### Measuring the Outcomes of Therapeutic Listening® in Children With Learning and Developmental Disabilities

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#### Background

A practice-based evidence (PBE) approach was used to explore the outcomes of the Therapeutic Listening® technique. PBE examines how effective clinical practice is within the actual clinical context. PBE capitalizes on using customary procedures and measures to establish clinical outcomes. (Horn & Gassaway, 2010; Swisher, 2010).

**Therapeutic Listening® (TL®)** is a sound-based intervention broadly used by pediatric OTs as a complement to sensory integration interventions for children with sensory processing disorders.

#### Methods

Mixed methods pretest-posttest design for 13 children with learning or developmental disabilities listened to TL® Quickshifts selections 2x/day for 30 mins across 12 weeks.

**Quantitative Measures:**
- Canadian Occupational Performance measure (COPM), Sensory Processing Measure (SPM), & Clinical Observation of Postural and Motor skills
- COPM
- SPM

**Qualitative Data:**
- Gathered from weekly parent logs

#### Themes from COPM Goals with Parent Log Quotes

<table>
<thead>
<tr>
<th>Category</th>
<th>Quotes</th>
<th>Mean Change in COPM score (10 point scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Care</strong></td>
<td>“Daily activities and routines are being done in a more timely manner and with limited prompts”</td>
<td>Performance: +3.2, Satisfaction: +3.3</td>
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<tr>
<td><strong>Sleep</strong></td>
<td>“Not waking up at night; sound sleep”</td>
<td>Performance: +4.3, Satisfaction: +5.5</td>
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<tr>
<td><strong>Emotion &amp; Behavior Regulation</strong></td>
<td>“Regulated frustration…cried briefly…but slowed his breathing and moved on with cheerful attitude.”</td>
<td>Performance: +3.4, Satisfaction: +3.2</td>
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<tr>
<td><strong>Social Skills &amp; Communication</strong></td>
<td>“Approaching children his own age and asks if they will be his friend”</td>
<td>Performance: +1.8, Satisfaction: +1.9</td>
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<tr>
<td><strong>School Participation</strong></td>
<td>“More on task with school work…focused well to complete regular work plus extra work”</td>
<td>Performance: +2, Satisfaction: +2.5</td>
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<tr>
<td><strong>Play</strong></td>
<td>“Better at sustaining play activities on his own, playing outside or in his room”</td>
<td>Performance: +2, Satisfaction: +2</td>
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<tr>
<td><strong>Sensory Processing</strong></td>
<td>“Tolerated hair cut without sitting chest to chest on mother’s lap…did not scream or hit or flinch. HUGE moment”</td>
<td>Performance: +2, Satisfaction: +1.4</td>
</tr>
<tr>
<td><strong>Motor and Posture</strong></td>
<td>“Increase in desire for gross motor activities like bike riding”</td>
<td>Performance: +3, Satisfaction: +4.2</td>
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#### Clinical Measures Data

**COPM**

- Average Performance: PRE = 4.8, POST = 7.5
- Average Satisfaction: PRE = 3.9, POST = 6.7

**SPM**

- Reduction = Improvement

**Clinical Observation**

- Propr Extension: PRE = 2.0, POST = 1.8
- Supine Flexion: PRE = 3.0, POST = 2.5
- 1 ft stand balance: PRE = 2.5, POST = 2.0
- Romberg: PRE = 3.0, POST = 2.5

#### Key Results & Implications

- Complete data was collected from 13 children within 5 clinics across the US
- Programs were administered and documented by OTs who have advance training in TL®
- Goals and TL® treatment plans were individualized for each child
- Participants using TL® showed improvement in multiple areas of occupational performance
- Both qualitative reports and clinical outcome measures demonstrated improvement
- The COPM assessment was particularly sensitive to reported change
- The PBE approach was a powerful method for documenting clinical change within OT practice

#### Acknowledgements

Thank you to Sheila Frick OTR/L, founder of TL® and to the dedicated clinics, therapists, and participants across the US.

**References**