

**Supplemental Digital Content 1.** The equations used to plot the curves for T1 values (ms)

	T1	SD of 1st coefficient	SD of 2nd coefficient	SD of 3rd coefficient	Adjusted R <sup>2</sup> (R <sup>2</sup> )
Cortical GM					
Frontal GM	$0.231 \times \text{age}^2 - 20.6 \times \text{age} + 1650$	0.029	3.1	73	0.50 (0.51)
Parietal GM	$0.235 \times \text{age}^2 - 20.6 \times \text{age} + 1650$	0.038	3.5	85	0.46 (0.47)
Temporal GM	$0.236 \times \text{age}^2 - 20.3 \times \text{age} + 1690$	0.033	3.5	83	0.49 (0.50)
Occipital GM	$0.221 \times \text{age}^2 - 19.0 \times \text{age} + 1620$	0.035	3.7	88	0.43 (0.44)
Insula	$0.315 \times \text{age}^2 - 28.1 \times \text{age} + 1810$	0.043	4.5	109	0.45 (0.46)
WM					
Frontal WM	$0.0663 \times \text{age}^2 - 4.87 \times \text{age} + 818$	0.0093	0.98	23	0.67 (0.68)
Parietal WM	$0.0514 \times \text{age}^2 - 3.75 \times \text{age} + 801$	0.0084	0.88	21	0.61 (0.62)
Temporal WM	$0.0704 \times \text{age}^2 - 5.50 \times \text{age} + 828$	0.0098	1.03	25	0.62 (0.63)
Occipital WM	$0.0399 \times \text{age}^2 - 2.90 \times \text{age} + 818$	0.0080	0.84	20	0.51 (0.52)
Genu	$0.0504 \times \text{age}^2 - 3.58 \times \text{age} + 703$	0.0082	0.86	21	0.64 (0.65)
Splenium	$0.0371 \times \text{age}^2 - 2.81 \times \text{age} + 726$	0.0080	0.83	20	0.44 (0.45)
Internal Capsule	$0.0591 \times \text{age}^2 - 4.43 \times \text{age} + 800$	0.0087	0.91	22	0.64 (0.64)
Middle Cerebellar Peduncle	$0.0186 \times \text{age}^2 - 1.24 \times \text{age} + 826$	0.0091	0.96	23	0.18 (0.20)
Subcortical GM					
Caudate	$0.100 \times \text{age}^2 - 9.32 \times \text{age} + 1250$	0.013	1.33	32	0.44 (0.45)
Putamen	$0.0587 \times \text{age}^2 - 5.03 \times \text{age} + 1100$	0.0115	1.21	29	0.34 (0.35)
Thalamus	$0.0446 \times \text{age}^2 - 3.52 \times \text{age} + 979$	0.0100	1.04	25	0.37 (0.38)

Abbreviations: GM, gray matter; SD; standard deviation; WM, white matter. Note—The 1st coefficient is for age<sup>2</sup>; the 2nd coefficient is for age; and the 3rd coefficient is the Y-intercept. The adjusted R<sup>2</sup> is a modified version of R<sup>2</sup> that has been adjusted for the number of independent variables in the model.

