

**ARTICLE REFERENCE:** Walker, E.A., Ambrose, S.E., Oleson, J., Moeller, M.P (2017). False belief development in children who are hard of hearing compared to peers with normal hearing. *Journal of Speech, Language, Hearing Research, 60(12)*, 3487-3506.

**KEYWORDS:** Social Development, Theory of Mind, False Belief, Hard of Hearing

**WHAT WAS STUDIED, HOW WAS IT STUDIED AND RESULTS:**

**WHAT:** This study examined the development of false belief understanding, which is one important step in children's theory of mind development. Theory of mind has to do with children's growing understanding during preschool that people have thoughts, feelings, and beliefs and that their actions are guided by these ideas. A theory of mind helps children take the perspective of others and reason about why they do what they do. It helps children learn to empathize with others, predict how they might react, and even understand things like jokes or lies. False belief is one of the common measures of children's emerging theory of mind skills. False belief understanding typically emerges between 4 and 5 years of age. When children understand false belief, they realize that someone acted on the basis of their mistaken thought instead of what was real. For example, a child would understand that mom continued to search for her keys because she forgot that they were in her coat pocket. This is sophisticated because the child is able to juggle two ideas at once (what is true – the keys are in her pocket, and what is false – she thinks they are missing). Previous research has shown that children who are deaf with hearing parents demonstrate persistent delays in false belief understanding. Few researchers have looked at whether children who are hard of hearing (CHH) also show delays in false belief.

**HOW:** Preschool and school age versions of false belief tasks were administered. Hearing, hearing aid, language and cognitive measures were also given. Some measures looked at different children at different ages (cross-sectional); others looked at the same children at different ages (longitudinal).

**RESULTS:** At 5 years of age, CHH were delayed on average compared to their hearing peers. Children with better language abilities were more likely to do well on false belief tasks than those with weaker language. Some CHH continued to show these delays at age 6, suggesting that some CHH need extra support to develop these advanced concepts. At second grade, CHH performed like their hearing peers on false belief tasks, a positive result.

**HOW THIS INFORMATION MAY BE USEFUL TO YOU AND YOUR CHILD:** Theory of mind is an important aspect of social development. It is likely that barriers to language access slow the development of theory of mind in children who are hard of hearing. Families can promote access by using words to talk out loud about thoughts and feelings (e.g., "I wonder where my keys are...oh I remember, I left them in my coat...I am always forgetting where I left them"). By talking aloud about what you are thinking, you model for your child how our thoughts guide our actions. Storybooks offer many opportunities to share what a character was thinking or feeling. You can link that to situations where your child has similar thoughts, feelings, and reactions.



**WHO WAS STUDIED:** Children who are hard of hearing (CHH) were compared to hearing children at age 5 and again at second grade. Subgroups of these children were also studied at 3 and 6 years of age. Sample sizes varied by age, but there were 199 children at 5 years (142 CHH) and 123 at second grade (80 CHH).

**WHAT STILL REMAINS TO BE ANSWERED:** False belief is only one aspect of theory of mind. More research is needed to understand a broader array of theory of mind skills in CHH.

**WHERE CAN I FIND MORE INFORMATION:**

<http://www.handsandvoices.org/comcon/articles/socCogTheorMind.htm>