



# Auditory Training: an app with Noise

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## INTRODUCTION

Difficulty perceiving speech in noisy environments is one of the main hearing complaints, often due to hearing loss and/or auditory processing disorders. This complaint usually increases with aging, when the speed of cognitive processing decreases and/or hearing loss is present, increasing auditory effort in correct speech perception. Apps for mobile devices can offer opportunities for hearing self-care, with low investment and considering that access to smartphones and tablets is relatively easy nowadays. (Cruz & al., 2013; Henshaw & al., 2015)

## OBJECTIVE

The objective of this study was to verify if the training performed with the auditory training app developed by EVOLLU was effective in individuals between 14 and 77 years of age.

Evollu is a company that, together with the academy, is developing apps that can be used both for self-care and by the audiologist as a counseling aid or even as information collection tools.

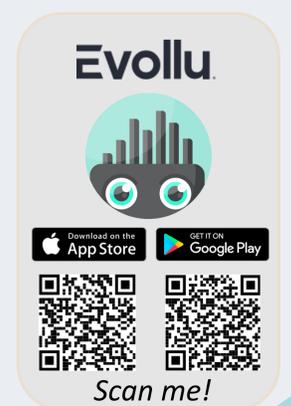


## METHODS

Conducting the filtered speech test in

- An training group (TG), before, immediately after, and after four weeks of auditory training performed with the app.
- And a control group (CG) in which the same tests were applied with an interval of four weeks.
- The two groups were matched according to age and educational level.

Scholarity /Age	4 years		5-6 years		7-9 years		9-12 years		BS		MD		PhD		
	TG	CG	TG	CG	TG	CG	TG	CG	TG	CG	TG	CG	TG	CG	
less 25					♀	♀	♂♂	♂♂							
25-54	♀	♀	♀	♀							♀	♀	♀	♂	
55-64	♀♀	♀♀			♀	♂	♀♀	♀♀							
Over 64	♀	♀													

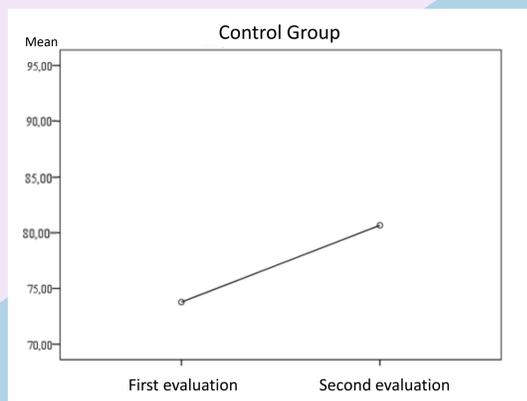
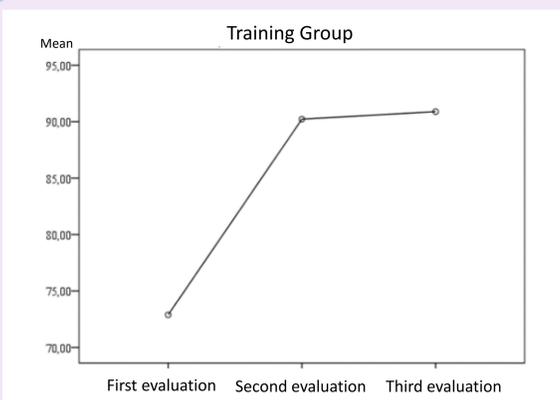


Training:

- The individual heard words or pseudowords with noise and after hearing each word, two options were presented that only varied between them in one phoneme, the individual chose the one he heard.
- Was performed twice a week for four weeks. Each time a level of the app was successfully completed, the noise intensity increased at the next level.



## RESULTS



Training Group:

- marked improvement in the filtered speech test ( $p < 0,05$ ), which was maintained after four weeks.

Control Group:

- improvement in the filtered speech test, perhaps due to the vacation that subjects took between assessments

## DISCUSSION

The EVOLLU ear training app:

- Promotes an improvement in speech perception in noisy environments that is maintained after the end of training sessions.
- This last fact confirms the day-to-day use of the skills developed with auditory training.
- Can be an important tool in improving speech perception in adverse environments, even in normal hearing people, regardless of the person's age and education level.
- May be an instrument that contributes to the deceleration of cognitive decline.

## REFERENCES

- Cruz, A. C. A., Andrade, A. N., & Gil, D. Effectiveness of formal auditory training in adults with auditory processing disorder. *Revista CEFAC*, 15(6), 1427-1434. 2013 DOI: 10.1590/S1516-18462013000600004
- Henshaw Helen, McCormack Abby, Ferguson Melanie. Intrinsic and extrinsic motivation is associated with computer-based auditory training uptake, engagement, and adherence for people with hearing loss. *Frontiers in Psychology*. VOL. 6: 2015. DOI 10.3389/fpsyg.2015.01067