

TABLE B1. Results of statistical models assessing the variance in CNC word scores measured in three listening conditions that was explained by six eCAP metrics.

Listening condition	eCAP metric	Regression coefficient	T value	P value	FDR P value	R ²
						0.29
Quiet	ENI index	0.67	1.19	0.252	0.626	
	NA ratio	4.99	0.14	0.888	0.919	
	NA speed	0.24	1.00	0.330	0.626	
	AR ratio	-20.04	-0.61	0.551	0.767	
	AR speed	-0.37	-1.79	0.091	0.500	
	AM ratio	-19.56	-0.60	0.554	0.767	
						0.33
+10 dB SNR	ENI index	0.81	1.68	0.111	0.500	
	NA ratio	-6.93	-0.23	0.819	0.919	
	NA speed	0.22	1.08	0.294	0.626	
	AR ratio	3.31	0.12	0.908	0.919	
	AR speed	-0.27	-1.54	0.141	0.508	
	AM ratio	-24.53	-0.88	0.389	0.637	
						0.57
+5 dB SNR	ENI index	1.15	2.43	0.026	0.234	
	NA ratio	-4.29	-0.15	0.885	0.919	
	NA speed	0.28	1.42	0.173	0.519	
	AR ratio	2.84	0.10	0.919	0.919	
	AR speed	-0.56	-3.24	0.005	0.090	
	AM ratio	-26.16	-0.97	0.348	0.626	

eCAP, electrically evoked compound action potential; CNC, Consonant-Nucleus-Consonant; SNR, signal-to-noise ratio; ENI, electrode neuron interface; NA, neural adaptation; AR, adaptation recovery; AM, amplitude modulation; FDR, false discovery rate.

TABLE B2. Results of statistical models assessing the variance in AzBio sentence scores measured in three listening conditions that was explained by six eCAP metrics.

Listening condition	eCAP metric	Regression coefficient	T value	P value	FDR P value	R ²
						0.36
Quiet	ENI index	0.61	1.31	0.206	0.530	
	NA ratio	21.28	0.74	0.468	0.766	
	NA speed	0.23	1.20	0.247	0.556	
	AR ratio	-10.43	-0.39	0.705	0.977	
	AR speed	-0.32	-1.91	0.073	0.392	
	AM ratio	5.43	0.20	0.841	0.977	
						0.42
+10 dB SNR	ENI index	2.08	2.69	0.016	0.144	
	NA ratio	3.85	0.08	0.937	0.977	
	NA speed	0.511	1.59	0.131	0.393	
	AR ratio	-33.87	-0.75	0.463	0.766	
	AR speed	-0.22	-0.79	0.441	0.766	
	AM ratio	5.59	0.13	0.901	0.977	
						0.51
+5 dB SNR	ENI index	1.58	3.11	0.006	0.108	
	NA ratio	-1.46	-0.05	0.963	0.977	
	NA speed	0.36	1.69	0.109	0.392	
	AR ratio	-0.86	-0.03	0.977	0.977	
	AR speed	-0.33	-1.77	0.094	0.392	
	AM ratio	-2.24	-0.08	0.940	0.977	

eCAP, electrically evoked compound action potential; SNR, signal-to-noise ratio; ENI, electrode neuron interface; NA, neural adaptation; AR, adaptation recovery; AM, amplitude modulation; FDR, false discovery rate.