

The Role of Therapeutic Listening in Social Participation for Preschoolers with Special Needs

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Introduction

- Social development is an important factor in childhood development, especially for school readiness
- Children who suffer from auditory sensitivity present with difficulties to socially engage
 - High or low frequency sounds can be noxious and painful
 - May have difficulty filtering out background sounds, which impacts attention
- Therapeutic Listening is a common intervention strategy used for preschoolers to reduce auditory sensitivity

Methods

1. Identified 4 preschool children with a diagnosis of autism spectrum disorder with auditory sensitivity
2. Collaborative decision to trial TL (including parents, classroom and therapy teams)
3. Pre-questionnaire completed by parents, teachers, OTs and SLPs
4. Classroom carried out TL protocol under the supervision and guidance of a trained Occupational Therapist
 - 30 min. listening sessions with at least 3-hours in between
 - Listening log used to track listening schedules
 - Core activation followed each listening session (i.e. sitting on a bumpy cushion in the classroom chair).
5. Music selections were changed every 2 weeks
6. Data was collected intermittently throughout study
7. Post-questionnaire completed by parents, teachers, OTs and SLPs

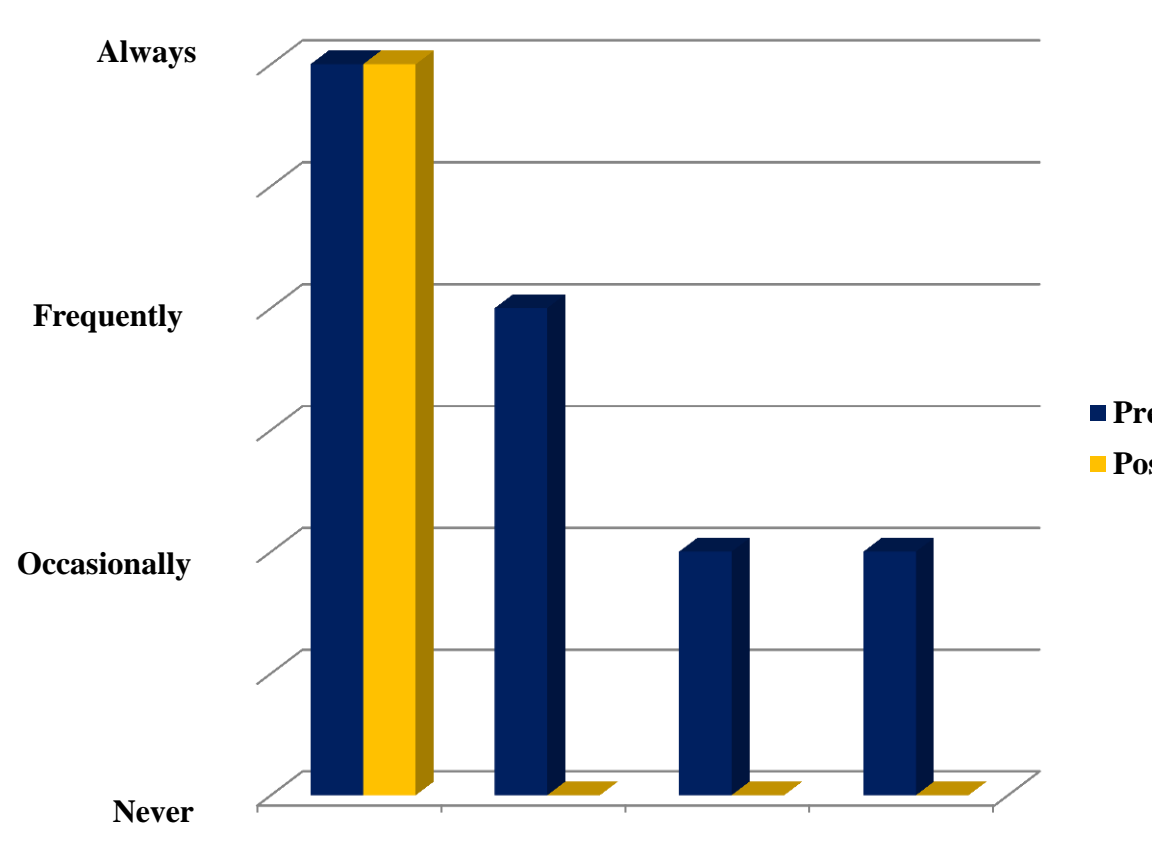
Barriers to Social Participation

Child 1 (Age 4)	- Auditory defensive: Meltdowns associated with covering of ears during fire drills, crowded areas (i.e. school gatherings, public events) - Difficulty with transitions - Food sensitivities - Echoalic - Engages in frequent stimulatory behaviors (eye squinting, scripted speeches, etc) - Does not interact with peers in classroom or playground; requires verbal and physical prompting to initiate peer interaction
