ADVANCED BIONICS
POWERFUL CONNECTIONS

Real-world Hearing Experience and Usability of a New Sound Processor: A Multi-national Survey

Martina Brendel[1], Julie Steele[2], Bob Dwyer[2], Regina Baumgärtel[1], Erin Nelson-Bakkum[2], Smita Agrawal[2]
[1]Advanced Bionics GmbH, European Research Center, Hanover, Germany
[2]Advanced Bionics LLC, Valencia, California, USA

ABSTRACT

Introduction

The primary objective of this study was to gather subjective feedback on real-world hearing experience and usability of a new sound processor from CI recipients. A secondary objective was to investigate CI programing professionals' experience with fitting the new processor.

Methods

CI recipients who were either newly implanted and had at least 3 months of use experience with the new sound processor or those who had recently upgraded to the new sound processor participated in this ongoing survey. Respondents were adults as well as children (or their parents or care givers). These individuals as well participating CI professionals were located in ten countries (USA, Canada, Chile, United Kingdom, Spain, Italy, Germany, Belgium, Netherlands, and India). Three custom questionnaires were administered in country-specific languages via SurveyMonkey for the three groups (1) upgraded recipients, (2) experienced recipients, and (3) CI programming professionals.
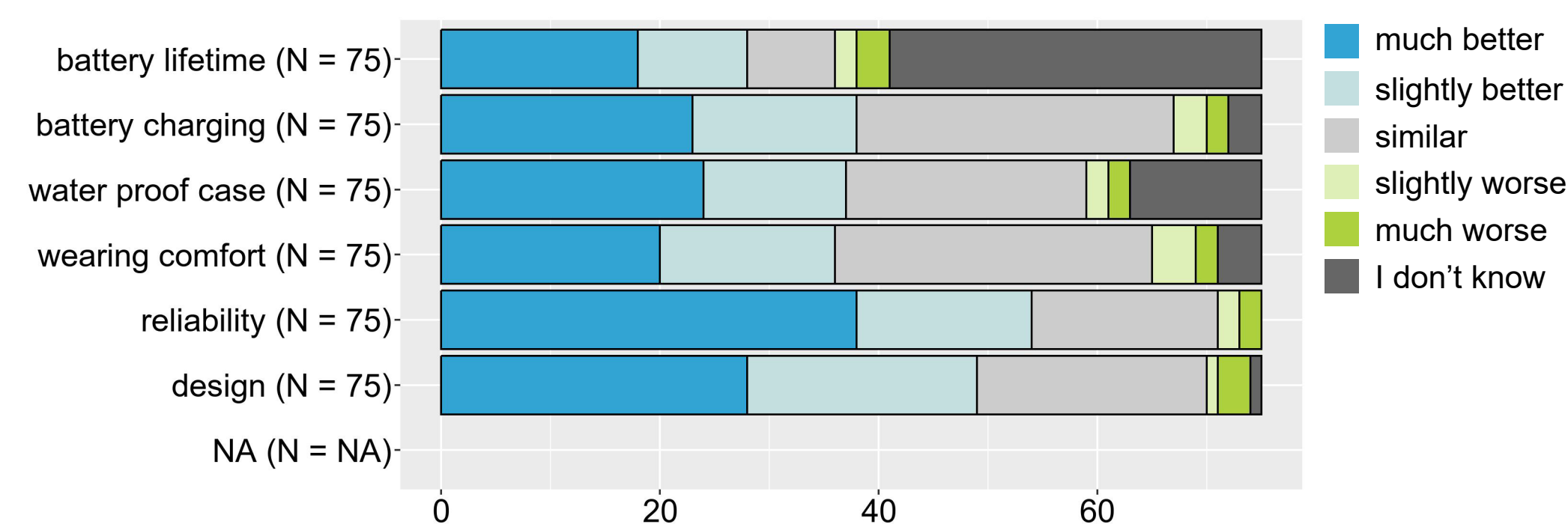
Results

Overall, recipients reported high levels of satisfaction regarding their hearing experience in quiet and in noise. The sound processor was reported to be easy to use by all ages of recipients and by professionals. The majority of experienced CI users rated the new processor as being similar or better than their previous processor in all areas surveyed. Positive ratings are observed for ease of use, comfort, and usefulness of the new functions and features of the Naída CI sound processor. Bluetooth streaming capability was well received and rated highly from speech understanding and perception of streamed media. The ability to wirelessly program the sound processor was the highest rated capability from the programming professionals' perspective.

