

Supplemental Material

Table S1. Characteristics of participants included in the analysis and the whole sample with cfPWV at visit 5.

	Participants included in the study (n=1,484)	All visit 5 participants with inclusion criteria* (n=4,539)
Age, year, mean \pm SD	76.1 \pm 5.2	75.2 \pm 5.0
Sex, men, n (%)	597 (40.2)	1,832 (40.4)
Race, African Americans, n (%)	425 (28.6)	984 (21.7)
Center, n (%)		
Forsyth, NC	352 (23.7)	943 (20.8)
Jackson, MS	403 (27.2)	925 (20.4)
Minneapolis, MN	327 (22.0)	1,388 (30.6)
Washington, MD	402 (27.1)	1,283 (28.3)
Education, high school or above, n (%)		
Below high school	198 (13.2)	574 (12.7)
High school	612 (41.3)	1,911 (42.2)
College or above	672 (45.3)	2,047 (45.2)
Body mass index, kg/m ² , mean \pm SD	27.7 \pm 4.5	27.8 \pm 4.5
Ever smoking, n (%)	785 (55.1)	2,402 (55.6)
Ever drinking, n (%)	1,119 (76.0)	3,535 (78.8)
Mean arterial pressure, mmHg, mean \pm SD	87.8 \pm 11.4	87.5 \pm 11.3
Hypertension, n (%)	1,080 (73.4)	3,239 (72.1)
Use of antihypertensive drug, n (%)	1,083 (73.0)	3,262 (72.0)
Diabetes, n (%)	392 (26.7)	1,135 (25.2)
Heart rate, bpm, mean \pm SD	64.5 \pm 11.0	64.7 \pm 10.9
Carotid-femoral pulse wave velocity, m/s	11.8 \pm 3.3	11.6 \pm 3.1
Total physical activity, minutes/week, mean \pm SD	180.9 \pm 176.6	192.5 \pm 187.6
APOE, n (%)		
APOE4 \geq 1	1,003 (69.9)	3,119 (71.4)
APOE4 <1	431 (30.1)	1,247 (28.6)
Cognitive status, n (%)		
Normal	937 (63.1)	3514 (77.7)
Mild cognitive impairment	481 (32.4)	872 (19.3)
Dementia	64 (4.3)	128 (2.8)

*This applies to all inclusion criteria based on cfPWV

Table S2. Mean fractional anisotropy (FA) and mean diffusivity (MD) among included and excluded participants. ARIC study examination visit 5.

Regions	FA			MD (10^{-4} mm ² /s)		
	Excluded (n=458)	Included (n=1,484)	Difference (SE)	Excluded (n=458)	Included (n=1,484)	Difference (SE)
Anterior corpus callosum	0.407±0.06	0.424±0.06	-0.017 (0.003)	11.9±1.2	11.6±1.1	0.3 (0.06)
Posterior corpus callosum	0.559±0.07	0.578±0.06	-0.019 (0.003)	11.4±1.1	11.1±1.0	0.3 (0.06)
Frontal lobe	0.271±0.02	0.280±0.02	-0.009 (0.001)	8.8±0.6	8.6±0.5	0.3 (0.03)
Temporal lobe	0.275±0.02	0.283±0.02	-0.008 (0.001)	9.0±0.7	8.8±0.5	0.3 (0.03)
Occipital lobe	0.223±0.03	0.229±0.02	-0.007 (0.001)	9.0±0.7	8.8±0.6	0.2 (0.03)
Parietal lobe	0.290±0.03	0.300±0.02	-0.010 (0.001)	9.0±0.7	8.7±0.6	0.3 (0.03)
Overall	0.275±0.02	0.284±0.02	-0.009 (0.001)	9.0±0.6	8.7±0.5	0.3 (0.03)

T-test was conducted for FAs and MDs listed above. Bold indicates at $p < 0.05$ from a t-test.

Table S3. Correlations between FA and MD at different regions.

Regions	Correlation	P value
Frontal lobe	-0.75	<0.0001
Temporal lobe	-0.63	<0.0001
Occipital lobe	-0.68	<0.0001
Parietal lobe	-0.67	<0.0001
Anterior corpus callosum	-0.50	<0.0001
Posterior corpus callosum	-0.66	<0.0001
Overall	-0.75	<0.0001

ARIC study examination visit 5.

Table S4. Association of cfPWV and z-scores of FA. Mean differences estimated by multivariable linear regression by cognitive status.