Child 2 (Age 3)	- Auditory defensive: Meltdowns associated with covering of ears during fire drills, crowded areas (i.e. school gatherings, public events), classroom music, other peers crying - Non-verbal - Resistant to touch manipulatives (i.e. blocks, crayons, puzzle pieces, playdoh/theraputty) - Unable to follow 1-step directions - Difficulty with transitions - Food sensitivities - Does not initiate interaction with peers
Child 3 (Age 3)	- Auditory defensive: Meltdowns during fire drills, other peers crying, classroom music, etc. - Echoalic - Difficulty with transitions - Resistant to attend circle time and occasionally participated - Some food sensitivities - Moderate prompting to follow 1 step directions - Decreased visual motor skills (unable to draw a circular shape) - Does not interact with peers in classroom - Occasionally participated appropriately in family outings, such as dining out or going to a park or museum.
Child 4 (Age 3)	- Auditory defensive: Occasional signs of distress at loud noises - Difficulty with transitions and oppositional behaviors - Resistant to attend circle time and occasionally participated - Some food sensitivities - Follows 1 step directions - Needs verbal and physical prompting to initiate peer interaction - Occasionally participated appropriately in family outings, such as dining out or going to a park or museum.



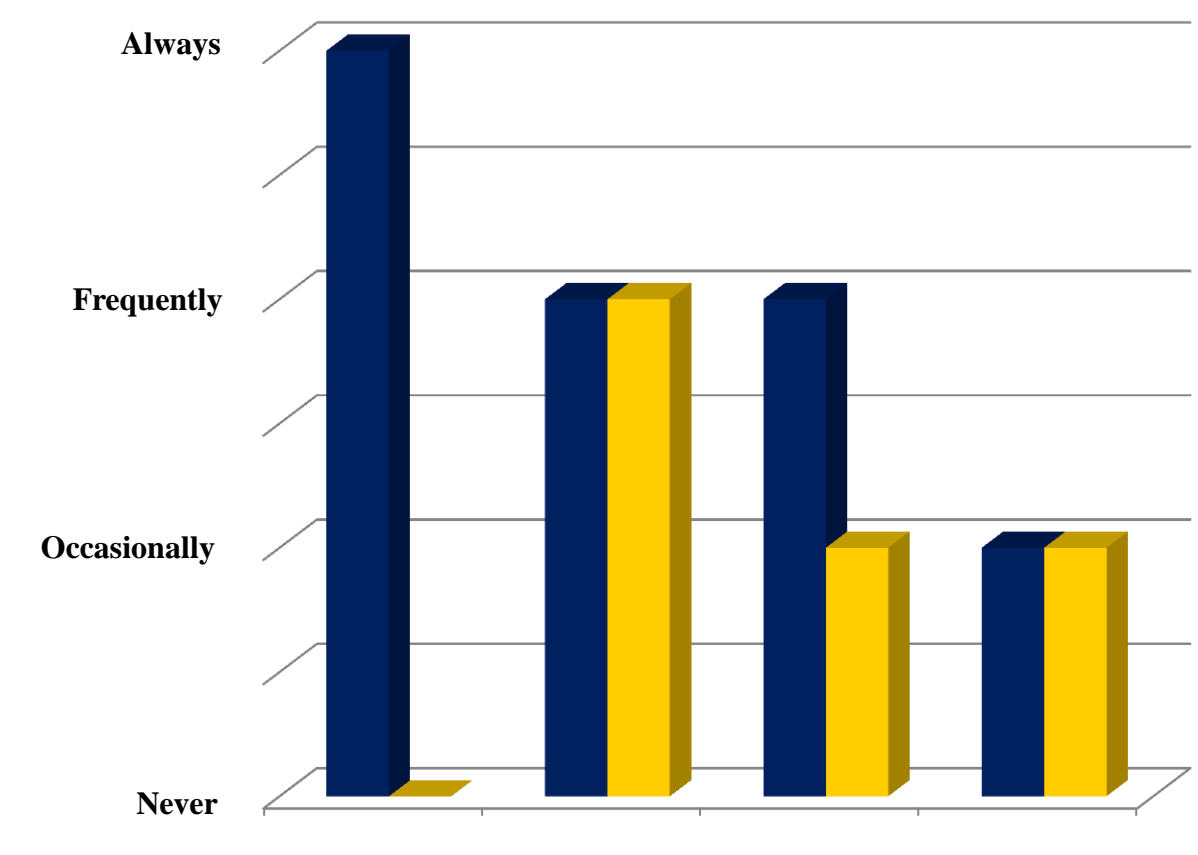
Measure of Change in Auditory Sensitivity