Conclusion

The benefits of the new CI sound processor system were found meaningful and useful in real-world situations by CI recipients of all ages.
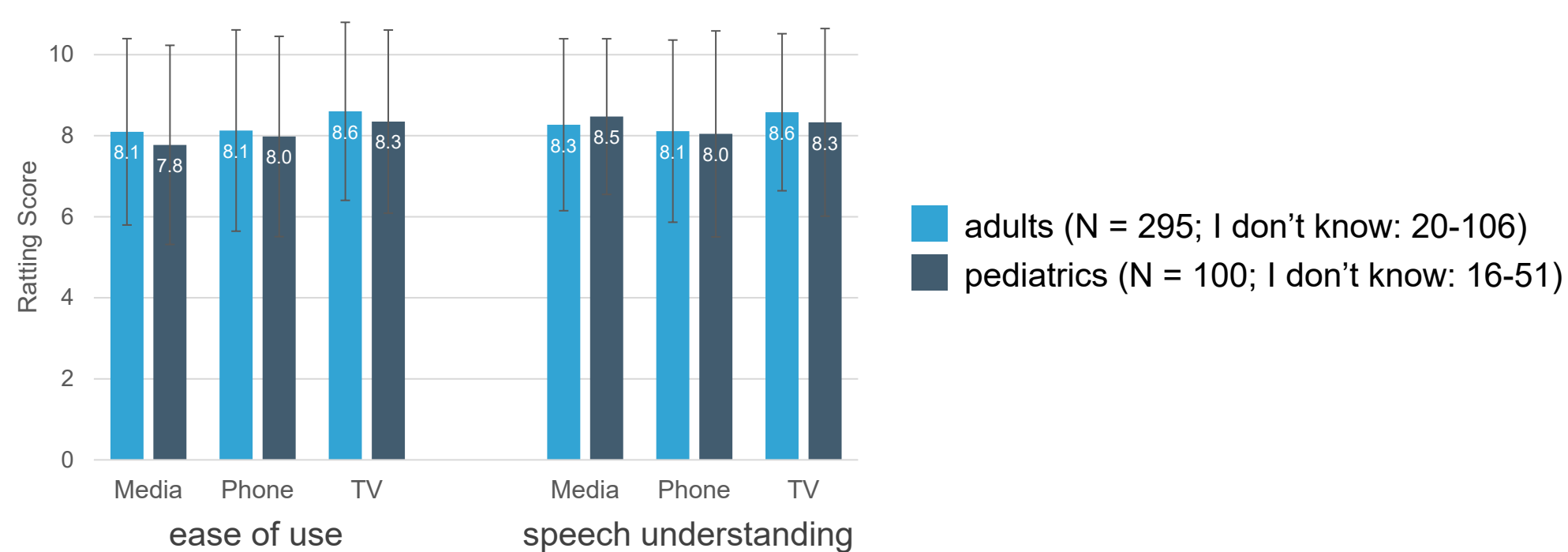
RESULTS | UPGRADED CI USERS

Question: How would you rate the following aspects for hearing with the new Marvel system compared to your previously used hearing system?