**Supplemental Digital Content 2.** The equations used to plot the curves for T2 values (ms)

	T2	SD of 1st coefficient	SD of 2nd coefficient	SD of 3rd coefficient	Adjusted R <sup>2</sup> (R <sup>2</sup> )
Cortical GM					
Frontal GM	$0.0122 \times \text{age}^2 - 1.11 \times \text{age} + 96.8$	0.0016	0.17	4.0	0.45 (0.46)
Parietal GM	$0.0131 \times \text{age}^2 - 1.17 \times \text{age} + 95.9$	0.0018	0.19	4.6	0.46 (0.47)
Temporal GM	$0.0128 \times \text{age}^2 - 1.16 \times \text{age} + 100$	0.0017	0.18	4	0.45 (0.46)
Occipital GM	$0.0124 \times \text{age}^2 - 1.10 \times \text{age} + 92.5$	0.0018	0.19	4.5	0.44 (0.45)
Insula	$0.0263 \times \text{age}^2 - 2.42 \times \text{age} + 125$	0.0041	0.43	10	0.35 (0.36)
WM					
Frontal WM	$0.0034 \times \text{age}^2 - 2.53 \times \text{age} + 68.9$	0.0006	0.06	1.4	0.58 (0.59)
Parietal WM	$0.0024 \times \text{age}^2 - 0.185 \times \text{age} + 70.2$	0.0005	0.053	1.3	0.42 (0.43)
Temporal WM	$0.0039 \times \text{age}^2 - 0.333 \times \text{age} + 70.1$	0.0006	0.059	1.4	0.49 (0.50)
Occipital WM	$0.0016 \times \text{age}^2 - 0.134 \times \text{age} + 70.5$	0.0005	0.048	1.1	0.20 (0.21)
Genu	$0.0032 \times \text{age}^2 - 0.223 \times \text{age} + 63.0$	0.0006	0.061	1.5	0.61 (0.61)
Splenium	$0.0016 \times \text{age}^2 - 0.118 \times \text{age} + 66.6$	0.0005	0.053	1.3	0.27 (0.28)
Internal Capsule	$0.0033 \times \text{age}^2 - 0.275 \times \text{age} + 67.7$	0.0005	0.057	1.4	0.47 (0.48)
Middle Cerebellar Peduncle	$0.0010 \times \text{age}^2 - 0.076 \times \text{age} + 70.4$	0.0005	0.049	1.2	0.16 (0.18)
Subcortical GM					
Caudate	$0.0070 \times \text{age}^2 - 0.629 \times \text{age} + 76.6$	0.0010	0.106	2.5	0.42 (0.43)
Putamen	$0.0043 \times \text{age}^2 - 0.446 \times \text{age} + 68.1$	0.0009	0.097	2.3	0.15 (0.16)
Thalamus	$0.0037 \times \text{age}^2 - 0.257 \times \text{age} + 66.4$	0.0006	0.059	1.4	0.69 (0.70)

Abbreviations: GM, gray matter; SD; standard deviation; WM, white matter. Note—The 1st coefficient is for age<sup>2</sup>; the 2nd coefficient is for age; and the 3rd coefficient is the Y-intercept. The adjusted R<sup>2</sup> is a modified version of R<sup>2</sup> that has been adjusted for the number of independent variables in the model.

**Supplemental Digital Content 3.** The equations used to plot the curves for PD values (pu)

	PD	SD of 1st coefficient	SD of 2nd coefficient	SD of 3rd coefficient	Adjusted R <sup>2</sup> (R <sup>2</sup> )
Cortical GM					
Frontal GM	$0.0023 \times \text{age}^2 - 0.256 \times \text{age} + 88.0$	0.0003	0.032	0.8	0.38 (0.39)
Parietal GM	$0.0013 \times \text{age}^2 - 0.155 \times \text{age} + 86.7$	0.0003	0.031	0.8	0.28 (0.29)
Temporal GM	$0.0013 \times \text{age}^2 - 0.135 \times \text{age} + 87.4$	0.0003	0.027	0.7	0.17 (0.18)
Occipital GM	$0.00073 \times \text{age}^2 - 0.093 \times \text{age} + 85.3$	0.0003	0.033	0.8	0.12 (0.45)
Insula	$0.00056 \times \text{age}^2 - 0.057 \times \text{age} + 84.4$	0.0003	0.030	0.7	0.017 (0.034)
WM					
Frontal WM	$0.0022 \times \text{age}^2 - 0.144 \times \text{age} + 66.4$	0.0004	0.042	1.0	0.63 (0.64)
Parietal WM	$0.0016 \times \text{age}^2 - 0.104 \times \text{age} + 65.7$	0.0004	0.038	0.9	0.54 (0.55)
Temporal WM	$0.0023 \times \text{age}^2 - 0.166 \times \text{age} + 66.8$	0.0004	0.045	1.1	0.55 (0.56)
Occipital WM	$0.0015 \times \text{age}^2 - 0.102 \times \text{age} + 66.3$	0.0003	0.035	0.8	0.49 (0.50)
Genu	$0.0017 \times \text{age}^2 - 0.115 \times \text{age} + 61.4$	0.0004	0.049	1.2	0.43 (0.44)
Splenium	$0.0013 \times \text{age}^2 - 0.107 \times \text{age} + 62.5$	0.0004	0.044	1.1	0.22 (0.23)
Internal Capsule	$0.0015 \times \text{age}^2 - 0.108 \times \text{age} + 65.2$	0.0004	0.045	1.1	0.38 (0.39)
Middle Cerebellar Peduncle	$0.00034 \times \text{age}^2 - 0.028 \times \text{age} + 67.8$	0.0004	0.044	1.1	-0.003 (0.015)
Subcortical GM					
Caudate	$0.0022 \times \text{age}^2 - 0.247 \times \text{age} + 85.6$	0.0006	0.061	1.5	0.137 (0.152)
Putamen	$0.0016 \times \text{age}^2 - 0.154 \times \text{age} + 82.8$	0.0005	0.050	1.2	0.100 (0.116)
Thalamus	$0.00066 \times \text{age}^2 - 0.065 \times \text{age} + 75.8$	0.0004	0.045	1.1	0.005 (0.02)

