Performance of children and adolescents on the French VRB (QuickSIN) sentence-in-noise test

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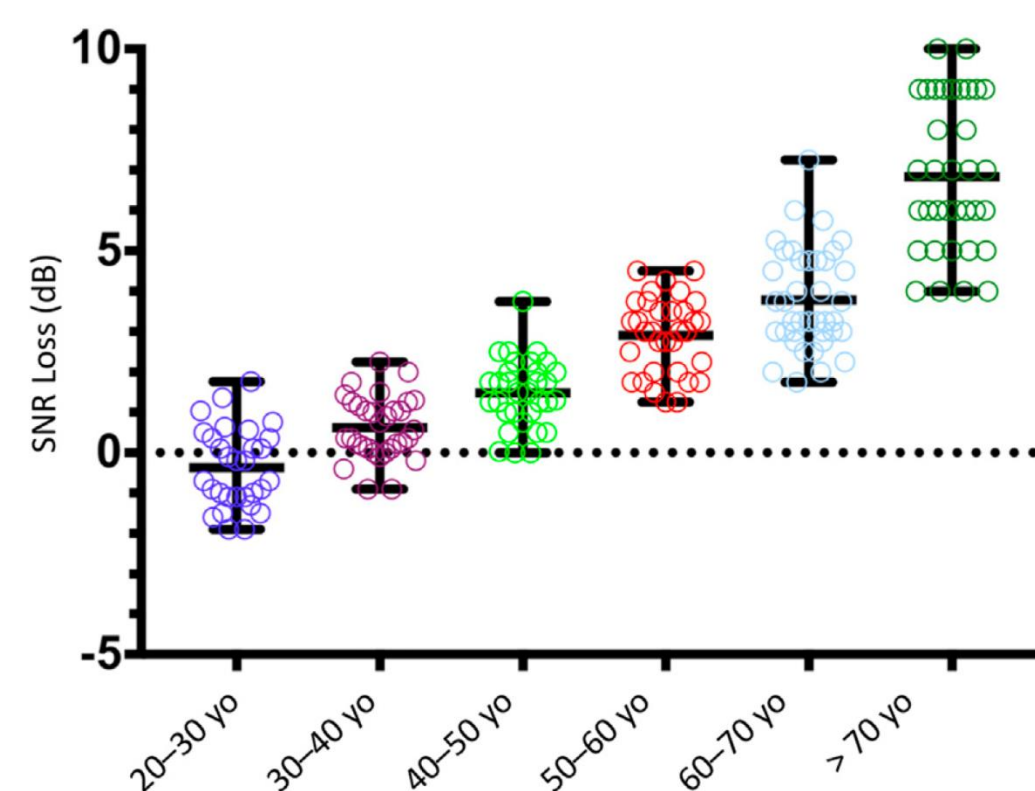[2]Archean Labs, Montauban, France

Abstract

The "Vocale Rapide dans le Bruit" (VRB) sentence-in-noise test:

- recently developed for the French language [1]
- uses a four-talker babble noise and aims at quantifying the SNR50

To date, reference scores were only collected in a normal-hearing **adult** population [2]:

However, *a different trend can be expected in children and adolescents,* whose speech-in-noise abilities tend to *develop* as a function of age [3,4]
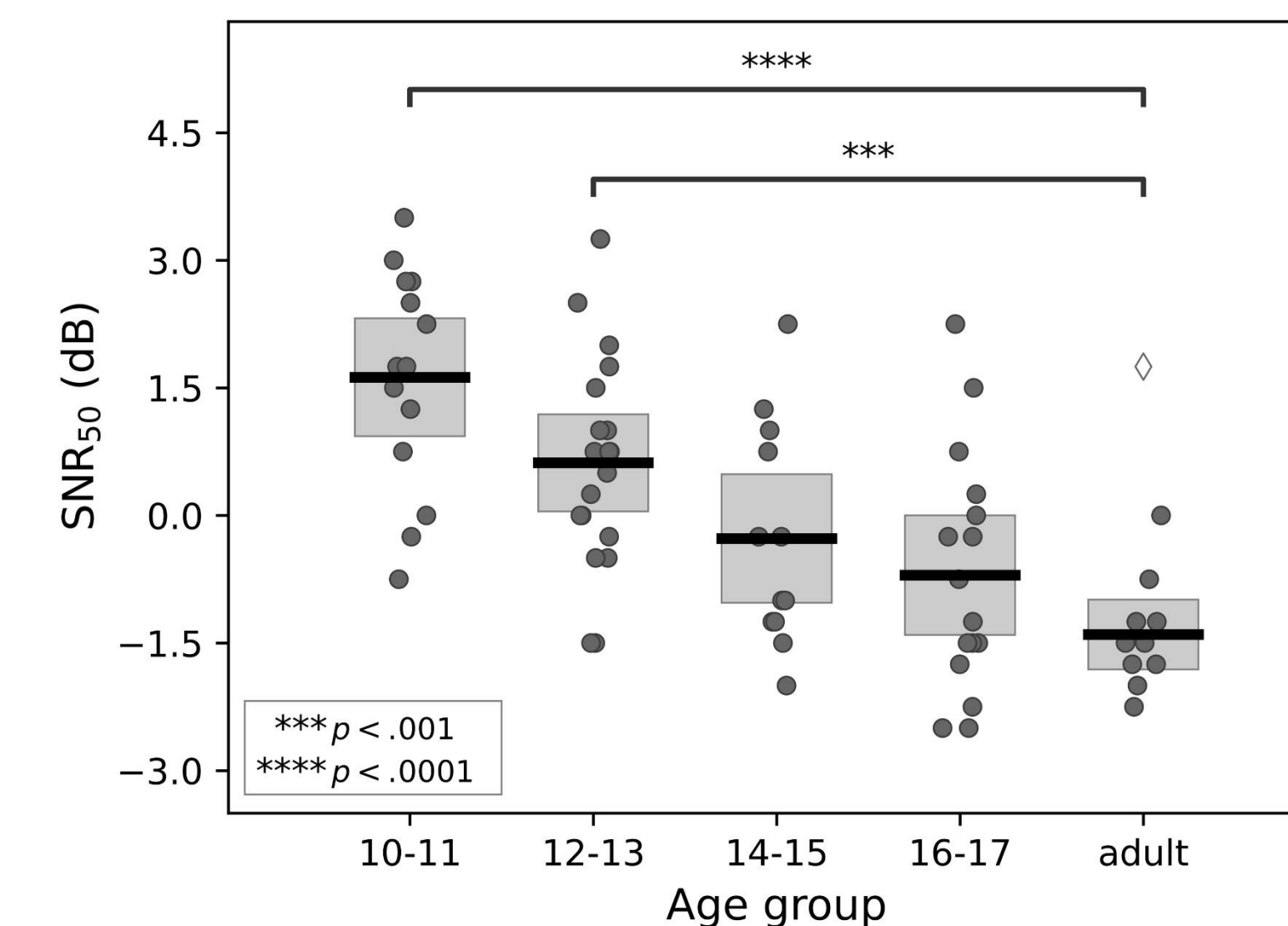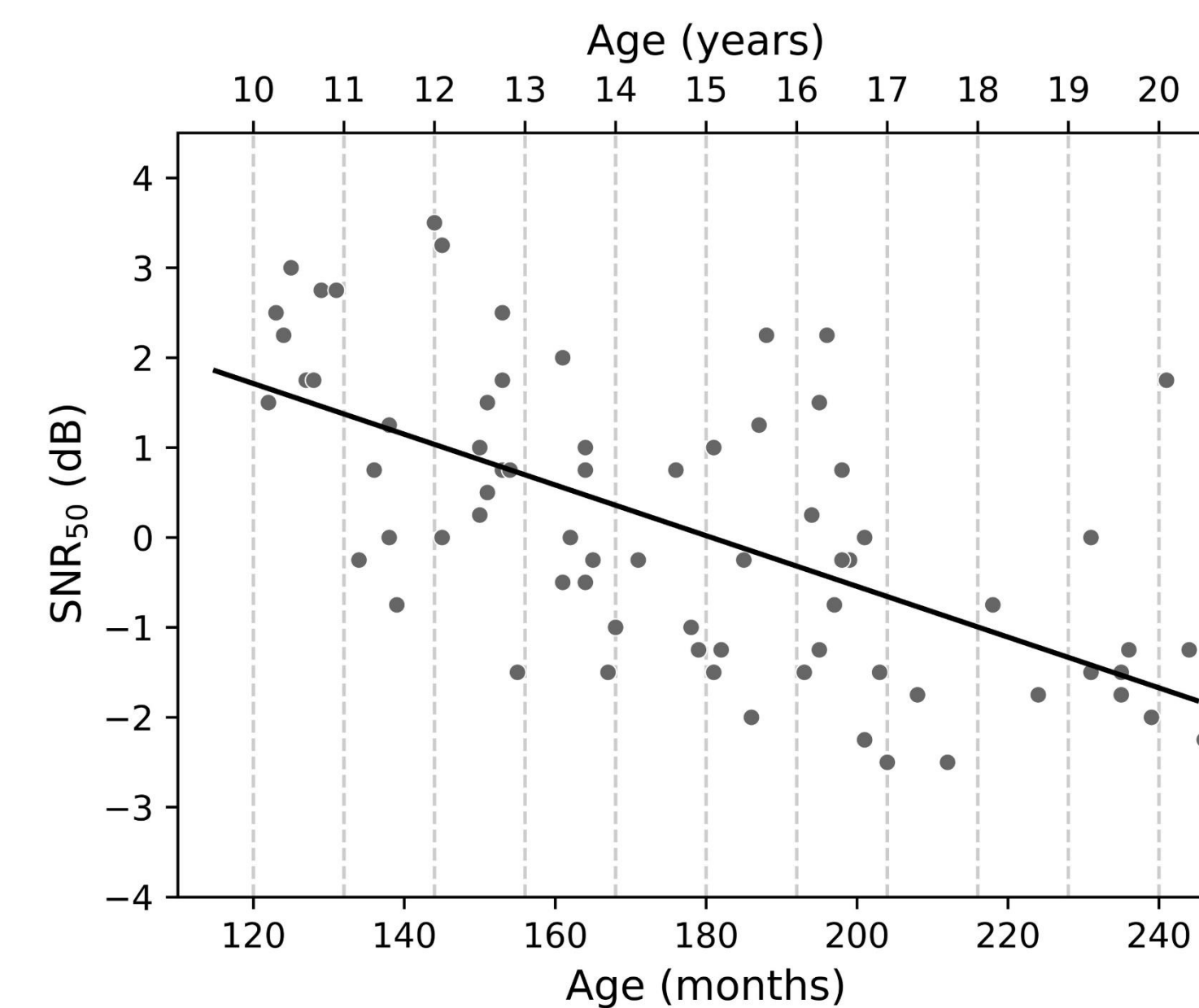
Results [5]

Objectives

The objective of this study was twofold:

1. collect reference SNR50 in normal-hearing children and adolescents,
2. verify that a similar pattern to that observed by Magimairaj et al. [3] and Holder et al. [4] could also be observed with the VRB test.

Conclusion

The study confirmed the existence of developmental effects for the VRB sentence-in-noise test and provides reference scores for clinical practitioners [5,6]:

Age (years)	10	11	12	13	14	15	16	17	18	19	20
Age (months)	120	132	144	156	168	180	192	204	216	228	240
SNR_{50} (dB SNR)	1.747	1.411	1.075	0.739	0.403	0.067	-0.269	-0.605	-0.941	-1.277	-1.613

Average results of the VRB test as a function of age

Materials & Methods

- Population: 72 normal-hearing participants (39 female) aged from 10 to 20 years (Mean: 14.75 years; SD: 2.92 years).
- Task: repeating five lists of sentences presented in a 4-talker background babble at 8 SNRs (3-dB steps). Speech was presented at 65 dB SPL in a speaker facing the participant, while babble was presented both in the front speaker and in four other speakers.

References

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