The Psychological and Emotional Impact of Hearing Loss on School-Aged Children: A Classroom Comparison

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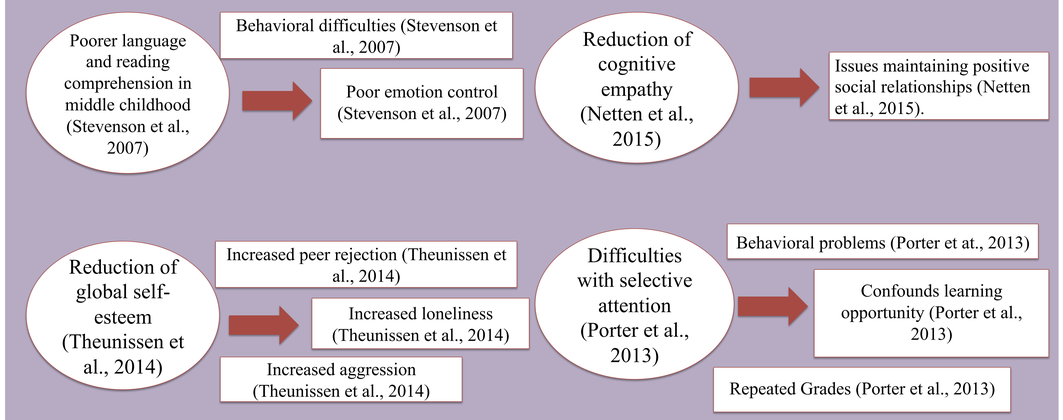
Introduction

Hearing impairment is the most common congenital and acquired condition in children; roughly 1-3 in 1000 are affected (Keilmann, Limberger, & Mann, 2007). Individuals with hearing loss encounter more speech and language delays, communicative deficits, and poorer speech intelligibility correlating with younger children's psychosocial, emotional and academic development (Porter, Sladen, Ampah, Rothpletz, & Bess, 2013; Theunissen et al., 2014; Stevenson et al., 2007). Examinations have found the higher an individual's speech intelligibility, the more positive emotions and social interactions one may experience; therefore, school-aged children with hearing loss are socially and emotionally disadvantaged (Most, Ingber, & Heled-Ariam, 2011). Relevant research has identified a multitude of psychosocial concerns for school-aged children, while simultaneously comparing classroom settings most suitable for school-aged children with hearing loss (Most et al., 2011; Keilmann et al., 2007; Netten et al., 2015). Allied health professionals have an obligation to counsel and assist in alleviating adverse emotions, while advocating for the success of clients (Phillips & Mendel, 2008). The aim of this poster is to highlight concerns presented by children with hearing loss, and to determine the best academic environment suited for learning and psychological development.

Methods

Subjective measures were assessed through quantifiable questionnaires and observable behaviors (Keilmann et al., 2007; Most et al., 2011; Netten et al., 2015; Stevenson et al., 2007; Theunissen et al., 2014). Statistical analyses were conducted, scaled, and compared with the Multivariate Analysis of Variance (MANOVA) measure, standardized scales, and parental/teacher ratings (Keilmann et al., 2007; Most et al., 2011; Netten et al., 2015; Stevenson et al., 2007; Theunissen et al., 2014). Behavioral observations within the two primary classroom settings, mainstream and multicategorical/group inclusion schools, were detected from classroom teachers (Netten et al., 2015; Porter et al., 2013). Speech intelligibility and language skills were scored, and factored into the analysis (Most et al., 2011; Netten et al., 2015; Porter et al., 2013; Stevenson et al., 2007; Theunissen et al., 2014). The studies recruited participants with ages ranging from 4-16 years (mean age = 8.9) with varying degrees of losses, ranging from mild to severe, and that primarily use oral communication (Keilmann et al., 2007; Most et al., 2011; Netten et al., 2015; Porter et al., 2013; Theunissen et al., 2014).