Abbreviations: GM, gray matter; SD; standard deviation; WM, white matter. Note—The 1st coefficient is for age<sup>2</sup>; the 2nd coefficient is for age; and the 3rd coefficient is the Y-intercept. The adjusted R<sup>2</sup> is a modified version of R<sup>2</sup> that has been adjusted for the number of independent variables in the model.

**Supplemental Digital Content 4.** The equations used to plot the curves for MVF values (%)

	MVF	SD of 1st coefficient	SD of 2nd coefficient	SD of 3rd coefficient	Adjusted R <sup>2</sup> (R <sup>2</sup> )
Cortical GM					
Frontal GM	$-0.0031 \times \text{age}^2 + 0.283 \times \text{age} + 2.3$	0.0003	0.039	0.9	0.49 (0.50)
Parietal GM	$-0.0020 \times \text{age}^2 + 0.179 \times \text{age} + 3.5$	0.0003	0.034	0.8	0.36 (0.37)
Temporal GM	$-0.0015 \times \text{age}^2 + 0.118 \times \text{age} + 4.3$	0.0003	0.003	0.7	0.44 (0.45)
Occipital GM	$-0.00048 \times \text{age}^2 + 0.036 \times \text{age} + 6.2$	0.0003	0.037	0.9	0.057 (0.074)
Insula	$-0.0024 \times \text{age}^2 + 0.195 \times \text{age} + 3.0$	0.0003	0.032	0.8	0.60 (0.61)
WM					
Frontal WM	$-0.0032 \times \text{age}^2 + 0.215 \times \text{age} + 29.1$	0.0006	0.064	1.5	0.63 (0.63)
Parietal WM	$-0.0023 \times \text{age}^2 + 0.154 \times \text{age} + 30.2$	0.0005	0.056	1.4	0.53 (0.54)
Temporal WM	$-0.0035 \times \text{age}^2 + 0.253 \times \text{age} + 28.4$	0.0006	0.066	1.6	0.56 (0.57)
Occipital WM	$-0.0022 \times \text{age}^2 + 0.151 \times \text{age} + 29.4$	0.0005	0.053	1.3	0.48 (0.49)
Genu	$-0.0028 \times \text{age}^2 + 0.187 \times \text{age} + 36.3$	0.0007	0.073	1.8	0.46 (0.47)
Splenium	$-0.0022 \times \text{age}^2 + 0.175 \times \text{age} + 34.9$	0.0006	0.066	1.6	0.26 (0.27)
Internal Capsule	$-0.0025 \times \text{age}^2 + 0.176 \times \text{age} + 30.8$	0.0006	0.067	1.6	0.39 (0.40)
Middle Cerebellar Peduncle	$-0.00038 \times \text{age}^2 + 0.031 \times \text{age} + 27.5$	0.0006	0.065	1.6	-0.008 (0.01)
Subcortical GM					
Caudate	$-0.0030 \times \text{age}^2 + 0.322 \times \text{age} + 3.0$	0.0007	0.072	1.7	0.14 (0.16)
Putamen	$-0.0018 \times \text{age}^2 + 0.179 \times \text{age} + 6.6$	0.0006	0.058	1.4	0.07 (0.08)
Thalamus	$-0.0010 \times \text{age}^2 + 0.083 \times \text{age} + 16.2$	0.0006	0.065	1.6	0.003 (0.05)

