Training normal hearing people in challenging conditions with no sense syllable stimuli

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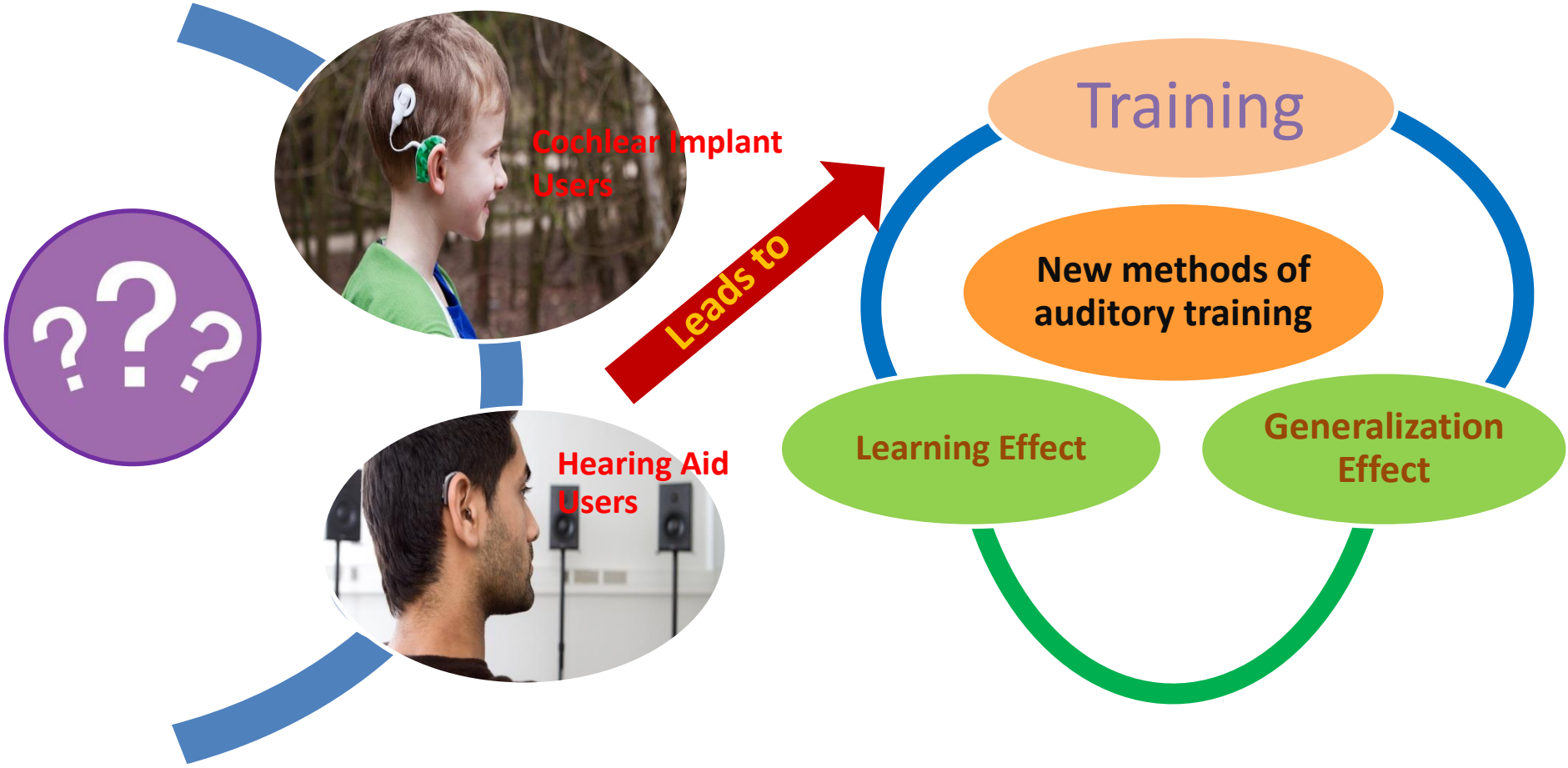
General Introduction



Current Gaps in Knowledge

- In the visual domain, people can improve their detection performance by learning to ignore constant visual masks. While, no learning occurs when the visual masks is random (Schubö et al., 2001)

- Once participants have learned to ignore the constant visual noise and can successfully detect targets, this skill then transfers to new, random visual noise.