Regions	Cognitive status	cfPWV (m/s)							
		Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	Normal (n=937)	-0.04 (-0.06, -0.01)	0.001	-0.03 (-0.05, -0.01)	0.01	-0.01 (-0.04, 0.01)	0.30	-0.01 (-0.03, 0.01)	0.37
	MCI/dementia (n=545)	-0.03 (-0.05, -0.004)	0.02	-0.02 (-0.05, 0.003)	0.08	-0.03 (-0.06, 0.001)	0.06	-0.03 (-0.05, 0.002)	0.07
Posterior corpus callosum	Normal (n=937)	-0.02 (-0.04, -0.001)	0.04	-0.01 (-0.03, 0.01)	0.19	-0.02 (-0.04, 0.005)	0.13	-0.01 (-0.03, 0.01)	0.22
	MCI/dementia (n=545)	-0.03 (-0.06, -0.003)	0.03	-0.02 (-0.04, 0.01)	0.23	-0.03 (-0.06, -0.0001)	0.05	-0.03 (-0.06, 0.001)	0.06
Frontal lobe	Normal (n=937)	-0.06 (-0.08, -0.04)	<0.0001	-0.03 (-0.05, -0.01)	0.002	-0.03 (-0.05, -0.01)	0.01	-0.02 (-0.04, -0.0001)	0.05
	MCI/dementia (n=545)	-0.05 (-0.08, -0.03)	<0.0001	-0.03 (-0.05, -0.01)	0.01	-0.03 (-0.05, -0.0000)	0.05	-0.02 (-0.05, -0.0004)	0.05
Temporal lobe	Normal (n=937)	-0.03 (-0.05, -0.01)	0.002	-0.02 (-0.04, 0.003)	0.09	-0.04 (-0.06, -0.02)	0.0003	-0.03 (-0.06, -0.01)	0.002
	MCI/dementia (n=545)	-0.02 (-0.04, 0.01)	0.17	-0.01 (-0.03, 0.02)	0.56	-0.02 (-0.05, 0.01)	0.22	-0.02 (-0.05, 0.01)	0.25
Occipital lobe	Normal (n=936)	-0.03 (-0.05, -0.004)	0.02	-0.02 (-0.04, 0.01)	0.16	-0.02 (-0.04, 0.01)	0.17	-0.01 (-0.04, 0.01)	0.30
	MCI/dementia (n=545)	-0.03 (-0.06, -0.01)	0.004	-0.03 (-0.05, -0.004)	0.02	-0.03 (-0.05, -0.001)	0.04	-0.03 (-0.05, -0.001)	0.05
Parietal lobe	Normal (n=937)	-0.04 (-0.06, -0.02)	0.0003	-0.01 (-0.03, 0.01)	0.24	-0.03 (-0.05, -0.004)	0.02	-0.01 (-0.03, 0.005)	0.15
	MCI/dementia (n=545)	-0.04 (-0.07, -0.02)	0.002	-0.02 (-0.04, 0.003)	0.09	-0.02 (-0.05, 0.01)	0.11	-0.02 (-0.04, 0.005)	0.12
Overall	Normal (n=936)	-0.05 (-0.07, -0.03)	<0.0001	-0.03 (-0.04, -0.01)	0.01	-0.03 (-0.05, -0.01)	0.003	-0.02 (-0.04, -0.003)	0.03
	MCI/dementia (n=545)	-0.05 (-0.07, -0.02)	0.0003	-0.03 (-0.05, -0.004)	0.02	-0.03 (-0.06, -0.001)	0.04	-0.03 (-0.05, -0.001)	0.04

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S6. Association of cfPWV and z-scores of FA (n=1484). Mean differences estimated by multivariable linear regression by WMH volumes.

Regions	Cognitive status	cfPWV (m/s)							
		Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	High WMH volume (n=371)	-0.03 (-0.06, -0.003)	0.03	-0.03 (-0.06, 0.001)	0.05	-0.01 (-0.05, 0.02)	0.40	-0.01 (-0.05, 0.02)	0.47
	Low WMH volume (n=371)	-0.03 (-0.06, 0.01)	0.13	-0.03 (-0.07, 0.01)	0.13	-0.03 (-0.07, 0.01)	0.10	-0.03 (-0.07, 0.01)	0.09
Posterior corpus callosum	High WMH volume (n=371)	-0.03 (-0.06, -0.002)	0.03	-0.02 (-0.05, 0.01)	0.13	-0.01 (-0.04, 0.03)	0.61	-0.003 (-0.04, 0.03)	0.88
	Low WMH volume (n=371)	-0.002 (-0.04, 0.03)	0.91	0.00004 (-0.03, 0.03)	0.99	-0.03 (-0.07, 0.01)	0.12	-0.03 (-0.06, 0.01)	0.15
Frontal lobe	High WMH volume (n=371)	-0.07 (-0.10, -0.04)	<0.0001	-0.05 (-0.07, -0.02)	0.001	-0.05 (-0.09, -0.02)	0.001	-0.04 (-0.07, -0.02)	0.002
	Low WMH volume (n=371)	-0.02 (-0.06, 0.01)	0.14	-0.02 (-0.05, 0.01)	0.27	-0.02 (-0.06, 0.01)	0.15	-0.02 (-0.06, 0.01)	0.17
Temporal lobe	High WMH volume (n=371)	-0.05 (-0.08, -0.01)	0.004	-0.03 (-0.06, -0.002)	0.04	-0.05 (-0.08, -0.02)	0.002	-0.04 (-0.08, -0.01)	0.01
	Low WMH volume (n=371)	-0.02 (-0.05, 0.02)	0.35	-0.02 (-0.05, 0.02)	0.37	-0.03 (-0.07, 0.005)	0.09	-0.03 (-0.07, 0.004)	0.07
Occipital lobe	High WMH volume (n=371)	-0.06 (-0.09, -0.03)	0.0001	-0.05 (-0.08, -0.02)	0.001	-0.05 (-0.08, -0.02)	0.003	-0.04 (-0.08, -0.01)	0.01
	Low WMH volume (n=371)	0.002 (-0.03, 0.04)	0.90	0.005 (-0.03, 0.04)	0.80	0.003 (-0.04, 0.04)	0.04	0.003 (-0.04, 0.04)	0.90
Parietal lobe	High WMH volume (n=371)	-0.06 (-0.09, -0.03)	0.0003	-0.03 (-0.06, -0.01)	0.02	-0.04 (-0.08, -0.01)	0.01	-0.03 (-0.06, -0.001)	0.04
	Low WMH volume (n=371)	-0.01 (-0.04, 0.02)	0.64	-0.002 (-0.03, 0.03)	0.89	-0.01 (-0.04, 0.02)	0.49	-0.01 (-0.04, 0.02)	0.54
Overall	High WMH volume (n=371)	-0.07 (-0.10, -0.04)	<0.0001	-0.05 (-0.07, -0.02)	0.001	-0.06 (-0.09, -0.02)	0.001	-0.04 (-0.07, -0.02)	0.003
	Low WMH volume (n=371)	-0.02 (-0.05, 0.01)	0.27	-0.01 (-0.05, 0.02)	0.42	-0.02 (-0.06, 0.01)	0.19	-0.02 (-0.06, 0.01)	0.21

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S8. Association of cfPWV and z-scores of FA (n=1484). Mean differences estimated by multivariable linear regression with further adjustment for FAs of other locations.

