

Speech-in-noise test scores

Establishing normative values for bone-conduction hearing instrument users (pilot study)

Aim

To establish normative values for speech-in-noise (SIN) tests across the GOSH bone-conduction (BC) hearing instrument population. Sample period: June – August 2025. Sample size: n=48.

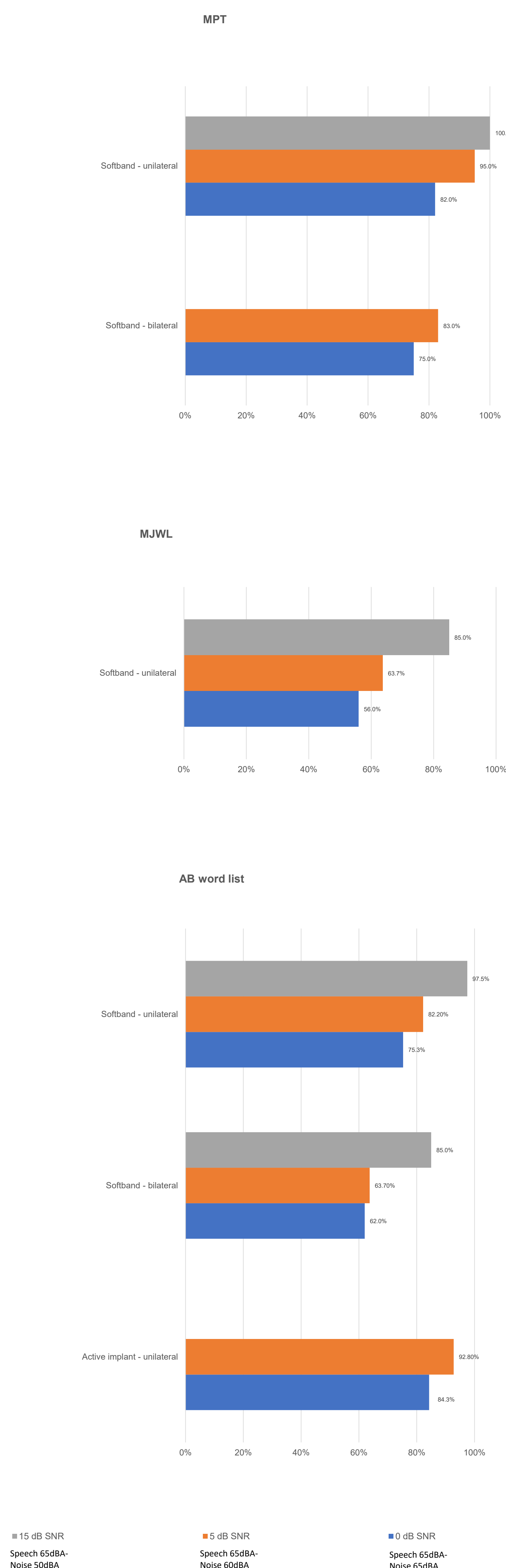
Inclusion Criteria

- Softband BC hearing instrument users
- Active transcutaneous BC hearing implant users
- SIN testing using:
 - AB Word List (AB)
 - Manchester Junior Word List (MJWL)
 - Manchester Picture Test (MPT)

Exclusion Criteria

- Hardband BC hearing instrument users
- Mixed hearing loss
- Single-sided deafness
- Bimodal users (e.g. AC and BC, softband and magnet)
- Inattention noted during testing