The comfort and aesthetics with the new Marvel were rated as significantly* better (p < 0.01) for all aspects compared to the previously used hearing system.
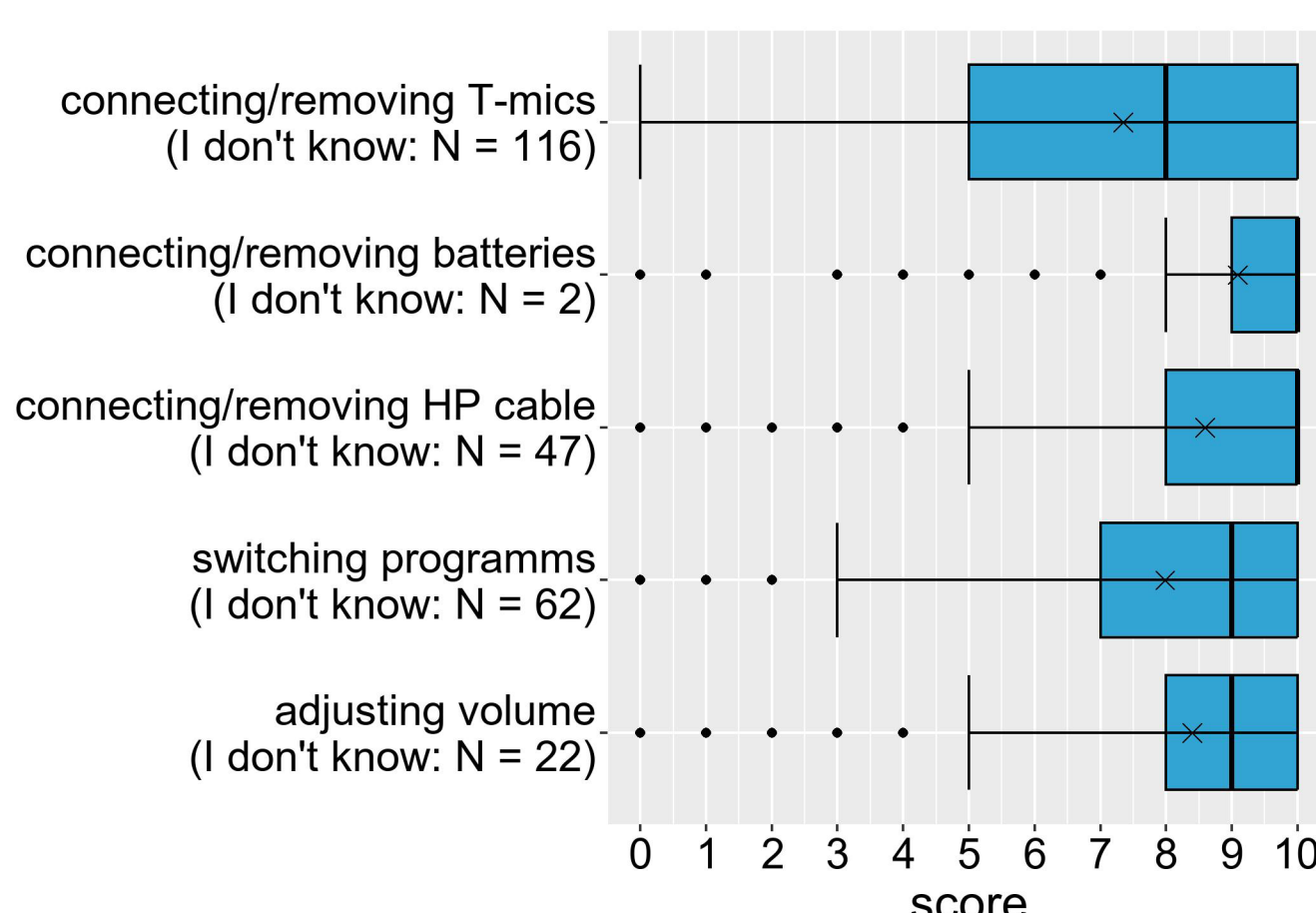* Wilcoxon one-sample signed-rank test

RESULTS | EXPERIENCED CI USERS

Question: How would you rate the Bluetooth streaming capabilities with the new Marvel system (0 = very poor, 10 = very good)?

The ease of use and speech understanding while using the Bluetooth streaming for media, phone calls and TV was rated very positively with average scores between 7.8 and 8.6 out of ten by adult and pediatric recipients, respectively.

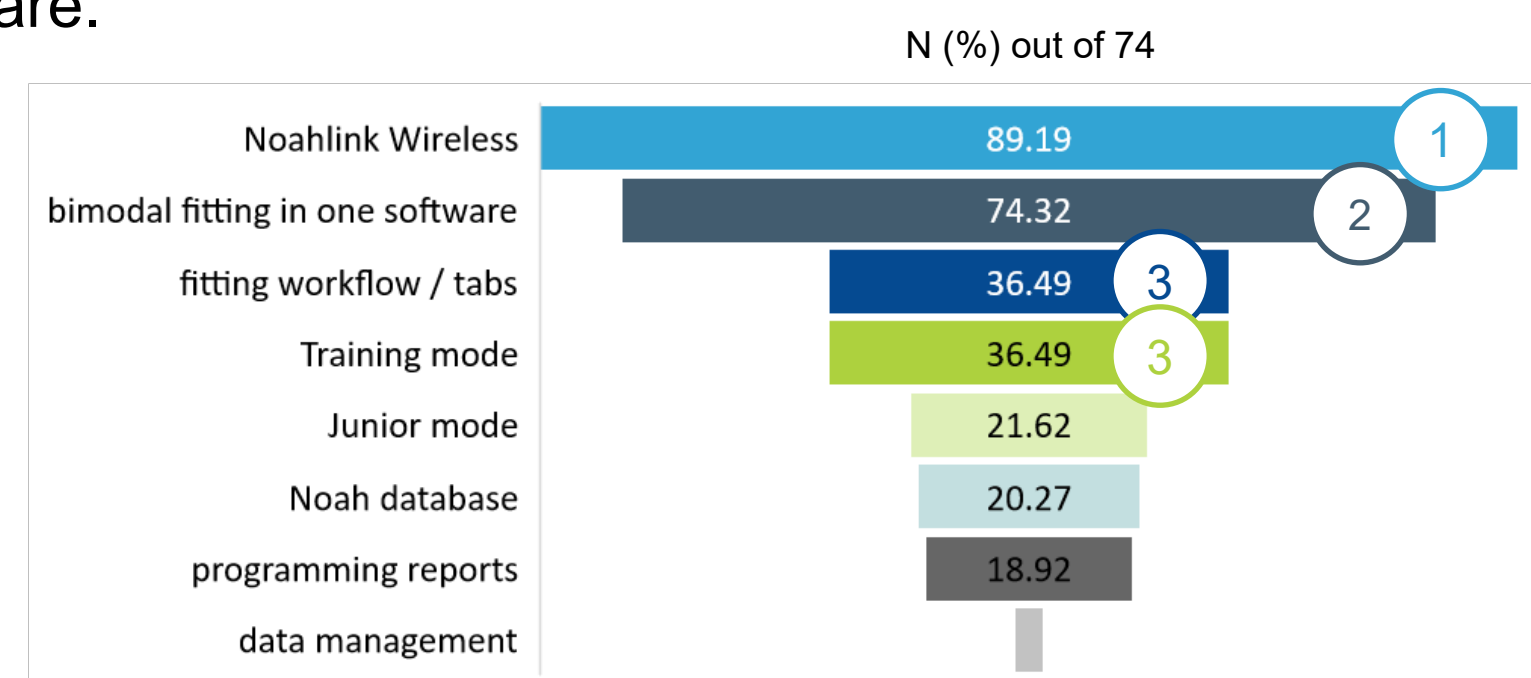**Question:** How do you rate the ease of use for the following aspects with the new Marvel system?