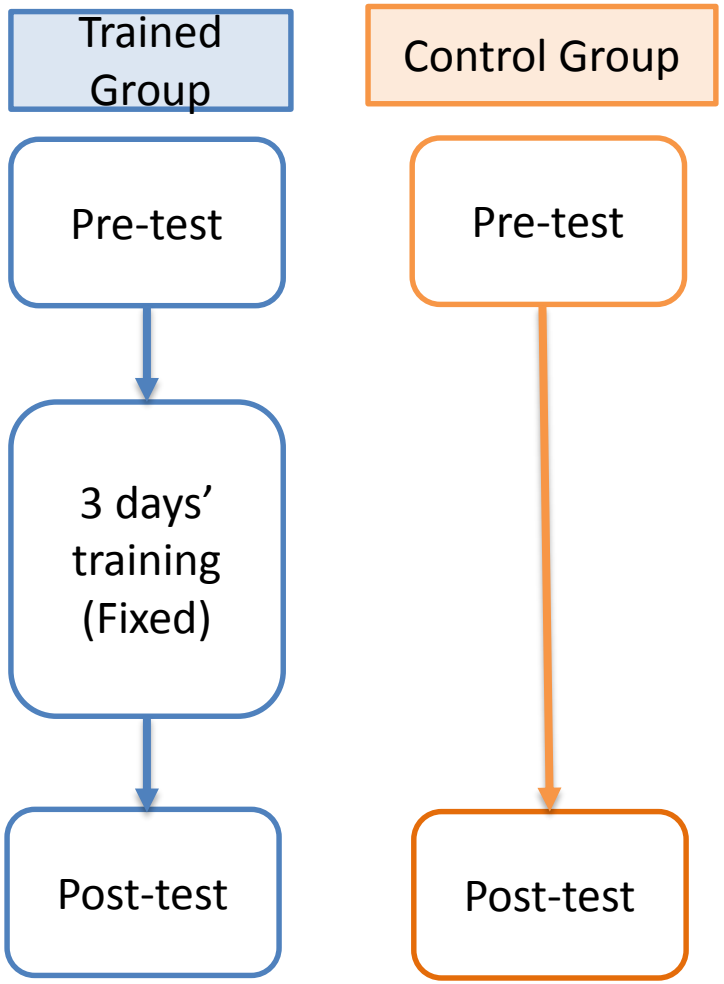
- Hypothesis: Auditory discrimination of stimuli in noise would IMPROVE if the noise was kept Fixed during training.

Objectives

- Compare the pre- and post- test results with random babble noise training to test for a training effect.

- Compare the pre- and post-test results with fixed babble noise training to see generalization effect.

