Supplementary Information for

Birth weight is associated with brain tissue volumes seven decades later, but not with age-associated changes to brain structure

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Figure S1

Table S1. Associations between birth weight and the ratio of global brain volumetric MRI measures as a proportion of intracranial volume, correcting for age and sex

	β	p
TB/icv	0.006	0.937
GM/icv	-0.074	0.379
NAWM/icv	0.149	0.080
WMH/icv	-0.094	0.273

Note. Standardised regression coefficients between birth weight and volumetric MRI measures expressed as a ratio with ICV. Bold typeface denotes FDR $q < 0.05$. TB: total brain volume; GM: grey matter volume; NAWM: normal appearing white matter volume; WMH: white matter hyperintensity volume.

Table S2. Associations between birth weight and volumetric MRI measures correcting for age, sex, cardiovascular risk factors and cardiovascular disease history.

	β	*p*
TB	**0.245**	**0.002**
GM	**0.182**	**0.019**
NAWM	**0.268**	**<0.001**
WMH	-0.035	0.701
gFA	-0.053	0.547
PSMD	-0.016	0.850

Note. Standardised regression coefficients between birth weight and volumetric/white matter microstructure MRI measures. Bold typeface denotes FDR $q < 0.05$. TB: total brain volume; GM: grey matter volume; NAWM: normal appearing white matter volume; WMH: white matter hyperintensity volume; gFA: general factor of fractional anisotropy; PSMD: peak width skeletonised mean diffusivity.

Table S3. Associations between birth weight and volumetric MRI measures correcting for age, sex, cardiovascular risk factors and cardiovascular disease and stroke history.

	β	*p*
TB	**0.233**	**0.004**
GM	0.172	0.031
NAWM	**0.262**	**0.001**
WMH	-0.049	0.598
gFA	-0.060	0.503
PSMD	0.010	0.910

Note. Standardised regression coefficients between birth weight and volumetric/white matter microstructure MRI measures. Bold typeface denotes FDR $q < 0.05$. TB: total brain volume; GM: grey matter volume; NAWM: normal appearing white matter volume; WMH: white matter hyperintensity volume; gFA: general factor of fractional anisotropy; PSMD: peak width skeletonised mean diffusivity.

Table S4. Tract loadings on general factor of fractional anisotropy

Tract	Standardised loadings.
Splenium	0.425
Genu	0.624
LArc	0.613
RArc	0.606
LATR	0.600
RATR	0.585
LCing	0.520
RCing	0.530
LUnc	0.634
RUnc	0.661
LILF	0.437
RILF	0.416

Note. the genu and splenium of the corpus callosum, LArc – Left arcuate, RArc – right arcuate, LATR – left anterior thalamic radiation, RATR – right anterior thalamic radiation, LCing – Left cingulum bundle, RCing – Right cingulum bundle, LUnc – left uncinate, RUnc – right uncinate, LILF – left inferior longitudinal fasciculus, RILF – right inferior longitudinal fasciculus.

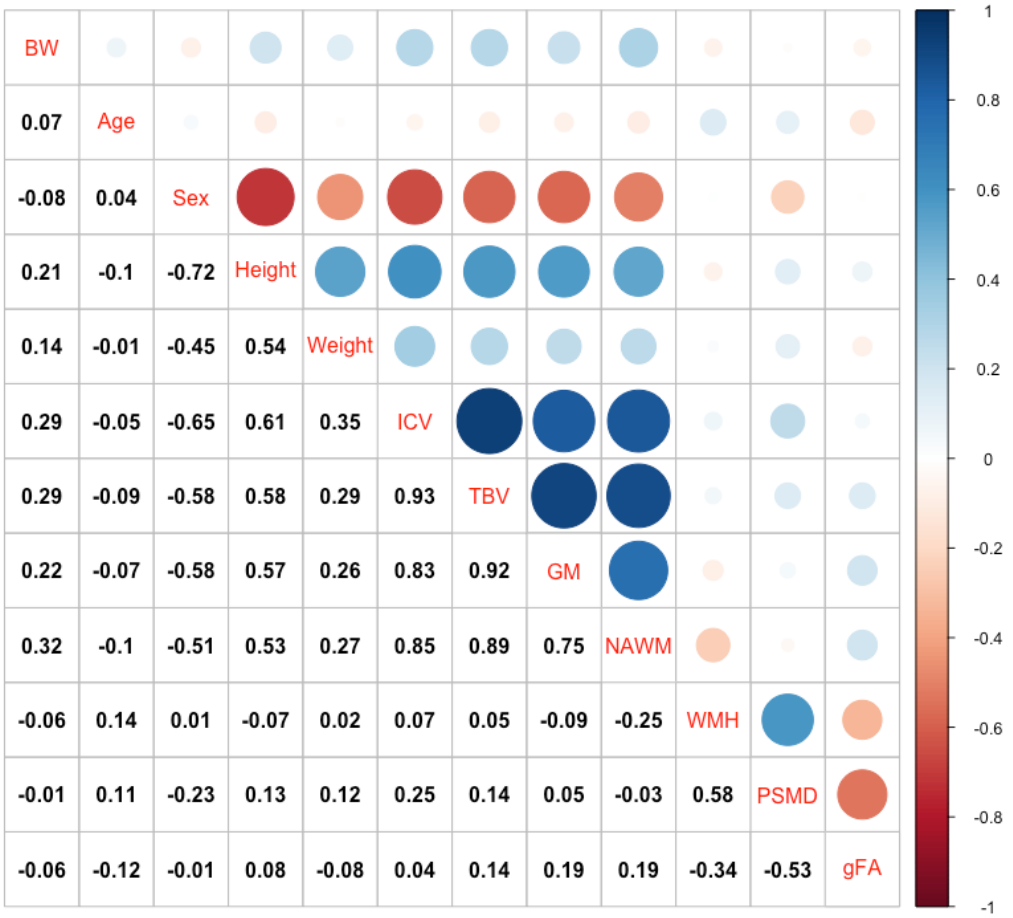

Figure S1. Correlation matrix showing Pearson's r correlations between brain MRI features and birth weight, age at MRI, sex, height and weight.

Note BW: birth weight; ICV: intracranial volume; TBV: total brain volume; GM: grey matter volume; NAWM: normal appearing white matter; WMH: white matter hyperintensity volume; PSMD: peak width skeletonized mean diffusivity; gFA: general factor of fractional anisotropy.