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Incorporating Music into Pediatric Occupational Therapy

Abby Kays, OTS

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BACKGROUND & PURPOSE

- **History:**
 - Music therapy began in the 1800s to investigate psychological changes.
 - Both professions expanded after WWI and WWII:
 - Occupational therapy: Worked with soldiers on rehabilitation.
 - Music therapy: Working with soldiers on PTSD. (AOTA 2022; Howland, 2017)
 - **Current Research Findings:**
 - Behaviors: Music has been found to decrease levels of depression and anxiety, improve self esteem, change adaptive behaviors, decrease aggression, and increase self control ((Belski et al., 2022; Geretsegger et al., 2022; Porter et al., 2017; Shi et al., 2016; Ye et al., 2021).
 - Social and Communication Skills: Music can provide improved self-esteem in children with behavioral, emotional, and developmental difficulties (Porter et al., 2017). Through group therapy, music has improved social skills (Bharathi et al., 2019). In children with complex medical needs, case studies have shown that music improved vocalizations, communication, and activeness (Knapik-Szweda, 2018).
 - Mood: Through utilization of musical activities such as singing, playing instruments, and other modalities, mood in children can be improved (Shi et al., 2016). In children with ADHD and emotional/behavioral disorders, motor movements have decreased (Yinger & Gooding, 2014).
 - **Occupational Therapy's Role:**
 - Large role in pediatrics.
 - Play is a primary occupation for children to promote growth and development.
 - Children learn through play.
 - Ways music is already seen through occupational therapy: art, dance, and song.
- (AOTA, 2014; AOTA 2022; AOTA, 2023; Bernier et al., 2022; Howland, 2017).

PURPOSE

Purpose Statement: The purpose of this capstone is to utilize music-focused occupation-based interventions for pediatric clients experiencing difficulties in social/communication skills, mood, and behaviors at a pediatric outpatient clinic in Bellevue, NE.

METHODS & ACTIVITIES

- **Needs Assessment:**
 - Completed a needs assessment through research on music interventions for children with disabilities in disorders, looking for an occupational therapy connection.
 - The focus of the capstone experience is program development by using music therapy with clients experiencing difficulties in social/communication skills, behaviors, and mood.
- **Observation:** The first two weeks of the capstone involved observation of potential clients to determine appropriateness for the capstone experience.
- **Partial Sessions and Parental Consent Forms:** Once the client caseload was determined, the capstone student began completing partial sessions using music to ensure appropriate fit. Then parental consent forms were signed by all parents for liability of the capstone site.
- **Clients:** Clients were chosen based on goals related to social and communication skills, behavior, and mood. Children also had an interest in music. Clients were chosen at MaxAbility Clinic in Bellevue, NE ranging in ages from two to ten.
- **Assessments and Scales:**
 - Social Profile (6 children) and DAY-C (4 children) were administered at the beginning and end of the capstone experience.
 - A self-created social assessment was administered at the beginning, middle and end of the capstone to track improvement. A mood scale and behavior log was used after each session to track changes in behaviors and moods.
- **Music Interventions:** Musical games, drums, instruments, singing instructions, transition songs, bingo, music worksheets, social songs, scarves, bells, and a music gramophone are a few examples of activities completed with clients based on their goals.

THEORETICAL FOUNDATION

- Ecology of Human Performance (EHP)** (Dunn et al., 1994)
- The EHP Model can look at each person through a holistic perspective.
 - Components of the EHP Model:
 - Person
 - Task: The behavior necessary to complete a goal.
 - Tasks were changed using music as a modality.
 - Context: Relating to the individual's own experiences and perceptions about their lives.
 - The child's environment and capstone environment.
 - Performance Range: The end results.
 - Improvement in child goals and capstone objectives.



RESULTS

- DAY-C**
- Noted change of improvement in all children in DAY-C for Social Emotional Domain (**statistically significant**).
 - $p < .05$ and p value of .003069
 - Improvement seen in 3 out of 4 children in Communication and Adaptive Behavior Domains (**not significant**).
 - Average score of improvement:
 - Social emotional: 8 to 13 points improvement
 - Adaptive: 0 to 6 points improvement (1 zero)
 - Communication: 0 to 8 points improvement (1 zero)
- Social Profile**
- Completed with 9 children.
 - Noted change of improvement for the Social Profile in all 10 children.
 - 3 children improved by 1 level and 1 child improved by 2 level.
- Self-Created Assessment T-Test**
- Completed with 9 children.
 - 9 children improved scores.
 - Improvement seen in all patient's social skills with a 5-to-8-point increase and statistical significance.
 - The paired samples T-Test with value of ($p < .05$) demonstrated a p value of -2.78 (**statistically significant**).
- Mood**
- Total improvement seen in 80% children.
- Behavior**
- Total improvement seen in 80% children.

IMPLICATIONS

- Strengths:**
- Welcoming capstone site
 - Music equipment provided by site
 - Supportive families participating in capstone
 - The created and measurable assessments demonstrated growth in skills in at least 1 domain for each child.
- Limitations:**
- Small facility
 - Limited resources
 - Restricted treatment plans
 - Small caseload
 - Potential for bias in self-created assessments due to observation from the capstone student, mentor, and/or parents.
- Benefits:**
- Improvements were seen in social/communication skills, behavior, and mood in the children through music-focused occupation-based interventions, demonstrating the benefits of music-focused occupation-based interventions.
- Future:**
- Continue promoting music in occupational therapy among pediatrics.
 - Look into various conditions outside of autism, ADHD, and genetic conditions.
 - Continue development on larger populations and sample sizes to further indicate the benefits of music utilization in occupational therapy.

REFERENCES