Results



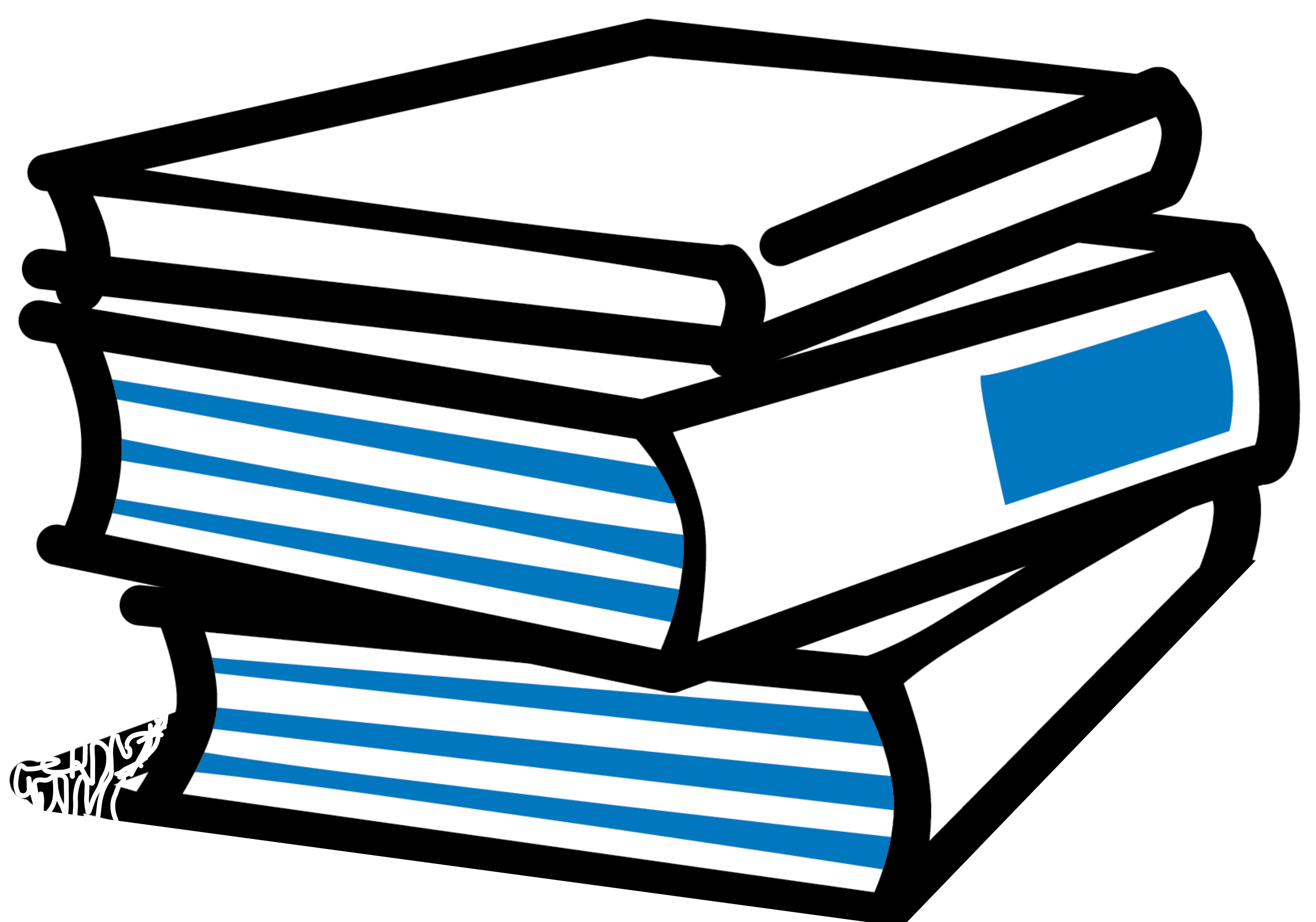
Discussion

Mean scores and standard deviation* were calculated to yield normative values. As expected, normative values decreased as signal-to-noise ratio increased, and normative values for implant users were superior to those for softband users.

Conclusion

Normative values were established for unilateral softband users across three SIN tests, under three test conditions. More limited norms were established for bilateral softband and implant users due to limitations of sample size and strict exclusion criteria. A larger sample size is required to establish higher quality norms for a more diverse range of users.

* SD values (top to bottom): 0, 12.0, 25.3, 0, 11.3, 10.0, 23.5, 18.1, 3.3, 15.9, 17.5, 10.5, 13.9, 7.1, 16.1, 16.0



References

Billings CJ, Olsen TM, Charney L, Madsen BM, Holmes CE. Speech-in-Noise Testing: An Introduction for Audiologists. Semin Hear. 2023 Sep 11;45(1):55-82. doi: 10.1055/s-0043-1770155. PMID: 38370518; PMCID: PMC10872656.

British Society of Audiology (BSA). (2019) *Practice Guidance: Assessment of speech understanding in noise in adults with hearing difficulties*. Available at: <https://www.thebsa.org.uk/wp-content/uploads/2023/10/OD104-80-BSA-Practice-Guidance-Speech-in-Noise-FINAL.Feb-2019.pdf> (Accessed: 15 September 2026).