

## **Critical Review: In children with hearing loss, is phonological awareness related to literacy development?**

Shaina Norman

M.Cl.Sc (SLP) Candidate

University of Western Ontario: School of Communication Sciences and Disorders

This critical review examines whether or not phonological awareness is related to reading development in children with hearing loss. Children with hearing loss often have reading abilities that are below age expectations so determining the relation between phonological awareness and reading ability could guide decisions that clinicians make when developing intervention goals for these children. A literature search using computerized databases was completed resulting in six articles meeting the inclusion criteria. Study designs included: correlational design, case-control design, cohort study and a meta-analysis. The articles were evaluated using a critical appraisal template evaluating the level of evidence, validity and importance of the information included in the article. Overall, the research indicates that phonological awareness is a low-moderate predictor of reading development. This is different than what we might expect for typically developing children. This is further discussed in the review.

### ***Introduction***

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Research has shown that many children with hearing loss have reading abilities that are below age expectations (Mayberry & Rachel, 2011). In order to help remediate this lag in literacy development, it would be beneficial for clinicians to know what skills have the greatest effect on literacy development in children with hearing loss.

Kyle and Harris (2010) wrote that phonological awareness is one of the most consistently reported correlates and predictors of reading and spelling achievements for typically developing children. It is for this reason, along with other evidence, that in recent years, phonological awareness has consistently been targeted in early language intervention as a precursor for literacy development. While there is a wealth of literature that supports the relationship between phonological awareness skills and literacy development in normal hearing children (for reviews see, Adams, 1990; Castles & Coltheart, 2004; Wagner & Torgesen, 1987), the evidence to support the relationship in hearing impaired children is not as abundant or clear cut. We might expect the development of phonological awareness in children with hearing loss to differ from normal hearing children because they have reduced auditory access to the sounds of spoken language. (Kyle and Harris, 2010).

Determining whether or not phonological awareness is related to literacy development in children with hearing loss is important because it could guide

Data Collection

Results of the literature search yielded six articles consistent with the



below average phonological awareness skills and that both speech and oral language skills appear to relate to variance in phonological awareness.

#### Cohort Study

**Kyle and Harris (2010)** examined predictors of reading development in deaf children over three-years. This was an appropriate design because literacy develops over time and variables may contribute differently depending on the stage of reading development. A potential weakness of this design is selection bias as a result of loss to follow-up but that was not an issue with this particular study.

Participants (N=29, 14 boys) were selected based on good recruitment criteria which included age, severity of hearing loss (greater than 70 dB), type of

typically developing children. While there were strengths in the research such as good subject selection; inherent weaknesses of the methodology and the small sample sizes of the included studies reduce the strength of evidence. Additionally, some studies did not provide strict criteria concerning the severity of the hearing loss of participants. This could have a large impact on results because you may expect children with a mild hearing loss to have better auditory access to speech and thus develop better phonological awareness skills than a child with a severe-profound hearing loss and so phonological awareness skills may play a larger role in reading