Regions	cfPWV (m/s)							
	Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	-0.002 (-0.01, 0.01)	0.70	-0.01 (-0.02, 0.01)	0.37	0.004 (-0.01, 0.02)	0.58	0.003 (-0.01, 0.02)	0.71
Posterior corpus callosum	-0.01 (-0.02, 0.01)	0.43	-0.003 (-0.02, 0.01)	0.68	-0.01 (-0.02, 0.01)	0.30	-0.01 (-0.02, 0.01)	0.35
Frontal lobe	-0.02 (-0.03, -0.01)	<0.0001	-0.01 (-0.02, -0.01)	0.0003	-0.01 (-0.02, 0.002)	0.11	-0.01 (-0.01, 0.003)	0.18
Temporal lobe	0.001 (-0.01, 0.01)	0.88	-0.001 (-0.01, 0.01)	0.84	-0.01 (-0.03, -0.003)	0.02	-0.02 (-0.03, -0.003)	0.01
Occipital lobe	0.004 (-0.01, 0.02)	0.50	-0.002 (-0.01, 0.01)	0.76	0.003 (-0.01, 0.02)	0.68	0.001 (-0.01, 0.01)	0.83
Parietal lobe	0.01 (-0.002, 0.01)	0.15	0.01 (0.002, 0.02)	0.01	0.004 (-0.004, -0.01)	0.31	0.01 (-0.003, 0.01)	0.20

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of FAs between high and non-high cfPWV.

Model 1: Adjusted for FAs in other regions.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S7. Association of cfPWV and z-scores of MD (n=1484). Mean differences estimated by multivariable linear regression by cognitive status.

Regions	Cognitive status	cfPWV (m/s)							
		Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	Normal (n=937)	0.04 (0.02, 0.06)	0.0003	0.03 (0.01, 0.05)	0.001	0.02 (0.003, 0.04)	0.02	0.02 (0.004, 0.04)	0.02
	MCI/dementia (n=545)	0.03 (0.01, 0.06)	0.01	0.03 (0.003, 0.05)	0.03	0.03 (-0.001, 0.05)	0.06	0.02 (-0.001, 0.05)	0.06
Posterior corpus callosum	Normal (n=937)	0.02 (-0.004, 0.04)	0.12	0.01 (-0.01, 0.03)	0.19	0.03 (0.01, 0.05)	0.01	0.02 (0.005, 0.04)	0.01
	MCI/dementia (n=545)	0.02 (-0.01, 0.04)	0.15	0.01 (-0.01, 0.04)	0.23	0.02 (-0.01, 0.04)	0.18	0.02 (-0.01, 0.04)	0.20
Frontal lobe	Normal (n=937)	0.05 (0.03, 0.07)	<0.0001	0.03 (0.01, 0.05)	0.001	0.03 (0.01, 0.05)	0.001	0.02 (0.01, 0.04)	0.005
	MCI/dementia (n=545)	0.05 (0.02, 0.07)	0.0003	0.02 (0.002, 0.05)	0.03	0.03 (-0.001, 0.05)	0.06	0.02 (0.0000, 0.04)	0.05
Temporal lobe	Normal (n=937)	0.05 (0.03, 0.07)	<0.0001	0.03 (0.01, 0.05)	0.002	0.03 (0.02, 0.05)	<0.0001	0.03 (0.01, 0.04)	0.001
	MCI/dementia (n=545)	0.03 (0.002, 0.05)	0.03	0.01 (-0.01, 0.03)	0.41	0.02 (-0.01, 0.04)	0.22	0.01 (-0.01, 0.04)	0.26
Occipital lobe	Normal (n=936)	0.04 (0.02, 0.06)	<0.0001	0.03 (0.01, 0.05)	0.003	0.02 (0.002, 0.04)	0.03	0.02 (-0.003, 0.03)	0.09
	MCI/dementia (n=545)	0.04 (0.02, 0.07)	0.002	0.03 (0.002, 0.05)	0.02	0.02 (-0.01, 0.04)	0.15	0.02 (-0.01, 0.04)	0.18
Parietal lobe	Normal (n=937)	0.04 (0.02, 0.06)	0.0001	0.02 (-0.002, 0.04)	0.08	0.03 (0.01, 0.04)	0.005	0.02 (0.001, 0.03)	0.04
	MCI/dementia (n=545)	0.04 (0.01, 0.06)	0.01	0.01 (-0.01, 0.04)	0.23	0.02 (-0.01, 0.05)	0.12	0.02 (-0.004, 0.04)	0.12
Overall	Normal (n=936)	0.05 (0.03, 0.07)	<0.0001	0.03 (0.01, 0.05)	0.003	0.03 (0.01, 0.05)	0.001	0.02 (0.01, 0.04)	0.004
	MCI/dementia (n=545)	0.04 (-0.07, -0.02)	0.0003	0.02 (-0.001, 0.04)	0.07	0.02 (-0.002, 0.05)	0.07	0.02 (-0.001, 0.04)	0.06

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S8. Association of cfPWV and z-scores of MD. Mean differences estimated by multivariable linear regression by WMH volumes

