Music and song are inherent features of human nature that have been observed in a range of cultures since the beginning of time. Music, like language, expresses rhythm, emotion, and meaning. Music can convey information in attention-grabbing ways, which is especially useful when teaching children. The current literature suggests that music and songs may be useful tools for learning language, but there is a lack of research focusing on the learning of vocabulary in particular. The research outlined in this paper provides a framework that suggests music may be useful in language learning by outlining the neurological relationship between music and language, and how musical experiences can foster language development in the pragmatic, receptive, and expressive domains as typically-developing children progress through early childhood.

**Abstract**

Music and language are universally used to express emotion and meaning. Music, as defined by Brandt (2012), is any creative play with sound that has implied value placed on acoustic parameters (such as envelope, frequency, and spectrum). Orally produced language uses specific acoustic parameters to express rhythm, emotion, and meaning. Rhythm, emotion, and meaning are expressed in speech through variations made to pitch, intensity, and intonation of speech, and deliberate selections of semantics.

**Background**

Music is everywhere across cultures and time periods. Humans have enjoyed music (producing it as a means for self-expression/fostering cultural tradition/sharing of information, socializing among us as a group or in intimate dyads/mothers/baby) listening to it for mood regulation and entertainment. Musical experiences foster early language development in ways that we may realize. If we can pin down the specific ways music fosters early human development, we can optimize our intervention practices as speech-language pathologists, particularly with early intervention and developmentally delayed populations. Because music is a readily available/involved teaching tool, it is obvious that its benefits could reach and serve a greater variety of at-risk and impaired children.

**Purpose**

The goal of this paper was to review the literature on music and its similarities with language in relation to how it is perceived in the brain, as well as the musical experiences that have shown to be effective when teaching and interacting with young children.

**Music and the Brain: Neural Frameworks**

- **Musical perception and speech processing are tightly connected, bilaterally activated, and automatically activated by abstract information** (Peretz, 2004).

**Definition of Music and its Commonalities with Language**

- **Music and language are universally used to express emotion and meaning.**
- **Music, as defined by Brandt (2012), is any creative play with sound that has implied value placed on acoustic parameters (such as envelope, frequency, and spectrum).**
- **Orally produced language uses specific acoustic parameters to express rhythm, emotion, and meaning.**
- **Rhythm, emotion, and meaning are expressed in speech through variations made to pitch, intensity, and intonation of speech, and deliberate selections of semantics.**

**The Relationships Between Music and Language Throughout Childhood**

- **Infant**
  - Infant-directed (ID) singing enhances healthy attachment (Le-T 통계, 2006; Trehub, 2010).
  - ID singing creates opportunities for joint attention in a turning-from communicative event, which lays the foundation for social pragmatic skills in language development (Trehub et al., 2015).
  - Musical experiences create many opportunities to establish routines, facilitate children with repetitive words and phrases, and convey information in a fun and engaging way (Suthers, 2001; Paquette, 2008).
  - Music can aid in speech segmentation, which is the ability to discern boundaries between words from hearing a stream of connected speech (Gordon, 2015).

- **Toddler**
  - In the preschool classroom, musical experiences can strengthen social bonds and enhance social competency (Paquette, 2006).
  - Songs may be used for introducing and/or practicing language lessons (Paquette, 2008).
  - Songs can also be used to teach or practice individual sounds in a repetitive nature, to teach the concept of homophones, to teach rhyming words, or even to explicitly teach grammar concepts and structures in an engaging way (Paquette, 2008).

- **Preschool Age**
  - Implications for Clinical Groups
    - Children with Specific Language Impairment often experience challenges in nonsinging tasks such as musical perception (Gordon, 2015).
    - Impaired musical perception can impede a child’s ability to accurately recognize and use prosodic features of language (Sall et al., 2015).
    - A child’s grammatical acquisition could be negatively impacted if they have impaired perception of the prosodic features of language (Gordon, 2015).
    - Training programs that stimulate language and music simultaneously may be beneficial for children with SLI (Main et al., 2006).
    - Programs that stimulate language and music simultaneously may be beneficial for children with SLI (Main et al., 2006).

**Conclusions & Future Directions**

- **Music’s effect on language abilities could inform treatments for a variety of populations, specifically children who have or are at risk of having a language impairment.**
- **Children with autism who experience pragmatic language impairments may benefit from infant-directed singing and social pragmatic applications.** During early development, in order to foster joint attention and turning skills.
- **If a child is displaying overlearned delayed language development, singing to them from an early age may help their attention to linguistic information by increasing or improving the ability to cope.**
- **Children with Specific Language Impairments who are having difficulty with grammatical acquisition may benefit from auditory training focusing on the prosodic features of language.**
- **Future research should consider vocabulary learning through musical experiences for children of varying ages and developmental trajectories.**

**References**


Cohen, D., Peretz, I., & Hébert, C. (2010). Music and its effect on language abilities could inform treatments for a variety of populations, specifically children who have or are at risk of having a language impairment. Children with autism who experience pragmatic language impairments may benefit from infant-directed singing and social pragmatic applications. During early development, in order to foster joint attention and turning skills. If a child is displaying overlearned delayed language development, singing to them from an early age may help their attention to linguistic information by increasing or improving the ability to cope. Children with specific language impairments who are having difficulty with grammatical acquisition may benefit from auditory training focusing on the prosodic features of language. Future research should consider vocabulary learning through musical experiences for children of varying ages and developmental trajectories. The effects of song type on children’s pitch preferences for使之变为节日和玩耍的。Spring Behavior and Development Research 19 (1): 1–6. 1000-10.  