Title: Temporal release of an energetic masking and informational masking in younger and older adults.

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The primary goal of this study on this topic was to investigate how speech perception is altered in younger and elder adults. This topic is also chosen to identify the factors that govern the success of a listener attempting to understand speech in between competing talkers and noise. It is to be done between younger and older adults to detect aging effects on masking and several parts in auditory processing that deteriorates due to aging. Moreover, several causes for reduction in energetic masking and informational masking due to aging could be identified.

Identification of target speech was studied under several masked conditions. 30 normal hearing younger adults and 30 normal hearing elder adults are taken as subjects for this research. Types of stimuli used for energetic masking and informational masking are,

Energetic masking: steady-state background noise, checkerboard noise

Informational masking: contextual cues, auditory distracter, static noise, competing speech, modulated noise.

Both target and masker will be presented via loudspeaker directly in front of the listeners. Each stimulus is given at a time with a target speech and the subject will be asked to identify the target speech as a function of its level relative to that of the masking noise and repeat it to the experimenter. Number of keywords accurately repeated is scored, accepting as correct any responses that were homonyms and/or had the same stem as the keyword. Using these responses, performance of younger adults and older adults will be recorded and result will be obtained.

The effect of the temporal release of masking in younger and older adults was estimated while controlling the effect of energetic and informational masking. The SNR-50 scores for energetic and informational masking were considered as co-variate, and one-way ANCOVA results indicated that younger adults benefit more from temporal release of energetic masking, whereas older adults benefit more from the temporal release of informational masking.

Based on the results of the present study, it may be inferred that the temporal release of informational masking plays an essential role in speech perception in noise, especially in older adults. Thus, it may be suggested that the signal processing strategies to improve temporal release of masking should be adopted for hearing aid and cochlear implant prescription in older adults.

BIOGRAPHY

Pravena Nantha Balan and Deepika Murali have completed their Bachelor's Degree in Audiology and Speech Language Pathology under University of Mysore, India (2017-2021). They have completed their paperwork during their 3rd year degree, 2019 under the supervision of their lecturers, Mr Saransh Jain & Mrs Sanjana. Their topic has been chosen as one of the best topics and to be presented in the ISHACON 2020 at Chandigarh, Delhi. Currently, they both are working as a clinical audiologist for the past 1 year.

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