

Table 1: The coefficient of determination, R^2 , and the significance, p , of the linear regression model 1 incorporating a linear age term or model 2 incorporating a quadratic age term.

	Model 1		Model 2	
	p	R^2	p	R^2
WB	< 0.01	0.33	< 0.01	0.41
FL	< 0.01	0.32	< 0.01	0.4
OL	< 0.01	0.15	< 0.01	0.21
PL	< 0.01	0.35	< 0.01	0.4
TL	< 0.01	0.23	< 0.01	0.29
CRB	< 0.01	0.15	< 0.01	0.21
BCC	< 0.01	0.25	< 0.01	0.29
GCC	< 0.01	0.23	< 0.01	0.25
SCC	< 0.01	0.3	< 0.01	0.37
IC	< 0.01	0.27	< 0.01	0.3
ACR	< 0.01	0.38	< 0.01	0.4
PCR	< 0.01	0.38	< 0.01	0.43
CP	< 0.01	0.09	< 0.01	0.1
PTR	< 0.01	0.337	< 0.01	0.38
ATR	< 0.01	0.29	< 0.01	0.31
SFOF	< 0.01	0.37	< 0.01	0.39
IFOF	< 0.01	0.2	< 0.01	0.23
SLF	< 0.01	0.34	< 0.01	0.38
ILF	< 0.01	0.18	< 0.01	0.23

FM	< 0.1	0.05	< 0.05	0.09
Fm	< 0.01	0.26	< 0.01	0.33
Cau	> 0.1	0.02	< 0.05	0.07
Ins	< 0.01	0.16	< 0.01	0.31
Put	< 0.1	0.04	< 0.01	0.1
Tha	< 0.01	0.19	< 0.01	0.25

WB: whole brain white matter, FL: frontal lobes, PL: parietal lobes, OL: occipital lobes, TB: temporal lobes, CRB: cerebellum, SCC: splenium of corpus callosum, BCC: body of corpus callosum, GCC: genu of corpus callosum, IC: internal capsule, ACR: anterior corona radiata, PCR: posterior corona radiata, CP: cerebral peduncle, PTR: posterior thalamic radiation, ATR: anterior thalamic radiation, SFOF: superior fronto-occipital fasciculus, IFOF: inferior fronto-occipital fasciculus, SLF: superior longitudinal fasciculus, ILF: inferior longitudinal fasciculus, FM: forceps major, Fm: forceps minor, Ins: insula, Cau: caudate, Put: putamen, Tha: thalamus.

Table 1 shows the coefficient of determination, R^2 , and the significance, p , of the linear regression with (model 2) and without (model 1) incorporation of a quadratic age term. Both models were significant for all ROIs except the caudate with model 1.