Research Design



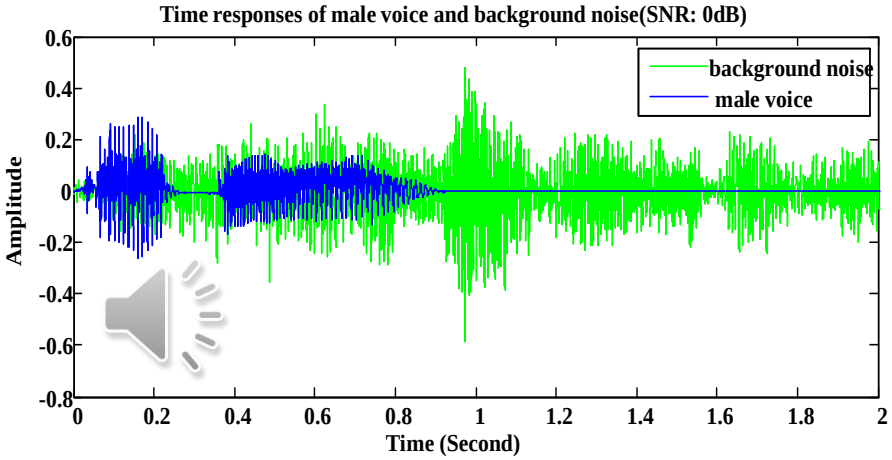
Test Sessions

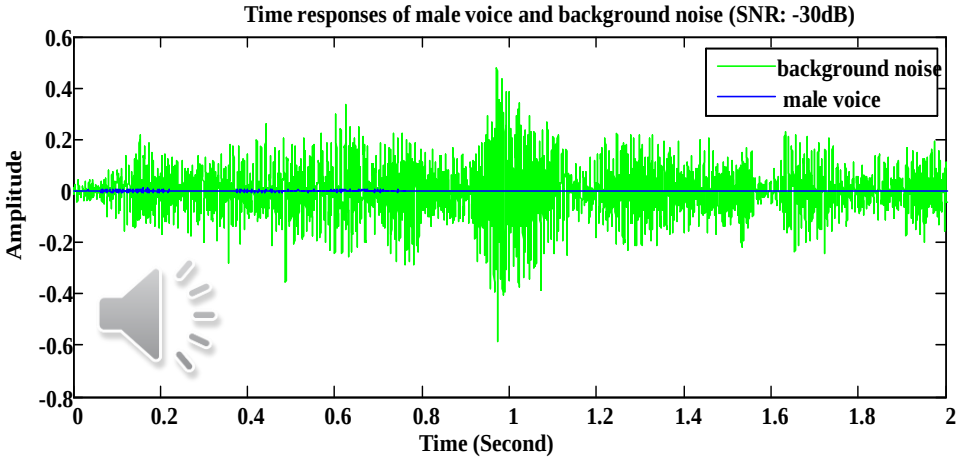
1) ***Pre-test session:***
Random babble noise (128 trials)

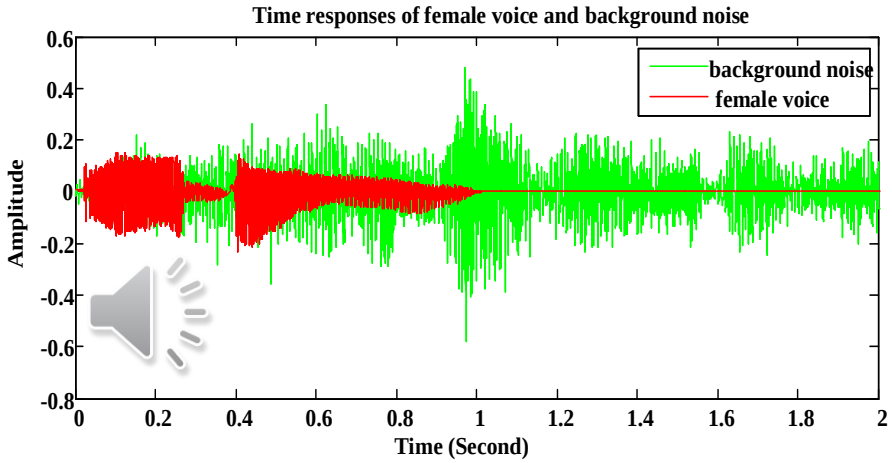
2) ***Training session:***
Fixed babble noise (half an hour, 640 trials per day, for three days)

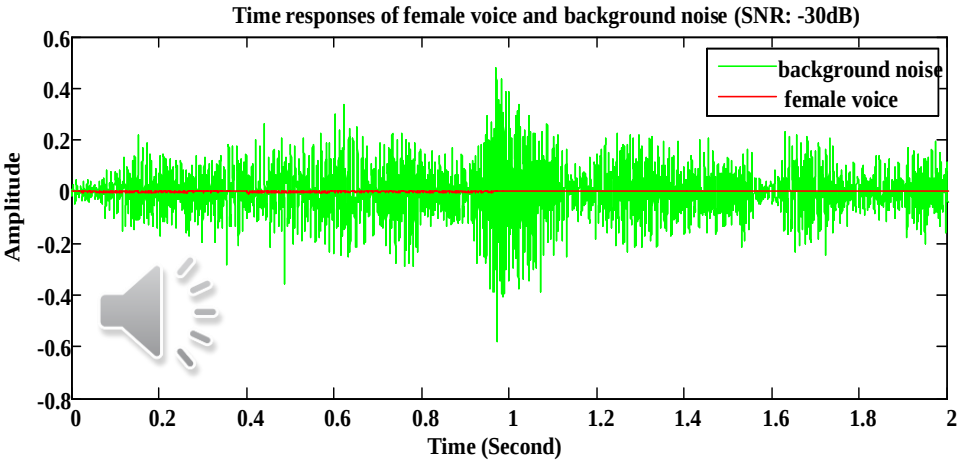
3) ***Post-test session:***
Random babble noise (128 trials)

