Licensed speech and language pathologist, working in the United States, currently treating at least one patient 18 or under with ASD
- Recruitment via email database, social media, and snowball sampling
- Narrative content analysis- three independent raters

Results

Participants

Seven participants





Overall Themes

Theme 1: Sensory environment impacts success in speech sessions- aspects of the physical environment that were related to sensory, impacted the perceived success in speech sessions; sensory aspects including visual stimuli, noise, etc.

Participant Quotes

- “My main focus and intervention is building their communication skills so that they can effectively navigate their environment, participate in their environment, and communicate their needs functionally.” (Participant 1)
- “Proprioceptively, if they're not aware of their body in space that could even impact pre-linguistic skills like being able to gesture and point and those types of things. I feel like integration of those sensory systems to be more in a ready state of learning. If I can get that achieved, then I'm more likely to get communication skills.” (Participant 1)
- “Or I see my kids that are hypersensitive to it so the kids that as soon as they hear you know a note of music, they're covering your ears or the lights bother them or, you know, they get really escalated by background noise or too many visuals or too many colors” (Participant 2)

Theme 2: Sensory regulation impacts behavior in speech sessions- the regulation of the child from a sensory standpoint impacted a child's behavior during participation in speech therapy sessions

Participant Quotes

- "I think sensory processing I think more of how the student is experiencing the stimuli and sensory integration, I think more of as the active treatment to address those needs. Sensory integration makes me think you're integrating sensory activities into your sessions or into your task in order to make it easier or more appropriate for the student or help de-escalate them or even help them learn to cope with and adapt to sensory stimuli." (Participant 2)
- "With behaviors that they have, significant behaviors you can't get to any of the other steps. You have to start from the ground level which is sensory regulation. If they're not sensory regulated, then they can't get to any of the other steps." (Participant 6)
- "Behavior may be related to or not related to sensory difficulties so parsing that out, so you know what's behavior and what is sensory deficits and how to target, should I target through behavior interventions, or should I make it more of a sensory based approach, which is usually what I end up doing." (Participant 1)

Theme 3: Relationships as part of the intervention process- relationship with the child and the therapist was key in the intervention process and in implementing sensory interventions

Participant Quotes

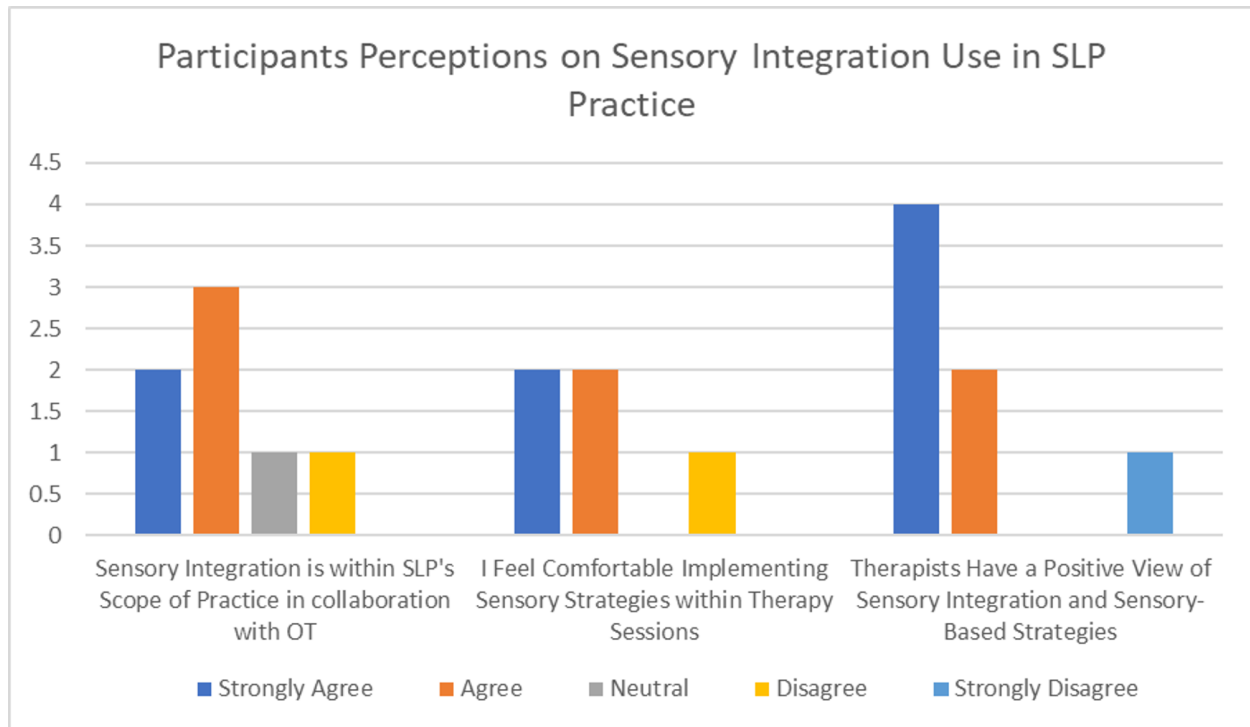
- "I would say that I am very child oriented. I feel like every kiddo on the spectrum is so unique. I mean there is obviously going to be some overlying, um, things that you see in, on the spectrum, but every kid has their own personality, their own behaviors. So, I'm very child oriented in the sense of ASD." (Participant 3)
- "I believe that the relationship piece is the most important, so you want to be motivated to be able to communicate so if you're not regulated and ready, you're not able to start having a relationship. So sensory processing is a really huge piece of it. If the kids aren't regulated, they can't interact, they can't engage, that's usually where we start." (Participant 5)
- "It's a process of getting to know them, and getting to know them, not just administering a test or an objective measure, but just kind of as a person it's like okay so what does this child respond to what will they work for what will motivate them, that's a big piece." (Participant 7)