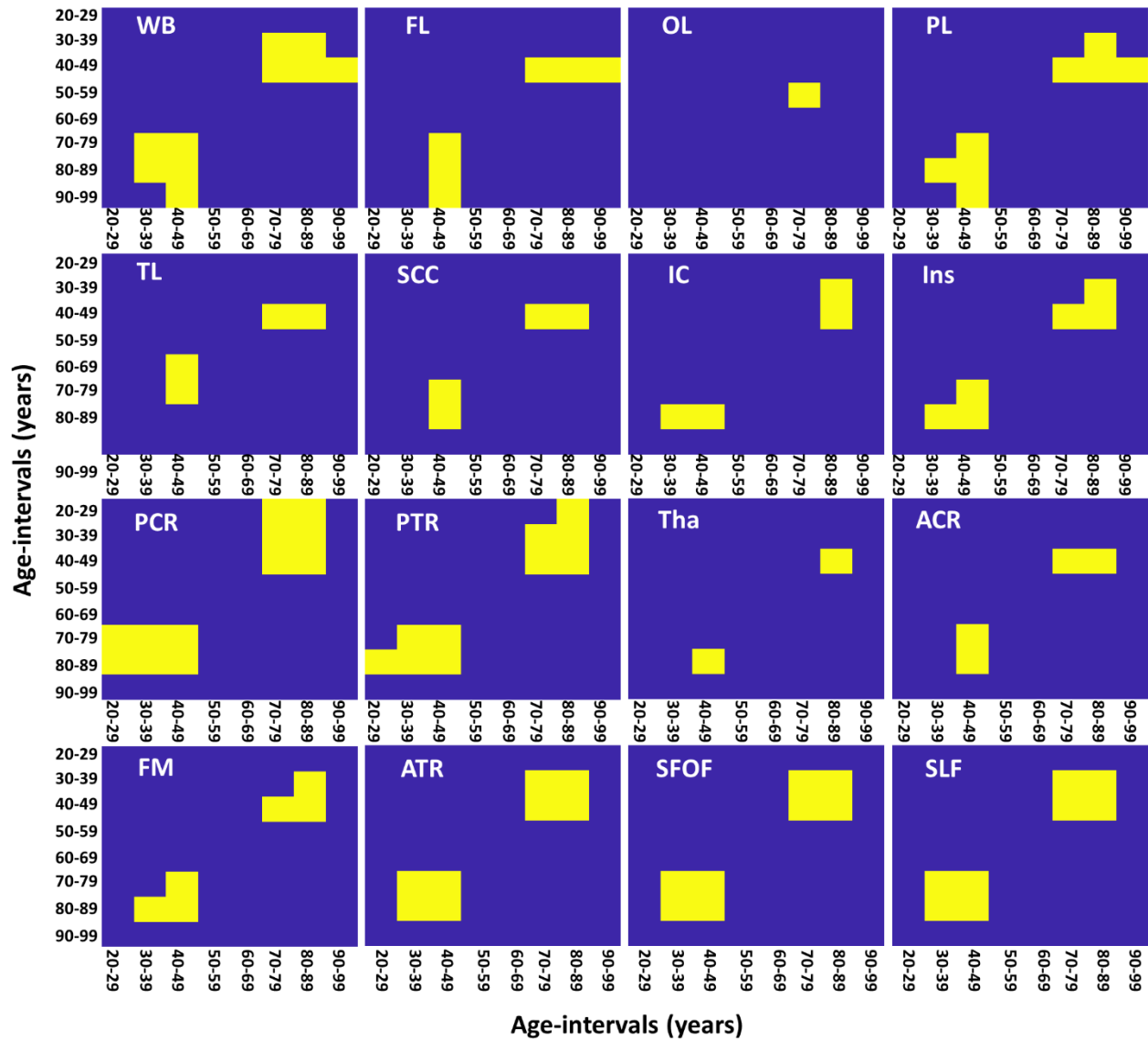


Figure 1. Post hoc family-wise error (Bonferroni) correction of the ANOVA tests indicating pairs of age-intervals with a statistically significant difference in mean MWF values, for each ROI (yellow areas). Whole brain white matter, FL: frontal lobes, PL: parietal lobes, OL: occipital lobes, TB: temporal lobes, SCC: splenium of corpus callosum, IC: internal capsule, Ins: insula, Tha: thalamus, PCR: posterior corona radiata, PTR: posterior thalamic radiation, ACR: anterior corona radiata, FM: Forceps major, ATR: anterior thalamic radiation, SFOF: superior fronto-occipital fasciculus, SLF: superior longitudinal fasciculus.

Figure 1 indicates that all regions except for the cerebral peduncles, the forceps major, the caudate, the cerebellum, the genu of corpus callosum, the inferior front-occipital fasciculus, the inferior longitudinal fasciculus, the forceps minor, and the putamen exhibited significant differences in the mean MWF values between age-intervals. This significance was mainly between age-intervals 20-29, 30-39, or 40-49 and 60-69, 70-79 or 80-89.

Table 2: Mean MWF values for each age-interval and each ROI.

	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
	years	years	years	years	years	years	years	years
WB	0.1816	0.1902	0.1945	0.1709	0.1714	0.1505	0.1511	0.1345
FL	0.1714	0.1763	0.1834	0.1636	0.1622	0.1376	0.1359	0.1120
OL	0.1835	0.2065	0.2105	0.1787	0.1837	0.1622	0.1714	0.1559
PL	0.2012	0.2069	0.2123	0.1858	0.1890	0.1616	0.1607	0.1423
TL	0.1492	0.1599	0.1673	0.1392	0.1438	0.1239	0.1296	0.1087
CRB	0.1049	0.1152	0.1214	0.0989	0.1025	0.0949	0.0933	0.0815
BCC	0.1887	0.1949	0.2005	0.1708	0.1740	0.1552	0.1569	0.1462
GCC	0.1841	0.1906	0.1860	0.1650	0.1678	0.1525	0.1429	0.1366
SCC	0.2091	0.2233	0.2229	0.2079	0.2106	0.1873	0.1768	0.1557
IC	0.1984	0.2090	0.2083	0.1973	0.1808	0.1662	0.1670	0.1634
ACR	0.2147	0.2192	0.2172	0.1895	0.1892	0.1612	0.1573	0.1633
PCR	0.2259	0.2355	0.2368	0.2088	0.2134	0.1698	0.1677	0.1644
CP	0.1599	0.1655	0.1683	0.1629	0.1540	0.1523	0.1500	0.1509
PTR	0.2184	0.2402	0.2383	0.2181	0.2053	0.1756	0.1847	0.1716

ATR	0.1505	0.1586	0.1589	0.1354	0.1258	0.1151	0.1164	0.1259
SFOF	0.2075	0.2130	0.2114	0.1860	0.1847	0.1577	0.1516	0.1541
IFOF	0.1754	0.1852	0.1811	0.1576	0.1671	0.1446	0.1402	0.1312
SLF	0.2354	0.2486	0.2481	0.2249	0.2198	0.1960	0.1962	0.1897
ILF	0.1833	0.1992	0.2001	0.1822	0.1783	0.1571	0.1616	0.1486
FM	0.1210	0.1350	0.1298	0.1211	0.1395	0.1139	0.1220	0.0909
Fm	0.1843	0.2048	0.2022	0.1960	0.1889	0.1603	0.1571	0.1408
Cau	0.0688	0.0781	0.0835	0.0852	0.0701	0.0748	0.0727	0.0582
Ins	0.0545	0.0619	0.0648	0.0634	0.0552	0.0504	0.0483	0.0383
Put	0.0811	0.1011	0.0959	0.0682	0.0837	0.0820	0.0805	0.0540
Tha	0.0952	0.1011	0.1108	0.0877	0.0868	0.0741	0.0766	0.0735

Table 2 shows the mean MWF values averaged over participants within each age-interval and for each ROI. Overall, white matter regions exhibited high MWF values while the lowest values were found in the deep gray matter regions, as expected.