Auditory Ecology and Preference for Unilateral or Bilateral Hearing Aids
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Presented at the American Auditory Society Convention, Scottsdale, AZ, March 2009

INTRODUCTION

Rationale
Auditory ecology is the term used to describe how a person interacts with his/her auditory environment. In 1999, Gatehouse et al. hypothesized that a person’s auditory ecology might contribute to his/her selection of a particular hearing aid processing strategy. Gatehouse et al. found that individuals with more diverse auditory lifestyles had a stronger preference for non-linear processing strategies than for linear processing strategies.

Auditory ecology might also contribute to a person’s selection of one or two hearing aids. Conventional wisdom suggests that people who function in more challenging auditory environments would be more likely to choose two hearing aids. The purpose of our study was to explore the auditory ecology of users of unilateral and bilateral hearing aids through two approaches: questionnaires and an electro-acoustic environmental logging device.

Research Questions
1. Are there overall differences in auditory ecology between people who chose one hearing aid and people who chose two hearing aids?
2. Do subjective and objective auditory ecology measurements yield similar conclusions?

METHODS

Subjects
• 34 subjects with symmetric hearing loss
• Mean age: 70 yrs
• Range: 57 – 81 yrs
• 3 months experience with hearing aids
• Expressed preference for 1 or 2 hearing aids
• 20 Subjects chose 1 HA
• 14 Subjects chose 2 HAs

Questionnaires
Auditory Lifestyle and Demand Questionnaire (ALDQ)
Language Activities Checklist
Daily Listening Situations Checklist

Recording Device
Commercially available body-worn environmeter
• Oticon Sound Activity Meter (SAM)

PROCEDURE

• ALDQ and Communication Activities Checklists were administered prior to hearing aid fitting
• Subjects were fit with digital BTE hearing aids which were worn for three months
• For one week, subjects wore the personal environments during all waking hours
• After removing the environmeter each day, subjects would complete the daily listening situations checklist

RESULTS

• Prior to collecting data, the accuracy of the SAM was checked:
  • A SNR of +15, yielded mostly “speech only”
  • A SNR of +5, yielded mostly “noise only”
  • In a SNR of +10, “speech only”, “speech in noise”, and “noise only” were all represented

1. Do objective measures of Auditory Ecology distinguish between people who choose 1 HA and people who choose 2 HAs? NO

2. Do people who choose 2 HAs experience more speech in noise than people who choose 1 HA? NO

3. Do subjective questionnaires distinguish between people who choose 1 HA and people who choose 2 HAs? NO

CONCLUSIONS

Based on the methods used in this study, there is no evidence that differences in a person’s auditory ecology contribute to the selection of one or two hearing aids.

REFERENCES


ACKNOWLEDGEMENTS

Supported by NIDCD. Jennifer Goshorn assisted with this study.

PDF-versions of this poster can be obtained at http://www.ausp.memphis.edu/harl/