The ease of use and handling of the Marvel was rated very positively with a minimum median rating of eight out of ten.

Question: How do you rate your overall satisfaction with the new Marvel solution?

Overall, 347 subjects rated their satisfaction with the Marvel system with a median score of nine out of ten (I don't know: N = 3). The 100 pediatrics and teenagers scored similarly (I don't know: N = 2).
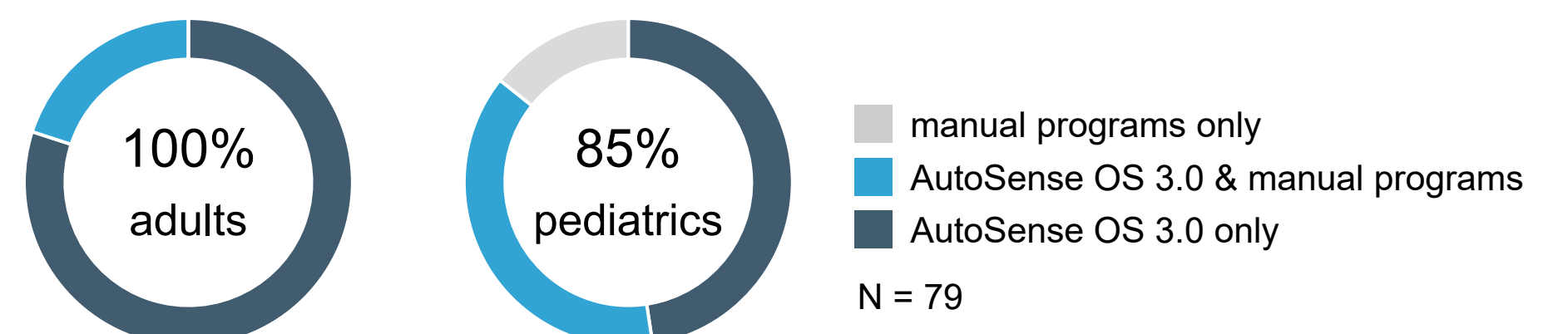
RESULTS | PROFESSIONALS

Question: Please select your top 3 features of the Target CI fitting software.

The favorite features of the professionals were the Noah Link wireless fitting interface (N = 66), the bimodal fitting process combined in one software (N = 55), the training mode, as well as the fitting workflow (N = 27).

Question: Which program types of the Marvel system do you usually fit?

The new automatic classification feature AutoSense OS 3.0 was used by the majority of professionals for adult (100%) and pediatric (85%) CI users. Nine professionals did not fit adults, sixteen did not fit pediatrics.

CONCLUSION

With up to three years of experience, cochlear implant users as well as professionals alike have found the Marvel hearing system to be beneficial, especially in terms of speech understanding in various environments and wireless connectivity for the fitting and for streaming of audio signals.

ACKNOWLEDGEMENT

MICHIGAN AUDIOLOGY COALITION

A Sonova brand

Advanced Bionics GmbH • European Research Center
Feodor-Lynen-Str. 35 • 30625 Hanover • Germany