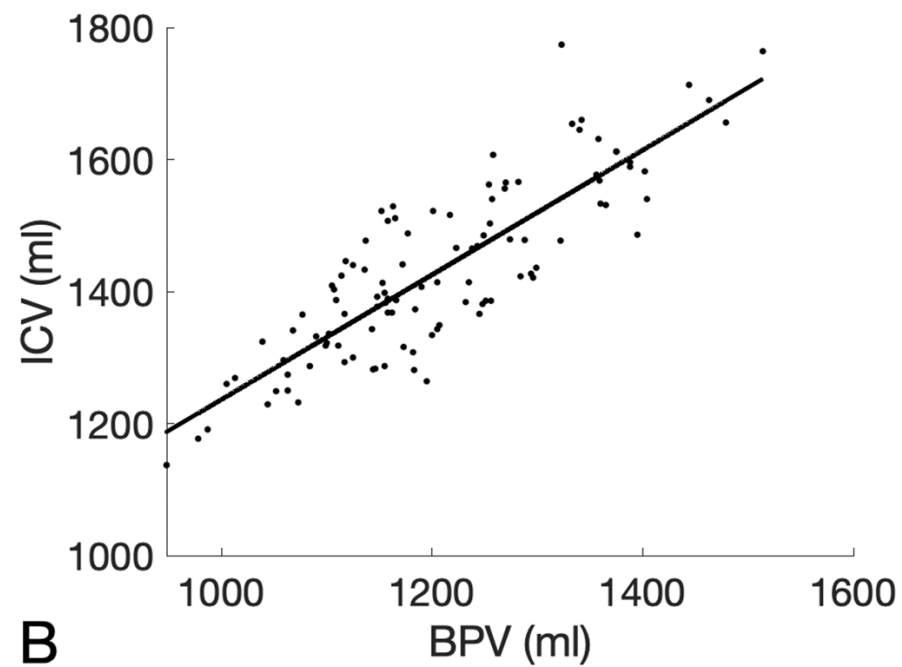
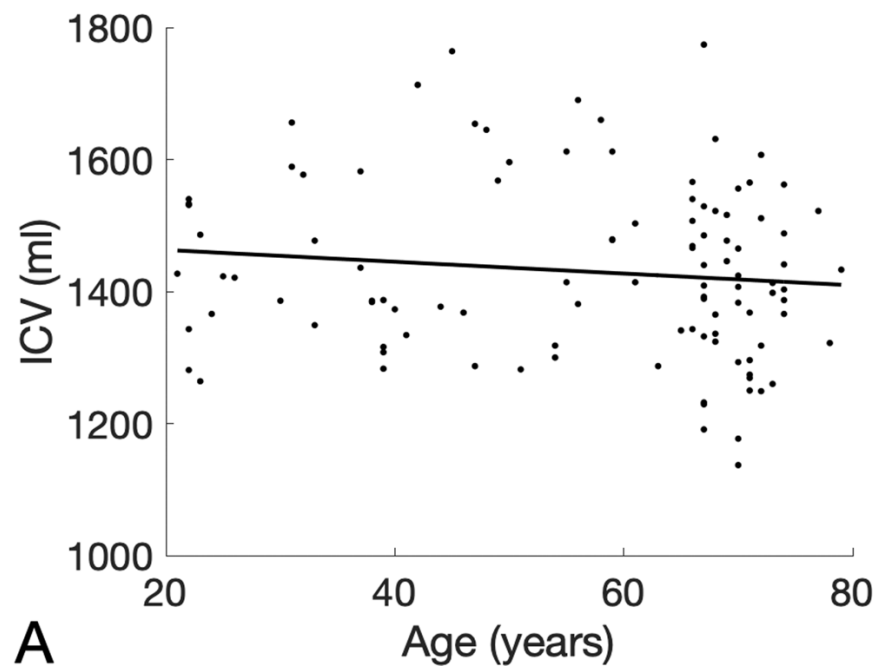
Abbreviations: GM, gray matter; SD; standard deviation; WM, white matter. Note—The 1st coefficient is for age<sup>2</sup>; the 2nd coefficient is for age; and the 3rd coefficient is the Y-intercept. The adjusted R<sup>2</sup> is a modified version of R<sup>2</sup> that has been adjusted for the number of independent variables in the model.