Figure 1: Psychoemotional and Educational Concerns and Correlations



Classroom Settings

Mainstream classrooms: Children with hearing loss are integrated in a classroom of children with normal hearing status (Tye-Murray, 2015).
Multicategorical self-contained classrooms: Classrooms that include only students with hearing loss and other disabilities (Tye-Murray, 2015).
Group inclusion: Many children with hearing impairments are placed in classrooms with normal hearing children (Most et al., 2011).

Classroom	Advantages	Disadvantages
Mainstream Classroom	• Increased social competence and decreased loneliness; higher self-efficacy (Most et al., 2011) • Better speech intelligibility (Most et al., 2011) • Higher levels of cognitive empathy and prosocial motivation (Netten et al., 2015)	• Diminishing self confidence with age (Keilmann et al., 2007)
Multicategorical Self-contained classroom/ Group inclusion	• Ability to interact and play with those of the same hearing status (Most et al., 2011) • Hearing-impaired children assist in the development of other hearing-impaired children's identity (Keilmann et al., 2007)	• Poor speech intelligibility (Most et al., 2011) • Primary interaction with peers with hearing loss correlates to fearfulness to engage with normal hearing peers (Most et al., 2011) • Problems initiating and maintaining relationships (Most et al., 2011; Netten et al., 2015) • Difficulties understanding others emotions (Netten et al., 2015) • Increased anxiety, less confident and assertive (Keilmann et al., 2007)

Table 1: A comparison of the advantages and disadvantages to integrating children with hearing loss in mainstream and multicategorical self-contained classrooms/group inclusion

Discussion

The appropriate classroom setting varies depending on individualistic factors such as an individual's hearing severity, speech intelligibility, age, and personality, as seen in the literature (Keilmann et al., 2007; Most et al., 2011). Generally, children with hearing loss in multicategorical classrooms have a greater loss, which could be a possible explanation as to why these individuals have difficulty with social interaction, generating additional psychoemotional concerns (Most et al., 2011; Netten et al., 2015) On the contrary, other examinations have found children with a greater loss in mainstream schools have a higher self-confidence, which may be a result of parental support and the child's ability to advocate for themselves (Keilmann et al., 2007). Many of these studies incorporated a comprehensive range of losses, although speech intelligibility was determined to influence the psychological emotions and behaviors experienced by school-aged children, regardless of the amplification device (Keilmann et al., 2007; Most et al., 2011; Netten et al., 2015). The earlier a child is fit with amplification, the greater the child's self-esteem, speech intelligibility, and attention abilities are within the classroom (Porter et al., 2013; Theunissen et al., 2014). Research reports that mainstream classrooms can improve speech intelligibility due to an increase in familiarity of typical speech characteristics from normal hearing children within their classrooms, thus increasing hearing impaired children's speech intelligibility and in turn, leading to other positive domains the mainstream classroom offers (Most et al., 2011).

Considerations

Given that research links speech intelligibility to positive emotional, behavioral, and academic success, the adverse psychological and emotional concerns of children with hearing loss may also be true of those with speech and language impairments with different etiologies. Based on the literature, it is probable that these concerns related to children with hearing loss may be generalized to children with other speech and language impairments. These significant emotional concerns must be additionally considered for these individuals when appropriate counseling and therapy is conducted.

Conclusion

Globally, children with hearing loss experience adverse emotions and poorer academic performance than their normal hearing peers, as seen in Figure 1 (Netten et al., 2015; Porter et al., 2013; Theunissen et al., 2014; Stevenson et al., 2007). Professionals need to be aware of these concerns, and advocate for early intervention services and appropriate amplification for clients (Phillips & Mendel, 2008; Porter et al., 2013). Moreover, early intervention impacts speech and language outcomes; intelligible speech is linked to the development of positive self- esteem, communication, social skills, and academic performance (Keilmann et al., 2007; Most et al., 2011; Porter et al., 2013; Stevenson et al., 2007; Theunissen et al., 2014). After the analysis of both mainstream and multicategorical classroom placements, it can be concluded that mainstream classrooms yield the highest academic success for increasing speech intelligibility, social encounters, and overall well-being, which, in turn, will positively affect academic achievement (Keilmann et al., 2007; Most et al., 2011; Netten et al., 2015).

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