The purpose of this poster is to present the Year 1 findings of the ELLA study, a longitudinal investigation of the development of early language, phonological, and orthographic skills in preschool children with hearing loss. Participants are 4-year-old children with bilateral hearing loss and 4-year-old children with normal hearing. Participants complete measures of early language and literacy acquisition at 6-month intervals. At age 4, children with hearing loss and children with normal hearing did not differ on nonverbal intelligence, phonological awareness, and rapid naming. Children with hearing loss scored lower than children with normal hearing on overall language, vocabulary, morphosyntax, phonological memory, and concepts of words in print. Over time, the longitudinal study will compare developmental trajectories of children with hearing loss and children with normal hearing and identify early predictors of later literacy achievement. The ELLA study is funded by an NIH/NIDCD R03 (1R03DC014535-01) awarded to the first author.

**BACKGROUND**

Children with hearing loss exhibit deficits in oral language, phonological processing, and orthographic knowledge. Multiple aspects of oral language skills for children with hearing loss who develop spoken language are poorer than their peers with normal hearing: vocabulary (Pittman, Ladd, Rovee, & Steinhavochik, 2005; Wake, Poulakis, Hughes, Carey-Sargeant, & Rickards, 2005), morphosyntax (McCocklin & Heney, 2007), and complex syntax (Ellenhorn, Hardin-Jones, & Davis, 1994). Likewise, early language, processing deficits in children with hearing loss abound (Ambrose, Fey, & Eisenberg, 2012; Easterbrooks, Lebroken, Miller, Bergeron, & Conn, 2007; Lund, Werfel, & Schuele, 2015). Within print knowledge, alphabet knowledge appears to be relatively intact in children with hearing loss (Easterbrooks et al., 2007; Werfel, Lund, & Schuele, 2015); however, print concept knowledge is impaired (Werfel et al., 2015).

Research has established that children with hearing loss who use spoken language exhibit deficits in these early skills; however, this piecemeal research has not provided clear guidance for identification of children who are at-risk to develop literacy deficits. To date, investigations of children with hearing loss have not included comprehensive longitudinal investigations of the acquisition of the early language, phonological, and orthographic skills that are implicated in later literacy achievement. Understanding the development of these early skills and how they relate to later language and literacy achievement will provide foundational knowledge that can guide early identification of the children with hearing loss developing spoken language who are at-risk for later deficits.

**METHOD**

Preschool children with and without hearing loss complete a battery of early language and literacy assessments every six months from age 4 to 6.

**RESULTS**

Findings: Children with hearing loss scored below children with normal hearing on many measures of early language and literacy skills, including oral language, receptive vocabulary, morphosyntax, phonological memory, and conceptual knowledge of words in print.

Significant differences were not observed on measures of nonverbal intelligence, phonological awareness, letter knowledge, phonological recoding, or conceptual print knowledge. Floor effects for both groups were present on measures of phonological awareness at Time 1.

**IMPLICATIONS**

This poster reports the findings from Year 1 of the ELLA study, a longitudinal investigation of early language and literacy acquisition in children with hearing loss. The findings suggest that children with hearing loss, when considered as a single group, score below children with normal hearing on all language measures and some early literacy measures.

a) Consistent with previous research, children with hearing loss did not differ from children with normal hearing on measures of letter knowledge or phonological recoding. Children with hearing loss scored lower than children with normal hearing on measures of phonological memory and word concept knowledge.

b) Inconsistent with previous research, children with hearing loss did not differ from children with normal hearing on either measure of phonological awareness; however, floor effects for both groups were observed.

When overall oral language skills of children with hearing loss is taken into account, two clear subgroups emerged. Children with hearing loss who have high oral language skills did not differ from children with normal hearing on measures of phonological awareness, phonological recoding, or conceptual print knowledge.

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