**Supplementary Materials**

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| **Supplementary Table 1.** Comparisons among linear, quadratic, and cubic models. | | | | |
| **DV** | | **BIC** | | |
|  | | **Linear** | **Quadratic** | **Cubic** |
| **Whole-Brain WM** | |  | | |
| MD | **-1339.5** | -1334.4 | -1329.0 |
| AD | **-1101.2** | -1092.6 | -1086.1 |
| RD | **-1293.8** | -1288.1 | -1279.6 |
| FA | **-1295.7** | -1286.9 | -1276.5 |
| **Whole-Brain GM** | |  | | |
| Total GM Volume | **4713.2** | 4718.2 | 4719.1 |
| Cortical GM Volume | **4645.8** | 4654.0 | 4653.9 |
| Surface Area | **4142.5** | 4152.6 | 4161.5 |
| Cortical Thickness | **-364.4** | -354.1 | -349.0 |
| **WM ROI** | |  | | |
| Optic Radiation | **-681.3** | -670.9 | -662.1 |
| Hippocampus | **-743.0** | -735.9 | -727.5 |
| Putamen | **-813.2** | -808.2 | -801.3 |
| PPO | **-762.3** | -758.5 | -749.5 |
| CC | **-236.5** | -227.7 | -221.3 |
| CSO | **-938.7** | -933.7 | -925.0 |
| PFC-WM | **-827.3** | -819.3 | -814.5 |
| **GM ROI** | |  | | |
| DLPFC | **3738.5** | 3748.9 | 3740.5 |
| Insula | **2967.5** | 2971.1 | 2978.3 |
| Caudate | **3072.7** | 3081.9 | 3088.9 |
| Putamen | **3200.8** | 3208.1 | 3216.2 |
| Accumbens | **2485.2** | 2493.0 | 2499.6 |
| Precuneus | **3411.7** | 3417.7 | 3425.0 |
| Supramarginal gyrus | **3470.8** | 3480.9 | 3488.7 |
| Superior parietal lobule | **3424.4** | 3434.0 | 3443.2 |
| Inferior occipital gyrus | **3213.0** | 3222.3 | 3232.1 |
| Post. trans. collat. sulcus | **2769.3** | 2779.4 | 2788.5 |
| Parieto-occipital sulcus | **3207.3** | 3217.0 | 3225.9 |
| *Notes:* Preferred models (bolded) minimize BIC. DV = dependent variable; WM = white matter; GM = gray matter; ROI = region of interest; BIC = Bayesian Information Criterion; PPO = posterior parietal occipital cortex; CSO = centrum semiovale; PFC-WM = prefrontal cortex white matter; DLPFC = dorsolateral prefrontal cortex; post. = posterior; trans. = transverse; collat. = collateral. | | | | |

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| **Supplementary Table 2.** Model results evaluating the effects of age, group, and age x group on whole-brain WM integrity. | | | | | |
| **WM Measure** | **Term** | **Estimate** | **Std. Error** | **t-value** | **p adjusted** |
| MD | Age | -0.001 | 0.000 | -5.504 | **< .001** |
| Group | -0.009 | 0.001 | -6.083 | **< .001** |
| Age x Group | -0.002 | 0.000 | -4.714 | **< .001** |
| AD | Age | -0.001 | 0.000 | -2.239 | 0.075 |
| Group | -0.003 | 0.003 | -0.835 | 0.447 |
| Age x Group | -0.003 | 0.001 | -4.188 | **< .001** |
| RD | Age | -0.001 | 0.000 | -4.862 | **< .001** |
| Group | -0.012 | 0.002 | -6.396 | **< .001** |
| Age x Group | -0.001 | 0.000 | -2.455 | 0.056 |
| FA | Age | 0.001 | 0.000 | 2.698 | **0.035** |
| Group | 0.010 | 0.002 | 4.411 | **< .001** |
| Age x Group | -0.001 | 0.000 | -1.217 | 0.447 |
| *Notes:* WM = white matter; std. error = standard error; p adjusted = p-value adjusted for multiple comparisons using Holm's correction; MD, AD, and RD = mean, axial, and radial diffusivity, respectively; FA = fractional anisotropy. | | | | | |

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| **Supplementary Table 3.** Model results evaluating the effects of age, group, and age x group on whole-brain GM. | | | | | |
| **DV** | **Term** | **Estimate** | **Std. Error** | **t-value** | **p adjusted** |
| Total GM Volume | Age | -7540.982 | 1160.529 | -6.498 | **< .001** |
| Group | 664.947 | 14519.323 | 0.046 | 1.000 |
| Age x Group | 86.810 | 1935.665 | 0.045 | 1.000 |
| Cortical GM Volume | Age | -8051.045 | 1008.810 | -7.981 | **< .001** |
| Group | 4832.660 | 11704.263 | 0.413 | 1.000 |
| Age x Group | 647.297 | 1679.974 | 0.385 | 1.000 |
| Surface Area | Age | -1851.811 | 325.129 | -5.696 | **< .001** |
| Group | -478.645 | 3954.973 | -0.121 | 1.000 |
| Age x Group | 899.889 | 539.188 | 1.669 | 1.000 |
| Cortical Thickness | Age | -0.014 | 0.003 | -4.427 | **< .001** |
| Group | 0.024 | 0.021 | 1.108 | 1.000 |
| Age x Group | 0.001 | 0.005 | 0.139 | 0.761 |
| *Notes:* DV = dependent variable; std. error = standard error; p adjusted = p-value adjusted for multiple comparisons using Holm's correction. | | | | | |

