



A study on hearing characteristics of the left and right ear with aging

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Background

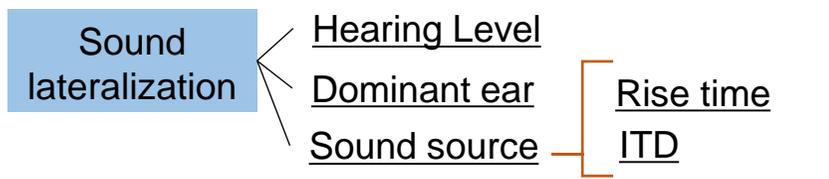
Study the auditory characteristics of the elderly in order to help them lead healthy and fulfilling lives.

Hearing characteristics

- Hearing Level
- Frequency Response
- Loudness curve
- ...
- Sound lateralization (Focused)**

- Elderly people have poor recognition of **Rise time**.
- Right ear advantage (**REA**) for voice recognition has been shown.

Purpose



Determine the Importance of each variables.



To determine whether there are left-right differences in auditory characteristics for each age group .

Content

Rise time



Sound lateralization experimentation

Subject : Young • Middle-aged • elderly

Influencing variables

Variable + Importance

- Hearing level
- Dominant ear [experiment + survey]
- ITD (sound source)
- Rise time (Sound source)
- Linear relationships: discriminant analysis
- Non-linear relationships: neural networks



Impact details

Confidence levels and number of correct answers

- Comparison of each Rise time
- Comparison by aging



Left-Right asymmetry

Change trend + Significant difference

- Focusing on Rise time
- Comparison of left and right response rates
- Comparison by aging
- Grasping REA characteristics