Definition of Sensory Integration

1. Sensory systems- the majority of participants named specific sensory systems when defining sensory integration
2. Environment- sensory aspects of the environment were included in the definition of sensory integration
3. Sensory Threshold/seeking- the majority of the participants indicated that a child's threshold for sensory input and if they were seeking sensory input was a key part to defining sensory integration

Participant Quotes

- "I always say that it's how people take in information from all the senses, not just taking information for the eyes and ears but everything, how they feel. What they're tasting what they're smelling, everything in the environment and how their body is able to organize that and process and make sense of it, so that they can function, so they can self-regulate, or are able to ignore certain things around them, so that they can filter out that, and then still be able to focus on what they have to do." (Participant 7)
- "I would say the way that our bodies and minds perceive our various senses. But if I was explaining it to a parent, which is much more frequent, I usually describe it as all of our different sensory systems are kind of like a cup and some of our cups are really big and they need a lot of work to fill them up and some of our cups are really small and they get overfilled really quickly. So, we're trying to figure out how to fill your kiddos' cup without over filling it and without leaving it empty." (Participant 8)



Frequency of Sensory Interventions used by SLPs

Sensory Activities	Total
Deep pressure (i.e. massage, joint compression)	6
Vibrating toothbrush	1
Heavy work/Resistance activities	5
Visual Supports	6
Chewies	1
Sensory Bin (i.e. messy play, water, sand, play dough)	6
Swings	7
Weighted Blanket	2
Fidget Toys/Stim Toy	2
Movement Breaks	6
Music	1

Bike	1
Environmental modifications (i.e adaptive seating, changes in lighting)	Total
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Rocking Chair	3
Yoga Ball	5
Wiggle Seat	1
Spinning Chair	2
Seat Cushion	2
Visual Barriers	1
Cube Chair	2
Beanbag	1
Desk Lamps	1
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Conclusion

- SLPs have a general understanding of sensory integration and sensory strategies
- SLPs identified several sensory strategies they use in their sessions
- The sensory environment is an important consideration for many SLPs
- SLPs have foundational knowledge and are open to utilizing sensory strategies in their sessions opening the door for interprofessional collaboration with occupational therapists

References

Efimova, V. L. & Nikolaeva, E. I. (2020). The role of the vestibular system in the development of specific language disorders in children. *Human Physiology*, 46, 306–311.

<https://doi.org/10.1134/S0362119720030032>

Feldman, J. I., Raj, S., Bowman, S. M., Santapuram, P., Golden, A. J., Daly, C., Dunham, K., Suzman, E., Augustine, A. E., Garla, V., Muhumuza, A., Cascio, C. J., Williams, K. L., Kirby, A. V., Keceli-Kaysili, B., Woynaroski (2021), Sensory responsiveness is linked with communication in infant siblings of children with and without autism. *Journal of Speech Language and Hearing Research*, 64(6), 1964–1976. https://doi.org/10.1044/2021_JSLHR-20-00196