

IMPACT OF HEARING LOSS SIMULATION ON YOUNG CHILDREN'S HEARING AID WEAR TIME

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INTRODUCTION

Recent studies suggest that hearing aid wear time by children is considerably less than desirable, especially for very young children. Many factors could influence hearing aid use time such as age, degree of hearing loss, temperament, and situational factors. Moeller and colleagues (2009) suggested that in addition to standard counseling, the regular use of hearing loss

simulations might provide families with an essential glimpse into how their child experiences sound in everyday listening environments. Therefore, the purpose of this study was to examine whether audiologists' use of a hearing aid simulation tool during initial device fitting appointments could impact children's daily device wear time (per datalogging).

METHODS

PARTICIPANTS

All participants were caregivers of children visiting the Vanderbilt Audiology clinic who met the following criteria:

- Diagnosed with bilateral, permanent hearing loss
- Being seen for their first hearing aid fittings

EQUIPMENT

Simulator: Oticon Professionals™ application for iPad

PROCEDURES

- Random assignment to experimental or control group → no change to fitting for control group

- Experimental group participants were shown the simulation at the end of the appointment

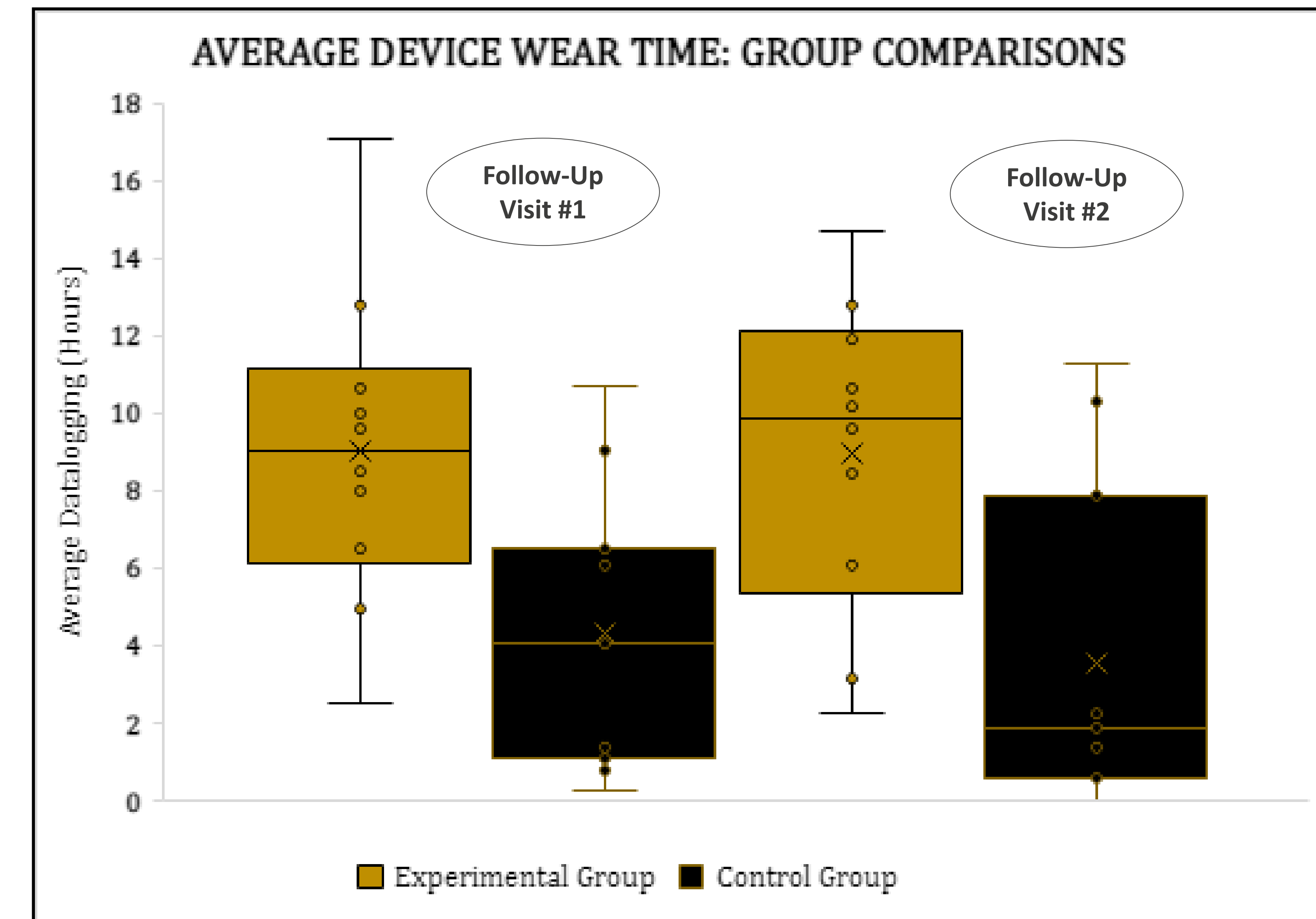
- Caregivers listened to a male voice, a female voice, and a child's voice, as well as environmental sounds (e.g., dog barking, water running, etc.) at a normal hearing level
- Caregivers heard each of these sounds again, now altered to simulate their child's unique hearing loss
- The sounds were played a third time, unaltered, for listening comparison

- At two subsequent follow-up visits, the amount of datalogging since the previous appointment was recorded from the device software for both groups

STUDY GROUP CHARACTERISTICS (n = 24)

CATEGORY	EXPERIMENTAL GROUP	CONTROL GROUP
Group Size and Gender	12 → (3 females; 9 males)	12 → (8 females; 4 males)
Age at Device Fitting	21.9 months	17.8 months
Maternal Age	30 years	30 years

RESULTS AND CONCLUSIONS



On average, young children whose caregivers were exposed to a hearing loss simulation at the initial device fitting demonstrated longer daily hearing aid wear time (increase of 5.5 hours; $p < 0.05$, $d=1.12$). This group-level difference was maintained across both the first and second follow-up visits. These findings support the potential value of clinical adoption of hearing loss simulation tools by pediatric audiologists during counseling of families.

ACKNOWLEDGEMENTS

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KEY REFERENCES

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