

## Introduction

- Almost all modern hearing aids (HAs) have automatic systems (e.g. AutoSense Sky OS in Phonak), which can switch between omnidirectional microphones and directional microphones automatically as well as adjust the level of noise suppression based on scene analyses.
- Directional microphones can be useful in some of the many different acoustic environments to which children and adolescents are exposed, either at home, at school, or in social situations
- Phonak has developed an app specifically for children called myPhonak Junior to give users control over the level of the volume, microphone directionality (Speech focus) and noise reduction in their hearing aids (HAs).

## Objectives

Primary objective: To evaluate the impact on Speech intelligibility from changes children and teens (ages 7 – 17) make to the directionality and noise reduction features in myPhonak Junior app.

Secondary objectives: To gain knowledge regarding:

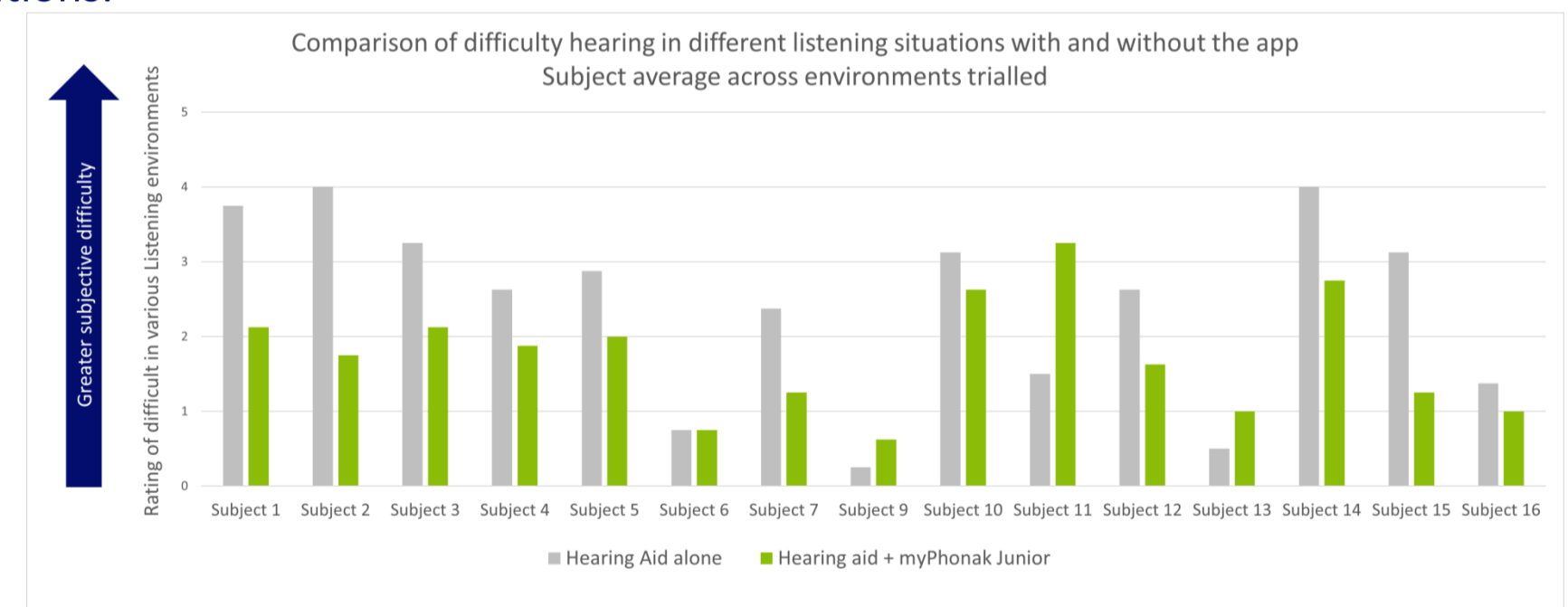
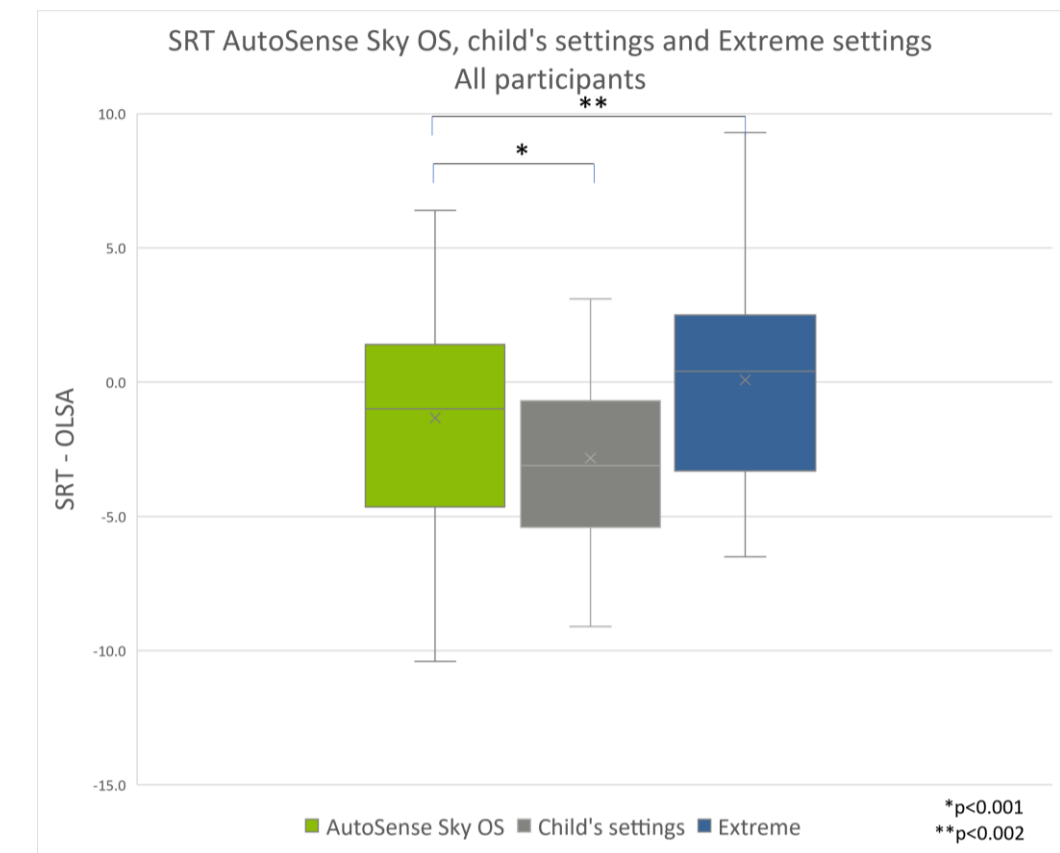
- The child's ability to understand and use the features provided in myPhonak Junior
- The child's perception of benefits of having access to these features following the home trial.