Regions	Cognitive status	cfPWV (m/s)							
		Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	High WMH volume (n=371)	0.03 (0.01, 0.06)	0.02	0.03 (0.004, 0.06)	0.03	0.02 (-0.01, 0.05)	0.14	0.02 (-0.01, 0.05)	0.15
	Low WMH volume (n=371)	0.04 (-0.001, 0.07)	0.05	0.03 (-0.01, 0.07)	0.09	0.04 (0.01, 0.08)	0.01	0.04 (0.01, 0.08)	0.01
Posterior corpus callosum	High WMH volume (n=371)	0.02 (-0.01, 0.05)	0.28	0.01 (-0.02, 0.04)	0.49	0.001 (-0.03, 0.03)	0.92	-0.002 (-0.03, 0.03)	0.87
	Low WMH volume (n=371)	0.001 (-0.03, 0.04)	0.94	0.0001 (-0.04, 0.04)	0.99	0.03 (0.001, 0.07)	0.04	0.03 (0.001, 0.07)	0.05
Frontal lobe	High WMH volume (n=371)	0.06 (0.03, 0.09)	0.0002	0.04 (0.01, 0.06)	0.01	0.03 (0.01, 0.06)	0.02	0.02 (-0.002, 0.05)	0.07
	Low WMH volume (n=371)	0.02 (-0.01, 0.05)	0.20	0.01 (-0.02, 0.04)	0.01	0.02 (-0.01, 0.04)	0.05	0.02 (-0.01, 0.04)	0.27
Temporal lobe	High WMH volume (n=371)	0.05 (0.02, 0.07)	0.002	0.03 (0.004, 0.06)	0.03	0.03 (0.0004, 0.06)	0.05	0.02 (-0.005, 0.05)	0.11
	Low WMH volume (n=371)	0.02 (-0.02, 0.05)	0.37	0.005 (-0.03, 0.04)	0.78	0.03 (0.001, 0.05)	0.04	0.02 (-0.002, 0.05)	0.06
Occipital lobe	High WMH volume (n=371)	0.06 (0.03, 0.09)	<0.0001	0.05 (0.02, 0.08)	0.001	0.03 (0.01, 0.06)	0.02	0.03 (0.002, 0.06)	0.04
	Low WMH volume (n=371)	0.01 (-0.03, 0.04)	0.72	-0.003 (-0.04, 0.03)	0.86	0.003 (-0.03, 0.03)	0.87	-0.0005 (-0.03, 0.03)	0.98
Parietal lobe	High WMH volume (n=371)	0.05 (0.02, 0.08)	0.002	0.03 (-0.001, 0.05)	0.06	0.03 (-0.004, 0.06)	0.08	0.01 (-0.01, 0.04)	0.27
	Low WMH volume (n=371)	0.003 (-0.03, 0.03)	0.85	-0.005 (-0.04, 0.03)	0.77	0.01 (-0.01, 0.04)	0.35	0.02 (-0.02, 0.04)	0.44
Overall	High WMH volume (n=371)	0.06 (0.03, 0.09)	0.0002	0.04 (0.01, 0.06)	0.01	0.03 (0.005, 0.06)	0.02	0.02 (-0.002, 0.05)	0.08
	Low WMH volume (n=371)	0.01 (-0.02, 0.05)	0.42	0.004 (-0.03, 0.04)	0.80	0.02 (-0.01, 0.04)	0.19	0.01 (-0.01, 0.04)	0.26

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S9. Association of cfPWV and MDs (n=1484). Mean differences estimated by multivariable linear regression with further adjustment for MDs of other locations

Regions	cfPWV (m/s)							
	Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	0.01 (-0.002, 0.02)	0.11	0.02 (0.004, 0.03)	0.01	0.004 (-0.01, 0.02)	0.53	0.01 (-0.01, 0.02)	0.43
Posterior corpus callosum	-0.01 (-0.02, 0.002)	0.10	-0.004 (-0.02, 0.01)	0.48	0.01 (-0.005, 0.02)	0.24	0.01 (-0.004, 0.02)	0.21
Frontal lobe	0.01 (0.01, 0.02)	<0.0001	0.01 (0.005, 0.02)	0.001	0.01 (-0.001, 0.01)	0.07	0.01 (-0.001, 0.01)	0.10
Temporal lobe	0.003 (-0.003, 0.01)	0.34	0.003 (-0.003, 0.01)	0.32	0.01 (-0.001, 0.01)	0.10	0.01 (-0.001, 0.01)	0.10
Occipital lobe	0.01 (0.0003, 0.02)	0.04	0.01 (0.004, 0.02)	0.005	-0.002 (-0.01, 0.01)	0.60	-0.002 (-0.01, 0.01)	0.69
Parietal lobe	-0.01 (-0.01, -0.003)	0.003	-0.01 (-0.02, -0.01)	<0.0001	-0.003 (-0.01, 0.002)	0.25	-0.004 (-0.01, 0.002)	0.17

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Adjusted for MDs in other regions.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S10. Association of high cfPWV (upper 25th percentile) and z-scores of FA. Mean differences estimated by multivariable linear regression

Regions	Elevated cfPWV (cfPWV \geq 13.65 m/s)							
	Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	-0.35 (-0.55, -0.15)	0.001	-0.30 (-0.50, -0.10)	0.003	-0.30 (-0.51, -0.09)	0.01	-0.28 (-0.49, 0.07)	0.01
Posterior corpus callosum	-0.25 (-0.44, -0.07)	0.01	-0.16 (-0.34, 0.02)	0.08	-0.20 (-0.39, -0.01)	0.04	-0.15 (-0.33, 0.03)	0.11
Frontal lobe	-0.45 (-0.65, -0.25)	<0.0001	-0.29 (-0.47, -0.11)	0.002	-0.39 (-0.59, -0.18)	0.0002	-0.30 (-0.49, -0.12)	0.001
Temporal lobe	-0.20 (-0.40, 0.01)	0.06	-0.10 (-0.31, 0.10)	0.31	-0.34 (-0.55, -0.12)	0.002	-0.29 (-0.49, -0.08)	0.01
Occipital lobe	-0.29 (-0.50, -0.08)	0.01	-0.23 (-0.44, -0.02)	0.03	-0.31 (-0.52, -0.09)	0.01	-0.28 (-0.50, -0.06)	0.01
Parietal lobe	-0.31 (-0.51, -0.11)	0.002	-0.15 (-0.33, 0.04)	0.12	-0.32 (-0.53, -0.12)	0.002	-0.23 (-0.42, -0.05)	0.01
Overall	-0.40 (-0.61, -0.20)	<0.0001	-0.25 (-0.44, -0.06)	0.01	-0.40 (-0.61, -0.20)	0.0001	-0.32 (-0.51, -0.13)	0.001