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| **Supplementary Table 4.** Model results evaluating the effects of age, group, and age x group on MD in WM regions. | | | | | |
| **WM ROI (MD)** | **Term** | **Estimate** | **Std. Error** | **t-value** | **p adjusted** |
| Optic Radiation | Age | -0.002 | 0.001 | -1.446 | 0.889 |
| Group | -0.018 | 0.009 | -2.031 | 0.338 |
| Age x Group | -0.010 | 0.002 | -4.499 | **< .001** |
| Hippocampus | Age | -0.002 | 0.001 | -1.328 | 0.921 |
| Group | 0.007 | 0.007 | 0.929 | 0.921 |
| Age x Group | -0.007 | 0.002 | -3.562 | **0.006** |
| Putamen | Age | -0.003 | 0.001 | -2.685 | 0.080 |
| Group | -0.013 | 0.006 | -2.144 | 0.288 |
| Age x Group | -0.004 | 0.002 | -2.399 | 0.165 |
| PPO | Age | -0.003 | 0.001 | -3.119 | **0.022** |
| Group | -0.046 | 0.007 | -6.421 | **< .001** |
| Age x Group | -0.007 | 0.002 | -3.979 | **0.002** |
| CC | Age | -0.006 | 0.004 | -1.301 | 0.921 |
| Group | -0.104 | 0.030 | -3.416 | **0.008** |
| Age x Group | -0.029 | 0.007 | -4.029 | **0.002** |
| CSO | Age | -0.003 | 0.001 | -4.611 | **< .001** |
| Group | -0.022 | 0.005 | -4.364 | **< .001** |
| Age x Group | -0.004 | 0.001 | -3.557 | **0.006** |
| PFC-WM | Age | -0.001 | 0.001 | -1.244 | 0.921 |
| Group | 0.001 | 0.007 | 0.204 | 0.921 |
| Age x Group | -0.003 | 0.002 | -1.938 | 0.368 |
| *Notes:* WM ROI = white matter region of interest; MD = mean diffusivity; std. error = standard error; p adjusted = p-value adjusted for multiple comparisons using Holm's correction; PPO = posterior parietal occipital cortex; CC = corpus callosum; CSO = centrum semiovale; PFC-WM = prefrontal cortex white matter. | | | | | |

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| **Supplementary Table 5.** Model results evaluating the effects of age, group, and age x group on regional GM volume. | | | | | |
| **DV** | **Term** | **Estimate** | **Std. Error** | **t-value** | **p adjusted** |
| DLPFC | Age | -803.109 | 105.482 | -7.614 | **< .001** |
| Group | -76.424 | 1052.884 | -0.073 | 1.000 |
| Age x Group | 54.504 | 174.976 | 0.311 | 1.000 |
| Insula | Age | -35.178 | 15.410 | -2.283 | 0.493 |
| Group | -119.225 | 132.223 | -0.902 | 1.000 |
| Age x Group | 19.122 | 25.430 | 0.752 | 1.000 |
| Caudate | Age | -71.903 | 17.850 | -4.028 | **0.003** |
| Group | 132.697 | 218.008 | 0.609 | 1.000 |
| Age x Group | 3.314 | 29.758 | 0.111 | 1.000 |
| Putamen | Age | -73.642 | 26.540 | -2.775 | 0.138 |
| Group | 323.555 | 271.307 | 1.193 | 1.000 |
| Age x Group | 34.544 | 44.056 | 0.784 | 1.000 |
| Nucleus accumbens | Age | -21.153 | 4.544 | -4.655 | **< .001** |
| Group | 42.330 | 31.566 | 1.341 | 1.000 |
| Age x Group | 7.528 | 7.422 | 1.014 | 1.000 |
| Precuneus | Age | -299.31 | 46.901 | -6.382 | **< .001** |
| Group | 268.371 | 435.095 | 0.617 | 1.000 |
| Age x Group | 40.835 | 77.619 | 0.526 | 1.000 |
| Supra-marginal gyrus | Age | -313.801 | 55.800 | -5.624 | **< .001** |
| Group | -82.777 | 472.388 | -0.175 | 1.000 |
| Age x Group | 26.210 | 92.032 | 0.285 | 1.000 |
| Sup. parietal lobule | Age | -236.181 | 50.087 | -4.715 | **< .001** |
| Group | -302.378 | 355.041 | -0.852 | 1.000 |
| Age x Group | -3.513 | 81.909 | -0.043 | 1.000 |
| Inf. occipital gyrus | Age | -70.647 | 29.233 | -2.417 | 0.361 |
| Group | 261.088 | 208.534 | 1.252 | 1.000 |
| Age x Group | 11.853 | 47.822 | 0.248 | 1.000 |
| Post. trans. collat. sulcus | Age | -27.460 | 9.451 | -2.905 | 0.096 |
| Group | 188.990 | 69.652 | 2.713 | 0.161 |
| Age x Group | 13.194 | 15.489 | 0.852 | 1.000 |
| Parieto-occipital sulcus | Age | -98.211 | 28.057 | -3.500 | **0.014** |
| Group | 183.388 | 253.349 | 0.724 | 1.000 |
| Age x Group | 5.813 | 46.390 | 0.125 | 1.000 |
| *Notes:* Preferred fit for all regions was linear. DV = dependent variable; std. error = standard error; p adjusted = p-value adjusted for multiple comparisons using Holm's correction; DLPFC = dorsolateral prefrontal cortex; sup. = superior; inf. = inferior; post. = posterior; trans. = transverse; collat. = collateral. | | | | | |