PARENT REPORTING



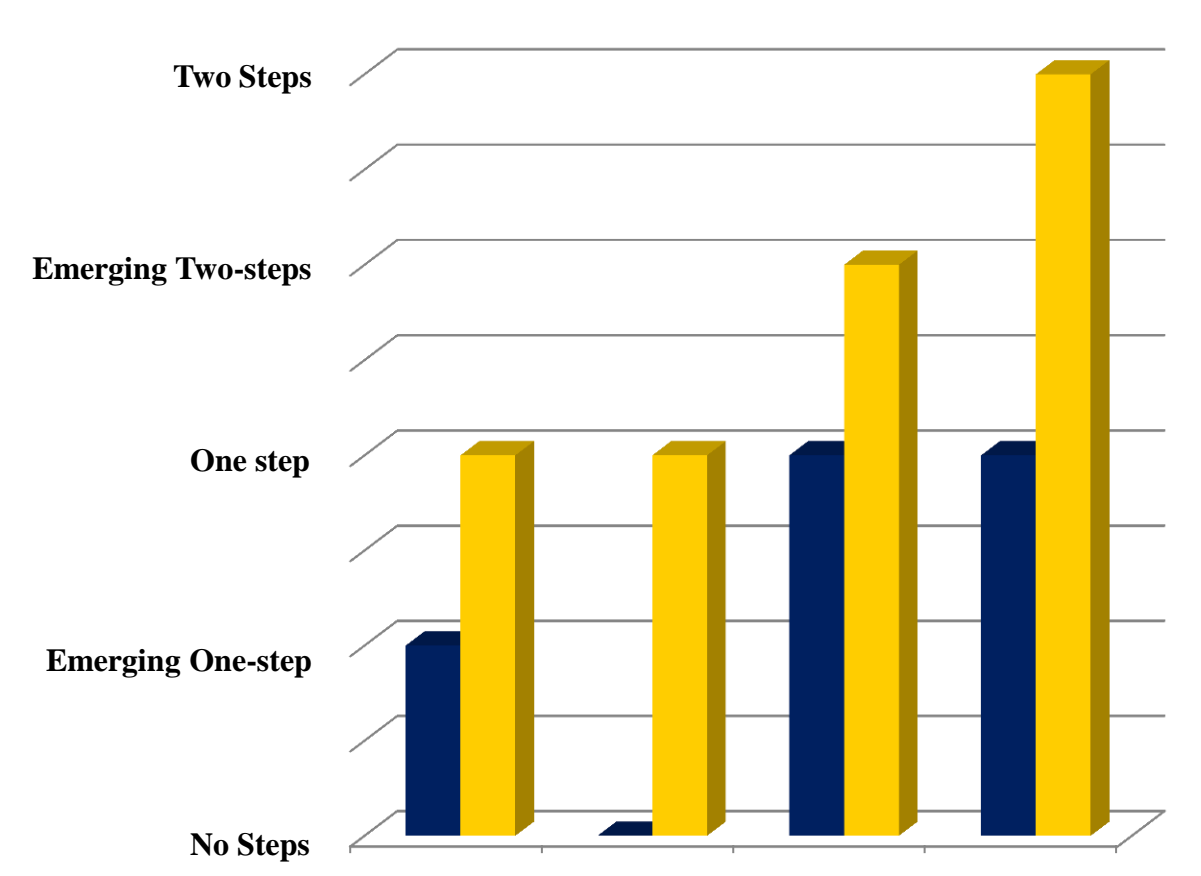
As a measure of decreased auditory sensitivity and following the use of TL, 3 out of the 4 children who responded negatively to loud noises by running away, crying, or holding hands over his or her ears have significantly improved their tolerability to loud sounds.