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of FAs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Table S11. Association of high cfPWV (upper 25th percentile) and MDs. Mean differences estimated by multivariable linear regression.

Regions	Elevated cfPWV (cfPWV \geq 13.65 m/s)							
	Model 1 β (95% CI)	P value	Model 2 β (95% CI)	P value	Model 3 β (95% CI)	P value	Model 4 β (95% CI)	P value
Anterior corpus callosum	0.35 (0.15, 0.55)	0.001	0.30 (0.10, 0.50)	0.003	0.26 (0.08, 0.44)	0.004	0.25 (0.07, 0.43)	0.01
Posterior corpus callosum	0.21 (0.01, 0.41)	0.04	0.13 (-0.06, 0.33)	0.18	0.22 (0.05, 0.39)	0.01	0.18 (0.02, 0.35)	0.03
Frontal lobe	0.41 (0.21, 0.62)	<0.0001	0.22 (0.04, 0.40)	0.02	0.27 (0.10, 0.45)	0.003	0.18 (0.02, 0.33)	0.02
Temporal lobe	0.31 (0.10, 0.51)	0.003	0.16 (-0.03, 0.35)	0.10	0.21 (0.04, 0.38)	0.01	0.15 (-0.01, 0.31)	0.06
Occipital lobe	0.33 (0.13, 0.53)	0.001	0.22 (0.03, 0.42)	0.02	0.19 (0.01, 0.36)	0.03	0.14 (-0.03, 0.31)	0.10
Parietal lobe	0.33 (0.13, 0.53)	0.001	0.15 (-0.03, 0.33)	0.11	0.27 (0.10, 0.43)	0.002	0.18 (0.04, 0.32)	0.01
Overall	0.38 (0.18, 0.58)	0.0002	0.20 (0.02, 0.39)	0.03	0.27 (0.10, 0.43)	0.002	0.18 (0.04, 0.33)	0.01

Bold indicates statistical significance. β is the difference (unadjusted for Model 1, adjusted for Model 2 to Model 4) of MDs between high and non-high cfPWV.

Model 1: Unadjusted.

Model 2: Adjusted for volume of white matter hyperintensities.

Model 3: Adjusted for age, sex, race-center, education, APOE genotype, ever smoking, ever drinking, body mass index, mean arterial pressure, diabetes, physical activity (total minutes/week), LDL-C, heart rate

Model 4: Adjusted for factors included in Model 2 and Model 3.

Figure S1. Flowchart of participant selection.

