

Supplemental Material S6. Multivariable-adjusted associations of magnetic resonance imaging (MRI) measures with speech-in-noise performance considering cohort, ACHIEVE baseline (2018–20) and ARIC-NCS Visit 6/7 (2016–17/2018–19).

Worse MRI Measures, per SD ^a	Covariates + Cohort (N=586) ^b	
	Estimate (95% CI)	P-value
Brain Volumes		
Total brain	-0.01 (-0.93, 0.92)	0.99
Temporal lobe	-0.82 (-1.49, -0.16)	0.02
Frontal lobe	-0.31 (-1.00, 0.38)	0.38
Occipital lobe	-0.05 (-0.63, 0.53)	0.86
Parietal lobe	-0.16 (-0.85, 0.53)	0.64
Deep gray subcortical structures	-0.30 (-0.84, 0.25)	0.28
Fractional anisotropy	0.06 (-0.43, 0.55)	0.81
Mean diffusivity	-0.05 (-0.46, 0.35)	0.79
White matter hyperintensities volume	-0.27 (-0.67, 0.13)	0.18

Abbreviations: ACHIEVE: Aging and Cognitive Health Evaluation in Elders; ARIC-NCS: Atherosclerosis Risk in Communities Neurocognitive Study; CI: confidence interval; SD: standard deviation.

^a Multivariable-adjusted linear regression to estimate change in the quick speech-in-noise score associated with every SD worse in brain MRI measures.

^b Models adjusted for age, sex, race, field center, education, body mass index, smoking, hypertension, diabetes, stroke, intracranial volume, and cohort (ACHIEVE/ARIC-NCS).