Research Design









Results

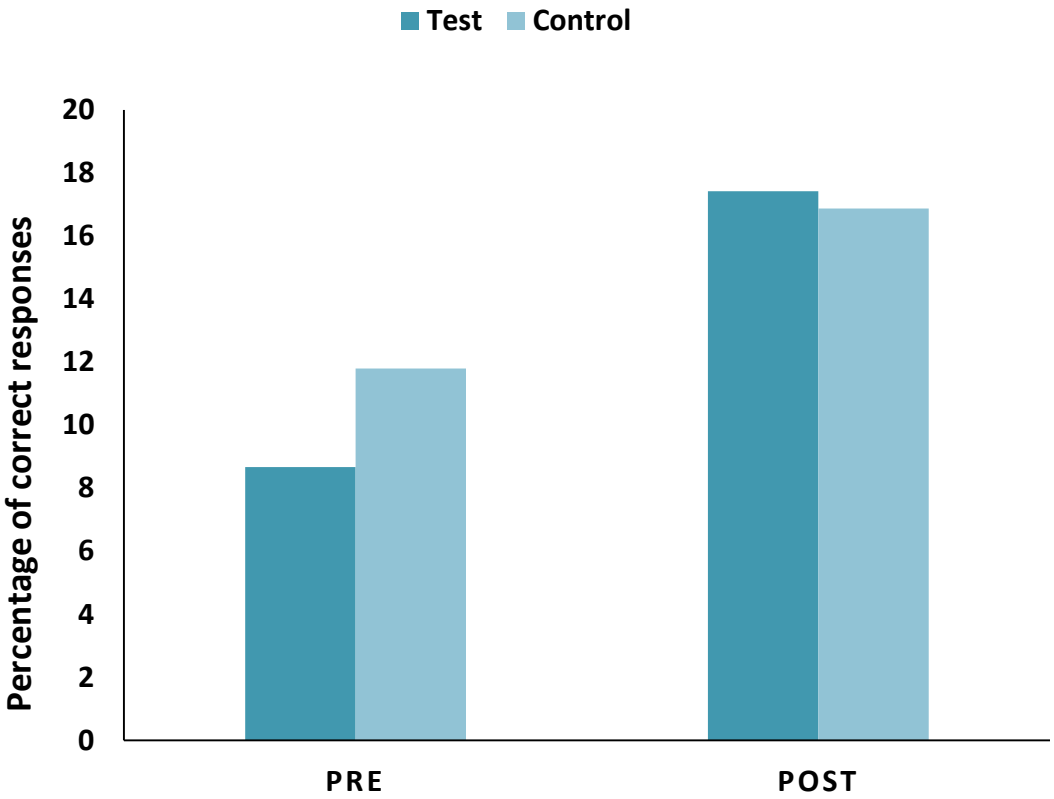


Fig1. Proportion of correct responses as a function of babble noise training (all the average across all the eight consonants/d,f,g,k,m,n,b,p/), plotted separately for each of fixed babble noise training group(n=10) and control group with out training (n=10).

Conclusions

- ✓ Improved identification performance for both groups.

- ✓ No generalization effect observed

Further Work

To investigate whether the same pattern that we've observed with nonsense syllables would also be obtained for real-life stimuli like words OR sentences

References

1. D. Moore, R. Shannon, Beyond cochlear implants: awakening the deafened brain. Nat Neurosci. vol.12(6), 2009, pp.686–691.

2. A. Schubö, F. Schlaghecken, & C. Meinecke, Learning to ignore the mask in texture segmentation tasks. Journal of Experimental Psychology: Human Perception and Performance, vol. 27, 2001,pp.919–931.

THANK YOU!
ANY QUESTIONS?