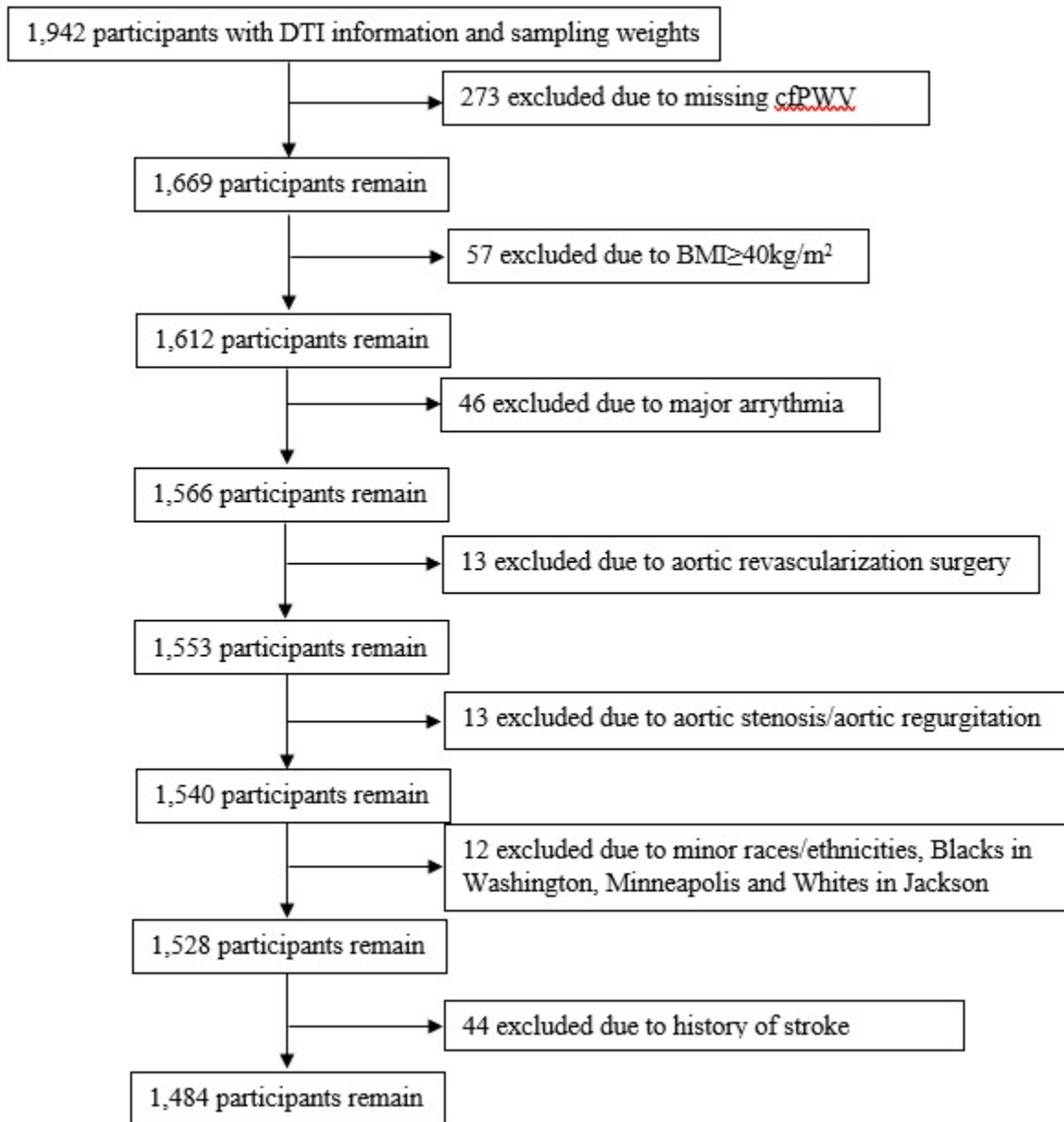
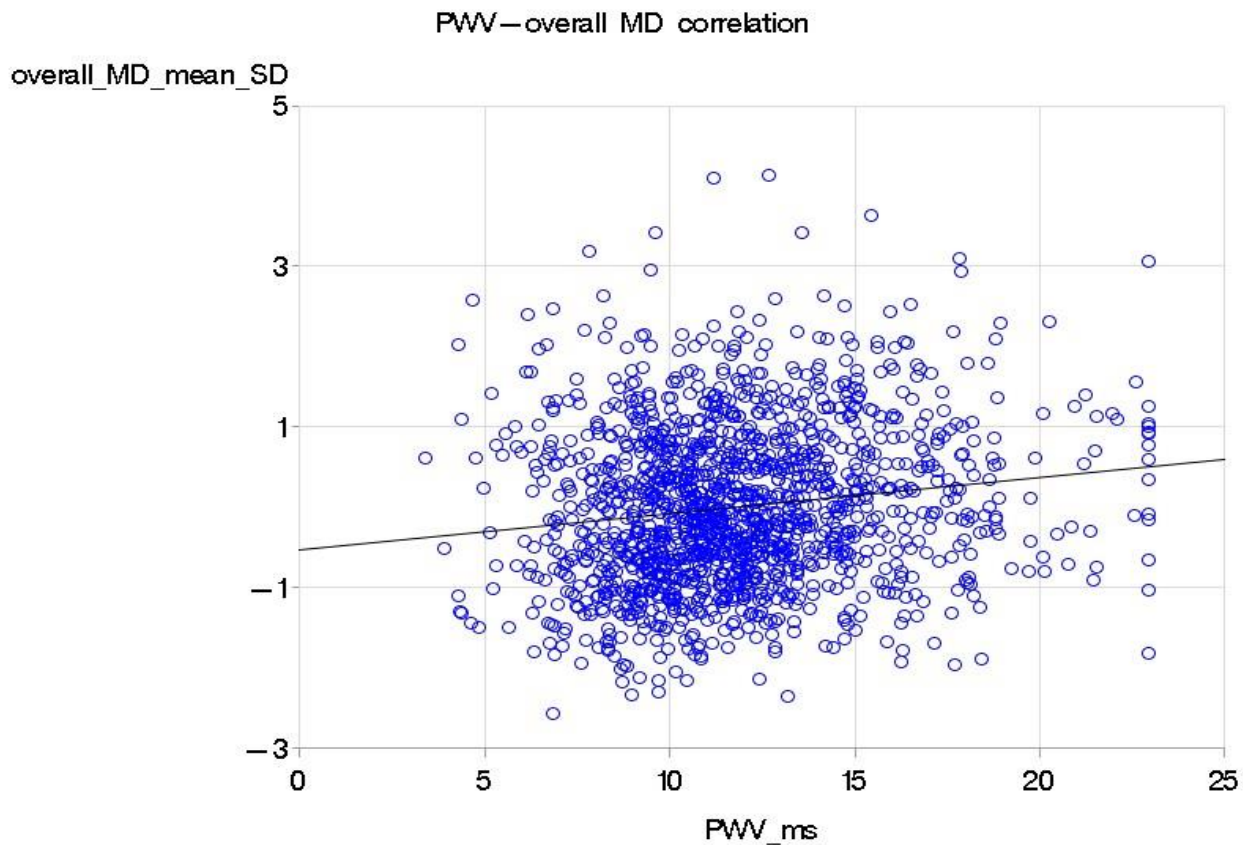
