

From input to learning: Understanding factors associated with language outcomes in children with hearing loss

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Abstract

Permanent childhood hearing loss affects one to two in every 1000 Australian newborns, limiting access to spoken language and placing children at risk of delayed language development. Despite earlier identification and intervention, children with hearing loss don't always show age-appropriate and uniform language outcomes, indicating improving audibility alone is insufficient. Indeed, language developing also depends on the spoken input children encounter in everyday environments and their real-time learning dynamics. This thesis examines how spoken input and real-time learning profile relate to language outcomes of children with hearing loss. The first set of studies characterizes caregiver input to infants in natural interactions. The second set of studies analyzes school-age children's behavioral and neural processes underlying word learning, recorded concurrently using eye-tracking and functional near-infrared spectroscopy. Findings are expected to identify modifiable input and real-time learning-related factors linked to variable language outcomes and to inform more targeted, individualized intervention.