## Methods

- Randomized, non-blinded interventional study design, using a single group of subjects.
- Inclusion criteria:
  - Children in the range of 7-17 years (N=16)
  - Bilateral hearing loss of mild – severe degree
  - At least 6 months experience wearing hearing aids
- Study devices: Sky M90-M or Sky M90-SP paired with myPhonak Junior
- Study activities:
  - Instruction on how to use myPhonak Junior
  - SRT measured with OLSA in 65dBA diffuse cafeteria noise
  - Test conditions:
    - AutoSense Sky OS
    - Child's own settings
    - Extreme settings
  - EHAQ for child's subjective benefit of myPhonak Junior in 4 challenging listening environments

## Results

- Results show that Speech intelligibility is not compromised when children make adjustments to Noise Reduction and Speech Focus with myPhonak Junior.
- Speech intelligibility was degraded for the Extreme settings (maximum Noise Reduction, most open beamformer). However, children did not select these setting voluntarily, they only used them during the specific test.
- When the children were asked if they would ever use these settings 70% said 'No!', 30% said perhaps for some specific situations.



- Analysis of the EHAQ results showed that most children found understanding speech in challenging situations to be easier when changes were made via myPhonak Junior

## Conclusion

- Speech intelligibility is not compromised when children adjust Noise Reduction and Speech Focus via myPhonak Junior in challenging listening conditions.
- The children in the study were capable of using the app in the clinic, however children younger than 11 years needed support in real world environments.
- Independent use of myPhonak Junior was successful for children aged 11 years and older.
- Hearing aid settings via myPhonak Junior should not be adjusted by parents/caregivers without clear communication and feedback from the child.