

# Listening-Related Fatigue and Cognitive Effort in Deaf and Hard-of-Hearing Bilinguals

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## Abstract

Listening-related fatigue is a well-documented challenge for deaf/hard-of-hearing (DHH) people who rely on amplification devices and speechreading to access spoken language (Holman & Hornsby, 2020). While previous research has attributed fatigue to effortful auditory processing, it has largely overlooked the cognitive demands of bilingual DHH individuals who navigate both spoken and signed languages. This study examines the role of bilingual language experience in mitigating cognitive fatigue. Using survey data from 200 DHH adults, we found that greater reliance on English and speechreading correlated with increased fatigue, while higher use and proficiency in American Sign Language (ASL) was associated with reduced fatigue and improved communication well-being. Principal Component Analysis revealed distinct cognitive and social fatigue factors, highlighting the role of modality flexibility in cognitive load management. These findings suggest that sign language use may serve as a protective factor against cognitive exhaustion, informing models of multimodal bilingualism and cognitive effort.