

**Supplemental Material S3.** Summary of mean thresholds, standard deviation, and *post-hoc* significance values for YNH, ONH, and OHL on the auditory perceptual, and cognitive tasks without excluding outliers. Significance values in bold indicate statistically significant differences between the groups as calculated by nonparametric Kruskal-Wallis test. Fw: Forward. Bw: Backward.

Measures		YNH	ONH	OHL	YNH-ONH	YNH-OHL	ONH-OHL
Perceptual	ANL (dB)	2.5 ± 4.3 <i>n</i> = 20	4.01 ± 8.7 <i>n</i> = 20	6.1 ± 5.8 <i>n</i> = 20	<i>p</i> = 1.0	<i>p</i> = .07	<i>p</i> = .15
	No-Notch (dB)	-1.3 ± 2.6 <i>n</i> = 20	0.7 ± 1.6 <i>n</i> = 20	0.5 ± 2.5 <i>n</i> = 20	<b><i>p</i> = .028</b>	<i>p</i> = .08	<i>p</i> = 1.0
	Notch (dB)	-12.1 ± 4.4 <i>n</i> = 20	-10.2 ± 2.7 <i>n</i> = 20	-6.3 ± 3.8 <i>n</i> = 20	<i>p</i> = 1.0	<b><i>p</i> &lt; .001</b>	<b><i>p</i> = .006</b>
	FSI (dB)	10.7 ± 4.7 <i>n</i> = 20	11.1 ± 3.1 <i>n</i> = 20	6.9 ± 2.7 <i>n</i> = 20	<i>p</i> = 1.0	<b><i>p</i> = .005</b>	<b><i>p</i> = .002</b>
	STM (dB)	2.8 ± 0.6 <i>n</i> = 20	3.5 ± 1.4 <i>n</i> = 20	3.9 ± 1.4 <i>n</i> = 20	<b><i>p</i> = .04</b>	<b><i>p</i> = .001</b>	<i>p</i> = .82
	Diotic FM (Hz)	5.2 ± 3.6 <i>n</i> = 20	7.7 ± 3.9 <i>n</i> = 20	7.8 ± 3.1 <i>n</i> = 20	<b><i>p</i> = .04</b>	<b><i>p</i> = .02</b>	<i>p</i> = 1.0
	Dichotic FM (Hz)	0.6 ± 0.5 <i>n</i> = 20	0.7 ± 0.7 <i>n</i> = 20	1.8 ± 2.2 <i>n</i> = 20	<i>p</i> = 1.0	<b><i>p</i> = .018</b>	<i>p</i> = .08
	Colocated SRM (dB)	2.9 ± 1.5 <i>n</i> = 20	3.8 ± 0.9 <i>n</i> = 20	3.8 ± 1.3 <i>n</i> = 20	<i>p</i> = .09	<i>p</i> = .16	<i>p</i> = 1.0
	Separated SRM (dB)	-4.8 ± 2.6 <i>n</i> = 20	0.3 ± 3.2 <i>n</i> = 20	2.7 ± 3.2 <i>n</i> = 20	<b><i>p</i> &lt; .001</b>	<b><i>p</i> &lt; .001</b>	<b><i>p</i> = .026</b>
	SRM (dB)	7.7 ± 2.9 <i>n</i> = 20	3.5 ± 3.2 <i>n</i> = 20	1.1 ± 3.9 <i>n</i> = 20	<b><i>p</i> = .002</b>	<b><i>p</i> &lt; .001</b>	<i>p</i> = .34
	MTGD (ms)	13.9 ± 5.5 <i>n</i> = 7	20.8 ± 11.1 <i>n</i> = 15	14.6 ± 3.6 <i>n</i> = 19	<i>p</i> = .25	<i>p</i> = 1.0	<i>p</i> = .81
Cognitive	UCMRT (#Hits)	13.4 ± 3.9 <i>n</i> = 20	9.3 ± 2.2 <i>n</i> = 20	7.3 ± 2.8 <i>n</i> = 20	<b><i>p</i> = .014</b>	<b><i>p</i> &lt; .001</b>	<i>p</i> = .15
	Corsi Fw (#Items)	7.0 ± 0.9 <i>n</i> = 20	5.8 ± 0.9 <i>n</i> = 20	5.7 ± 0.7 <i>n</i> = 20	<b><i>p</i> = .001</b>	<b><i>p</i> = .001</b>	<i>p</i> = 1.0
	Corsi Bw (#Items)	6.2 ± 1.1 <i>n</i> = 20	5.7 ± 0.9 <i>n</i> = 20	5.3 ± 0.9 <i>n</i> = 20	<i>p</i> = .57	<b><i>p</i> = .02</b>	<i>p</i> = .57