TEACHER REPORTING



As a measure of decreased auditory sensitivity and following the use of TL, 2 out of the 3 children who either *always* or *frequently* presented with distress at loud sounds (crashing blocks, yelling or crying of other children, noisy hallways, toilet flushing, etc), have significantly improved their tolerability to loud sounds.

Measure of Change in Following Directions



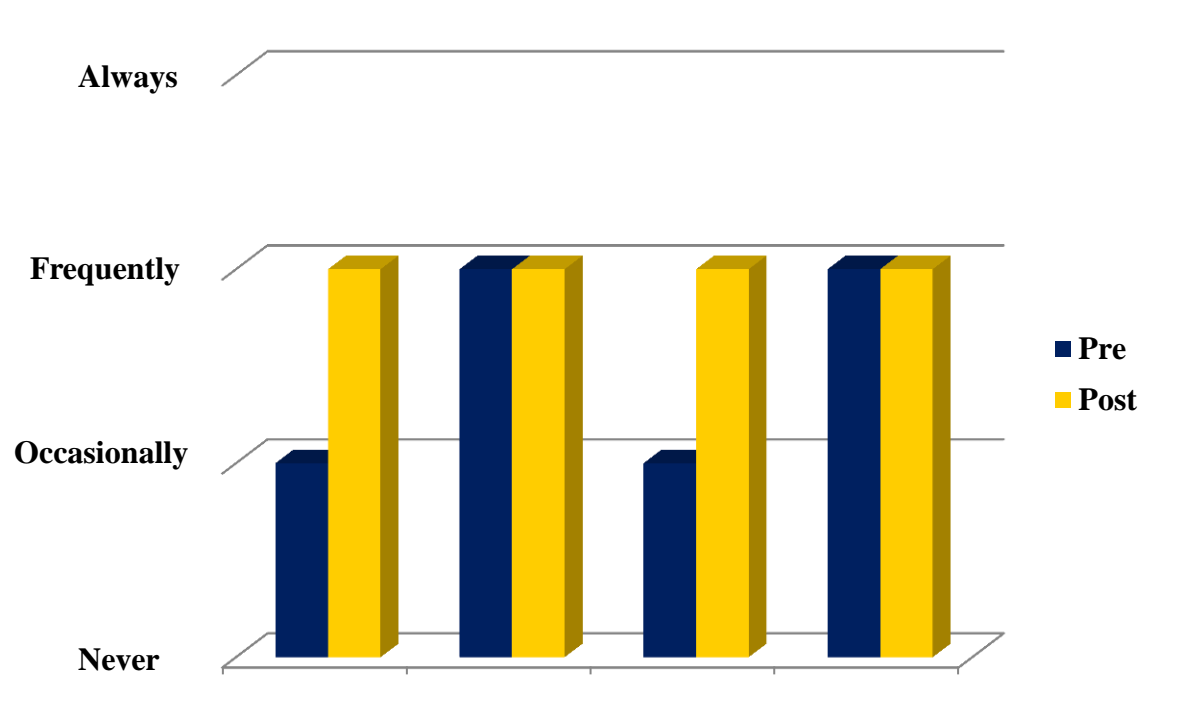
As a measure of improved listening skills and following the use of TL, all of the participants improved in their abilities to follow directions according to their Speech Language Pathologist.