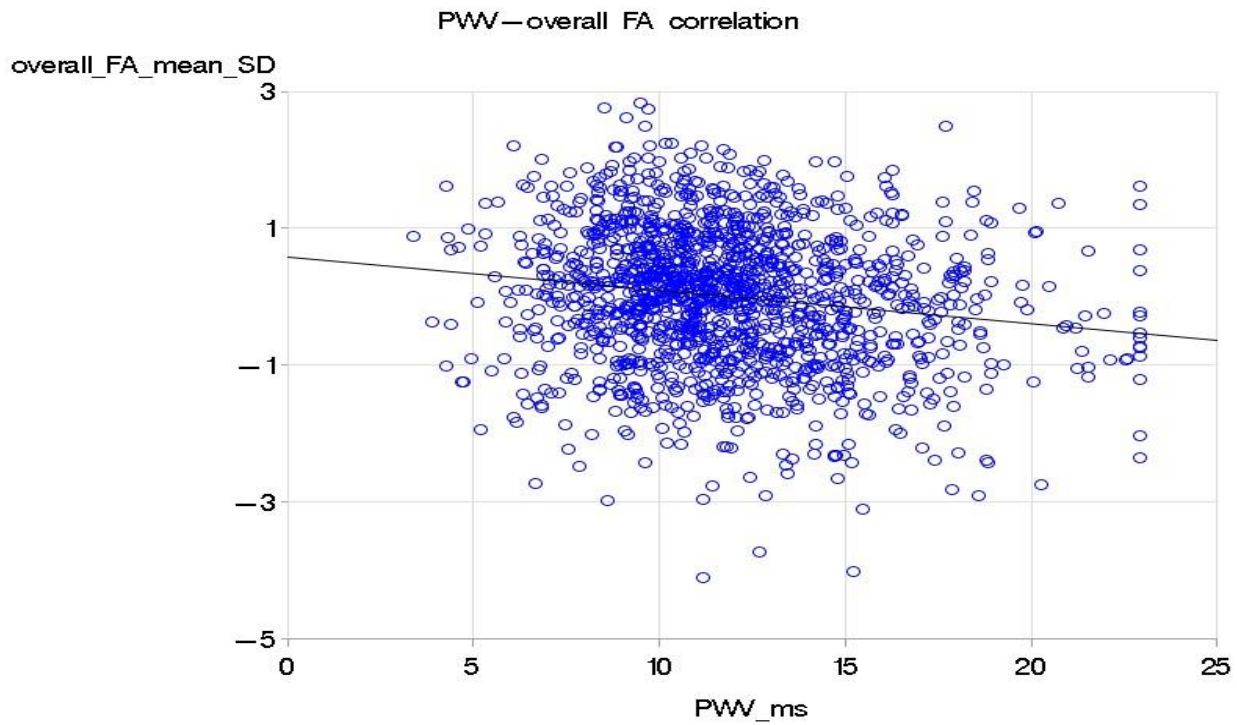
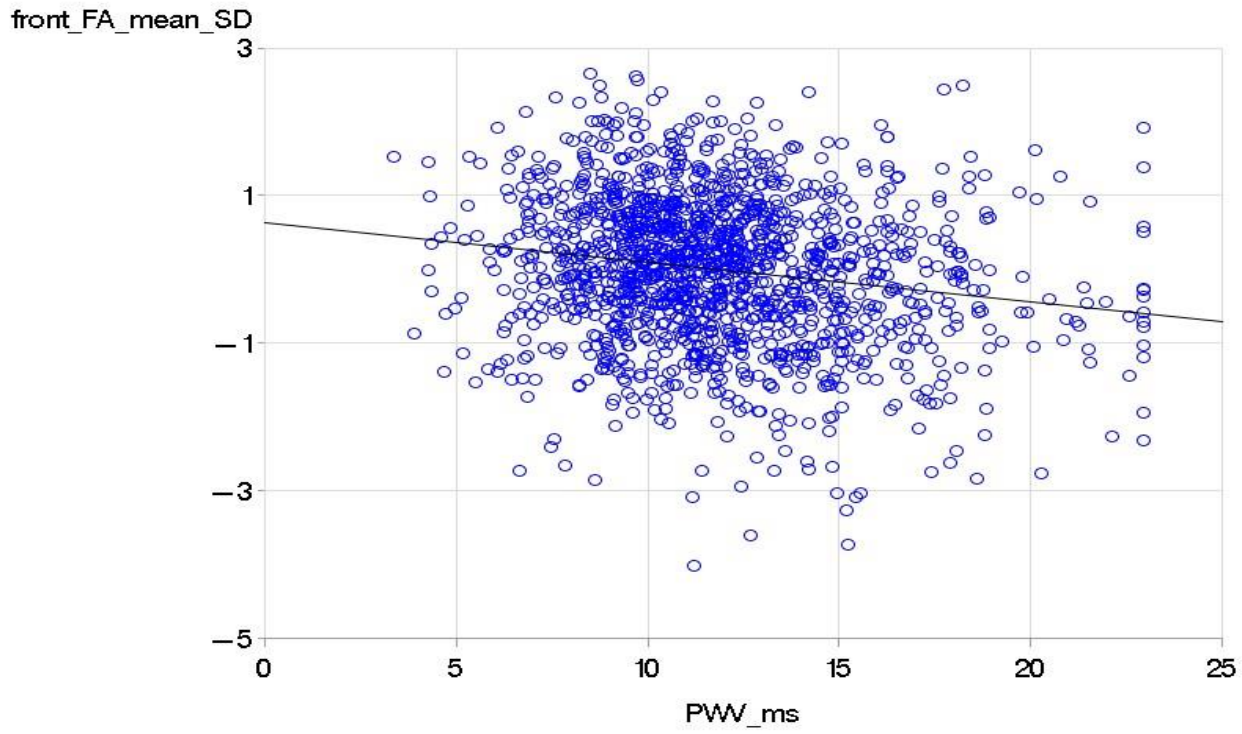


