

Background

PROBLEM

1/3 of adults 65+ experience hearing loss¹

Challenges faced by hard-of-hearing individuals^{2,3}

- reduced audibility,
- decreased dynamic range,
- reduced frequency resolution
- reduced temporal resolution.

Difficulty to perceive and appreciate music

Online music workshops offer several benefits such as **greater accessibility** for people from lower economic backgrounds, geographically isolated or other mobility issues

Objective

SOLUTION

Musical experience over lifetime

Protective effect on hearing abilities^{4*}

Goal : To develop online musical activities for hard-of-hearing seniors

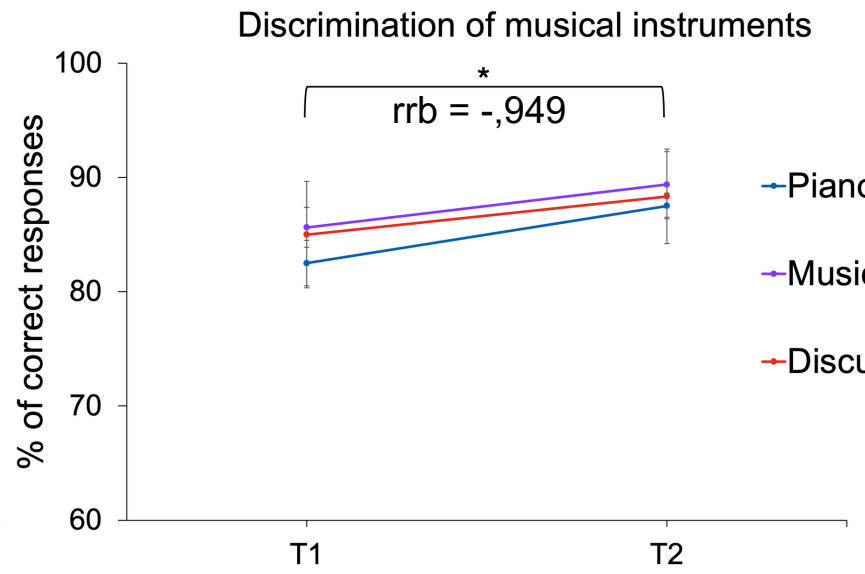
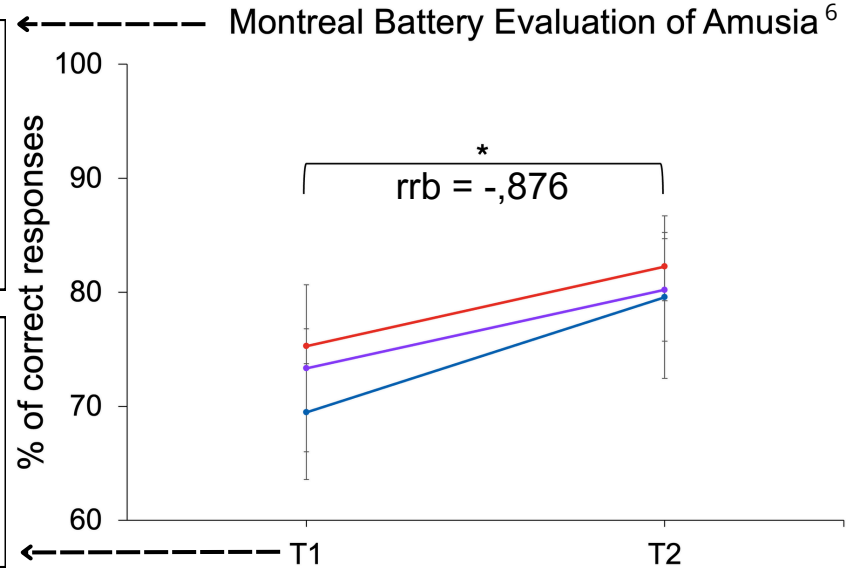
Tool for hearing rehabilitation
Pathway to access musical leisure

Music education⁵

Preliminary results

3 subtasks of the battery were selected in order to obtain an overall score reflecting the **melodic** and **rhythmic perception**.

T1 : Before workshops
T2 : After workshops



*p < 0,05 - Comparison of all participants between T1 & T2 (Wilcoxon signed-rank)

Results : Improvements ↑ for all participants for both tasks after training with large effect sizes. No difference between group at both time points (Kruskal-Wallis).

Qualitative information was collected using a logbook that participants completed after each session

Satisfaction level

The logbook analysis revealed that all activities had a **high rate of satisfaction** (> 94%).

Lexical field

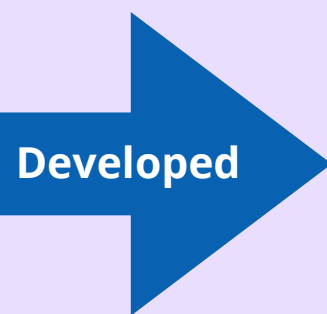
Participants from the **music listening group** had twice the occurrence of words associated with the lexical field of **appreciation, satisfaction, and recognition** regarding the workshops in their logbooks compared to the other two groups.

***To learn more about our most recent publication about that topic go see Session Chair psychophysics September 22 at 12pm !**

1. World Health Organization. (2021).
2. Moore. (1996). *Ear Hearing*. 17(2)
3. Moore. (2007). *Ear Hearing*. 28(2)
4. Whittom et al. (2024). *Under review**
5. Grenier et al. (2021). *Front. Neurosci*. 15.
6. Peretz et al. (2003). *Ann. N. Y. Acad. Sci*. 999(1)

Methods

10 meetings - multidisciplinary team : experts in audiology, rehabilitation, aging, cognition, music, and psychology



12 online workshops tailored to the elderly hard-of-hearing population

Pilot cohort

14 hard-of-hearing adults aged 63 to 82 years old High frequency hearing loss (3-4-6-8 kHz) on average moderately-severe to severe

- Piano lessons (n = 5)
- Music listening (n = 5)
- Discussion (n = 4)

Conclusion

These findings highlight the **potential of tailored short-duration online workshop programs for Senior Hearing Aid Users** to significantly **enhance their musical perception** and supports further exploration into **personalized musical interventions for auditory rehabilitation**.