School Personnel Reporting

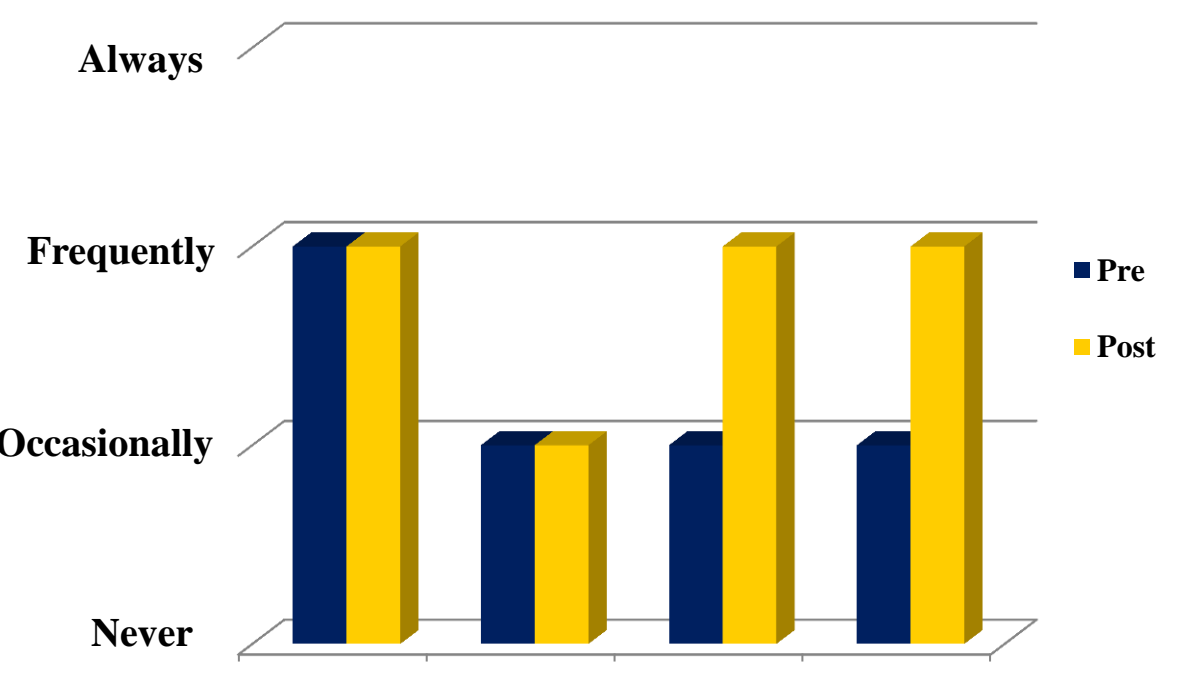
Measurements in Social Participation

PARENTAL REPORTING

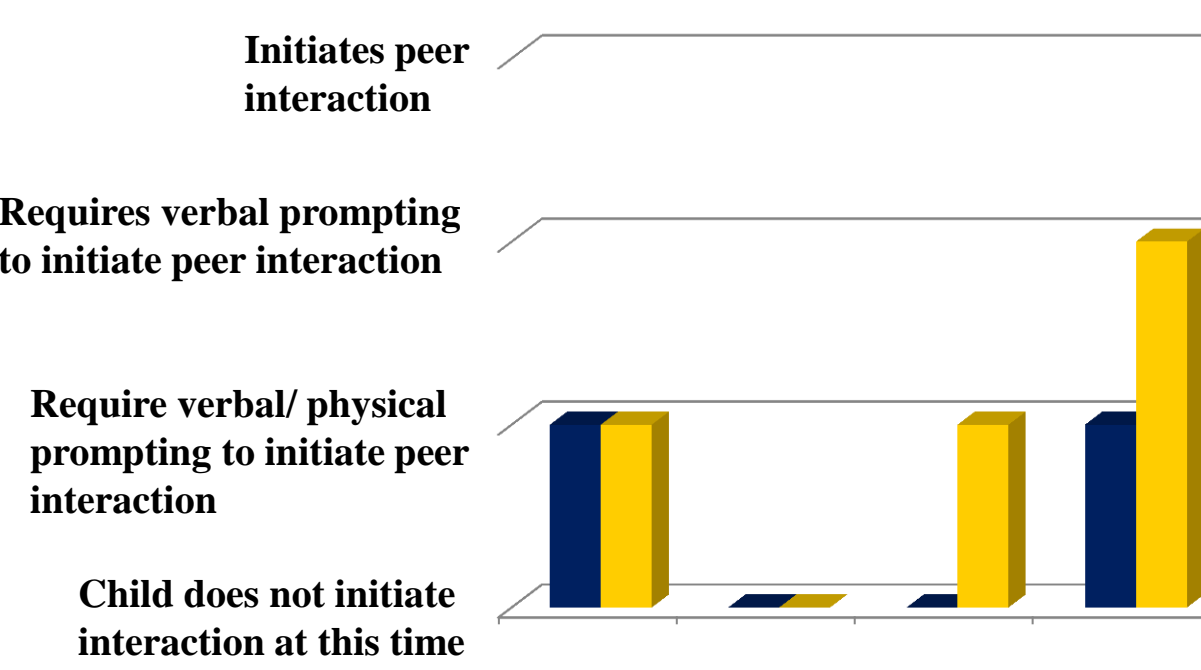


As a measure of improved social participation and following the use of TL, 2 out of the 4 children who only occasionally participated appropriately in family outings, such as dining out or going to a park or museum, significantly improved in their ability to participate appropriately in family outings.

TEACHER REPORTING



As a measure of improved social participation and following the use of TL, 2 out of the 3 children who only *occasionally* participated appropriately in circle time, made significant improvements to frequently participate appropriately in circle time.



As a measure of improved social participation and following the use of TL, nearly all of the participants initiated social interaction independently or with some level of support according to their classroom teacher.

Parent Reporting

Child 1	I have seen so much progress since starting the therapeutic listening. He is more tolerant of noisy places and noises in general. I don't see him put his hands up to his ears as often. We went to a very crowded and noisy event two weeks ago and he managed quite nicely. I have seen him take interest and engage in his surroundings. At the park yesterday, he tolerated all the kids and even happily watched and reacted to the kids around him.
Child 2	At home, we have noticed increased attention when an adult is speaking to him. His eye contact has improved and he is able to follow one-step directions without prompting.
Child 3	I have seen him become much more verbal and social. He is much more affectionate toward his brother. He says hello to him and kiss him a lot!
Child 4	A couple weeks ago we took her to see Disney Live. She immediately got very anxious and whined to go home. As she often gets scared in crowded and loud places, I was not surprised by her reaction. The difference this time was that she sat on my lap and although she was asking to leave throughout, she did not have a meltdown. She stuck it out through the entire show and when it was over, she said that she enjoyed it!

