

Listening Effort Deployed To Process Speech In One's Non-Dominant Language: A Comparison Of Younger And Older Adults

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Objectives: Investigate in what way age and proficiency in a second language may influence the listening effort deployed by an individual to process speech in their non-dominant language in a background noise.

Background: Some bilingual individuals report that they deploy more listening effort to process speech spoken in their non-dominant language than when it is spoken in their native language.

Methods: A dual-task paradigm was used to measure listening effort for sentences spoken in English. The primary task consisted of a closed-set English sentence recognition task (e.g., His brother went to the bank with Norm) heard in two noise conditions: 1- an equated level condition; and 2- an equated performance condition. The secondary task consisted of a tactile pattern recognition task. Six groups of participants took part in the experiment: 1- Young adults whose L1 was English; 2- Young bilingual adults whose L1 was French and who reported being proficient in English; 3- Young bilingual adults whose L1 was French and who reported not being very proficient in English; 4- Older adults whose L1 was English; 5- Older bilingual adults whose L1 was French and who reported being proficient in English; and 6- Older bilingual adults whose L1 was French and who reported not being very proficient in English.

Results: Results indicate that there is a significant effect of age and language on listening effort. The less proficient bilinguals deployed more listening effort than the monolingual. The analysis failed to reveal difference between proficient bilinguals and monolinguals. Younger adults were better to process speech in noise than older adults.

Conclusions: The results show that competency in a second language has an effect on listening effort deployed to process speech in noise.