**Supplemental Digital Content 5.** The AIC of linear and quadratic approximations for T1, T2, PD, and MVF

	T1		T2		PD		MVF	
	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic
Cortical GM								
Frontal GM	1396	<b>1345</b>	730	<b>681</b>	353	<b>306</b>	405	<b>349</b>
Parietal GM	1419	<b>1378</b>	757	<b>713</b>	317	<b>300</b>	351	<b>317</b>
Temporal GM	1417	<b>1374</b>	746	<b>700</b>	292	<b>270</b>	316	<b>291</b>
Occipital GM	1422	<b>1387</b>	750	<b>710</b>	318	<b>312</b>	338	<b>336</b>
Insula	1480	<b>1436</b>	933	<b>897</b>	294	<b>290</b>	353	<b>303</b>
WM								
Frontal WM	1127	<b>1085</b>	482	<b>450</b>	395	<b>369</b>	488	<b>462</b>
Parietal WM	1094	<b>1060</b>	442	<b>422</b>	360	<b>341</b>	453	<b>435</b>
Temporal WM	1140	<b>1097</b>	484	<b>443</b>	411	<b>385</b>	498	<b>470</b>
Occipital WM	1073	<b>1050</b>	408	<b>396</b>	345	<b>327</b>	439	<b>421</b>
Genu	1088	<b>1054</b>	481	<b>453</b>	416	<b>403</b>	508	<b>493</b>
Splenium	1069	<b>1049</b>	428	<b>418</b>	388	<b>378</b>	483	<b>471</b>
Internal Capsule	1109	<b>1069</b>	470	<b>437</b>	394	<b>381</b>	488	<b>473</b>
Middle Cerebellar Peduncle	1085	<b>1081</b>	406	<b>401</b>	379	<b>378</b>	466.1	<b>465.7</b>
Subcortical GM								
Caudate	1206	<b>1155</b>	619	<b>578</b>	466	<b>452</b>	507	<b>489</b>
Putamen	1157	<b>1133</b>	579	<b>559</b>	416	<b>405</b>	452	<b>442</b>
Thalamus	1119	<b>1100</b>	483	<b>446</b>	387	<b>385</b>	468	<b>466</b>

Abbreviations: GM, gray matter; WM, white matter. Note—The lower AIC value between linear and quadratic approximations are shown in bold type.

**Supplemental Digital Content 6.** (A) scatterplot of the ICV in relation to age along with a regression line. There is no significant correlation between ICV and age. (B) scatterplot of ICV in relation to BPV age along with a regression line. ICV and BPV have a strong positive correlation. ICV, intracranial volume; BPV, brain parenchymal volume



**Supplemental Digital Content 7.** The equations used to plot the curves for BPF, GMF, WMF, and MyF (%)

	Volume fractions	SD of 1st coefficient	SD of 2nd coefficient	SD of 3rd coefficient	Adjusted R <sup>2</sup> (R <sup>2</sup> )
BPF					
Male	$-0.0022 \times \text{age}^2 - 0.020 \times \text{age} + 91.7$	0.0014	0.148	3.4	0.71 (0.72)
Female	$-0.0023 \times \text{age}^2 + 0.039 \times \text{age} + 91.1$	0.0010	0.105	2.6	0.73 (0.74)
GMF					
Male	$0.0027 \times \text{age}^2 - 0.421 \times \text{age} + 61.2$	0.0012	0.125	2.9	0.56 (0.58)
Female	$0.0020 \times \text{age}^2 - 0.312 \times \text{age} + 59.2$	0.0009	0.098	2.4	0.47 (0.49)
WMF					
Male	$-0.0048 \times \text{age}^2 + 0.386 \times \text{age} + 29.4$	0.0010	0.094	2.3	0.58 (0.59)
Female	$-0.0044 \times \text{age}^2 + 0.358 \times \text{age} + 30.9$	0.0009	0.095	2.3	0.57 (0.59)
MyF					
Male	$-0.0017 \times \text{age}^2 + 0.133 \times \text{age} + 10.0$	0.0004	0.041	1.0	0.58 (0.60)
Female	$-0.0019 \times \text{age}^2 + 0.153 \times \text{age} + 9.5$	0.0003	0.037	0.9	0.60 (0.62)

Abbreviations: BPF, brain parenchymal fraction; GMF, gray matter fraction; MyF; myelin fraction; SD; standard deviation; WMF, white matter fraction. Note—The 1st coefficient is for age<sup>2</sup>; the 2nd coefficient is for age; and the 3rd coefficient is the Y-intercept. The adjusted R<sup>2</sup> is a modified version of R<sup>2</sup> that has been adjusted for the number of independent variables in the model.

**Supplemental Digital Content 8.** The AIC of linear and quadratic approximations for BPF, GMV, WMF, and MyF

	<b>Linear</b>	<b>Quadratic</b>
BPF		
Male	263	<b>261</b>
Female	279	<b>273</b>
GMF		
Male	248	<b>243</b>
Female	270	<b>265</b>
WMF		
Male	239	<b>217</b>
Female	283	<b>261</b>
MyF		
Male	142	<b>125</b>
Female	170	<b>145</b>

Abbreviations: BPF, brain parenchymal fraction; GMF, gray matter fraction; MyF; myelin fraction; WMF, white matter fraction. Note—The lower AIC value between linear and quadratic approximations are shown in bold type.