Child 1	He is showing so much interest in his peers. He is spontaneously verbalizing and looking them in the face. He is also more playful and has been seen running on the playground in a chase game with other kids. - Teacher
Child 2	<i>Student 2</i> has demonstrated a significant improvement regarding the use of his hands. His participation in the classroom, specifically during art activities has improved. I have also seen improvements in his eye contact and overall attention. - Occupational Therapist
Child 3	He went through a period of protesting music on the SMART Board, including our daily warm-up and used to cover his ears a lot. He used to cry and not participate at circle. Now, he is following through and participating without protest. Overall, he is has made significant improvements in his ability to cooperate in the classroom. - Teacher
Child 4	<i>Student 4</i> is more interested in her peers and now wants to be in the proximity of her peers. She appears to be more available to learn from the school's collaborative approach and now has the language and skills to better interact with her peers and teachers. In addition, she now transitions better between activities. She is also less cautious and is more willing to attempt new tasks. - Teacher

Conclusion

- Children with auditory sensitivity often experience challenges with social participation, which negatively impacts their learning, peer/adult relationships, and quality of life in the community, at school and home.
- Research has proven social-emotional development to be an important factor in childhood development, especially for school readiness and academic achievement in elementary school (Shala, 2013).
- Results from this study suggest that TL, used in conjunction with a collaborative approach, can improve social participation in preschoolers with auditory sensitivities.