Figure S2. Scatter plot of correlation between cfPWV and white matter microstructural integrity in (A) overall (B) frontal lobe (C) temporal lobe (D) occipital lobe (E) parietal lobe (F) anterior corpus callosum (G) posterior corpus callosum.

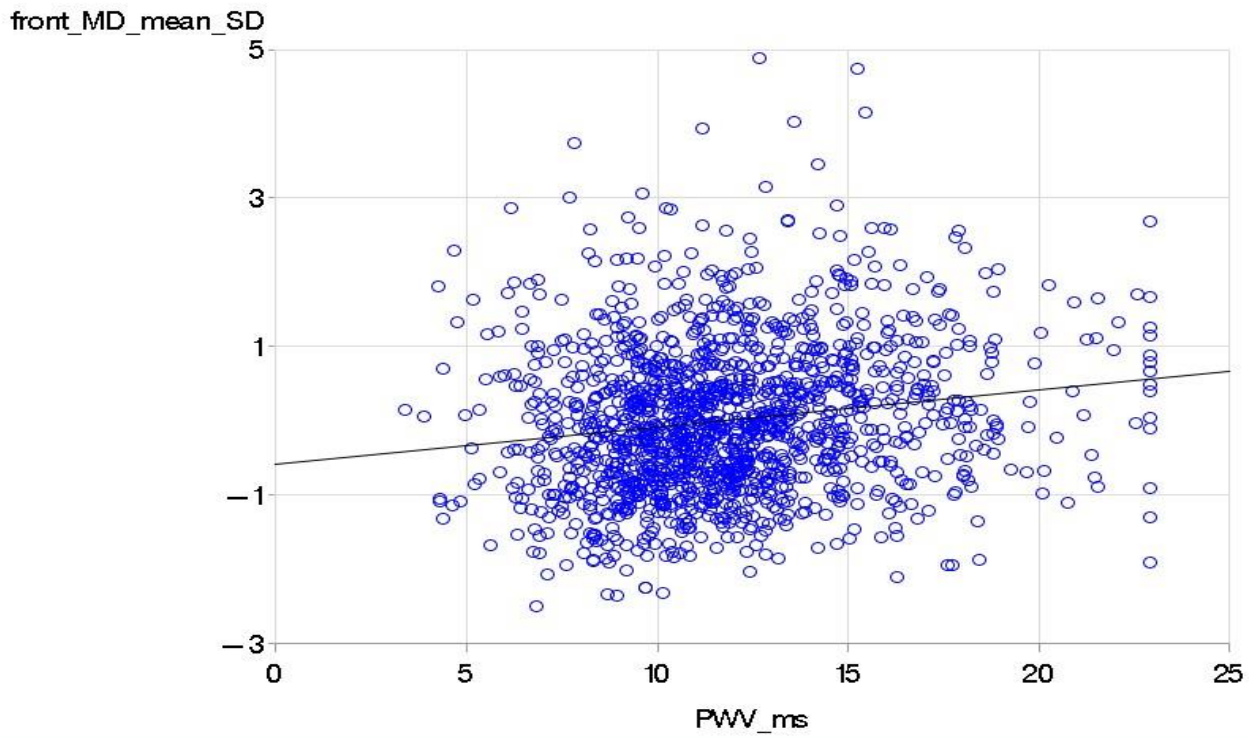


(A)

PWW—frontal lobe FA correlation

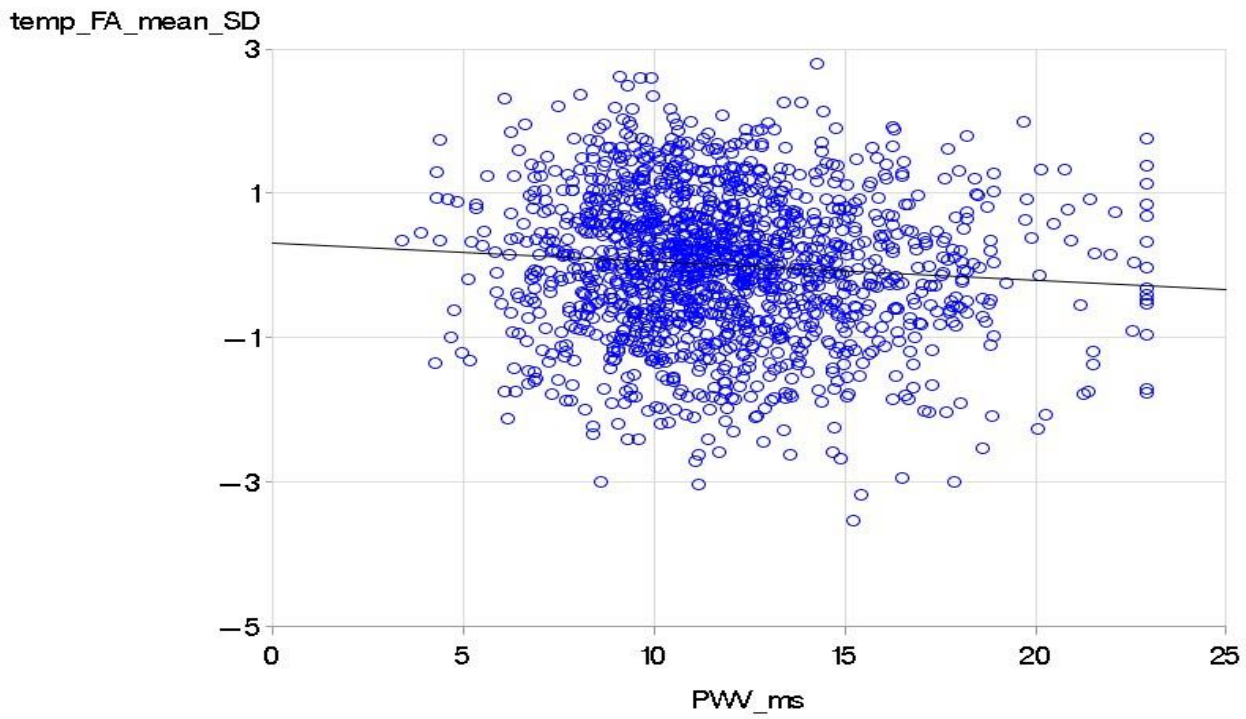


PWW—frontal lobe MD correlation

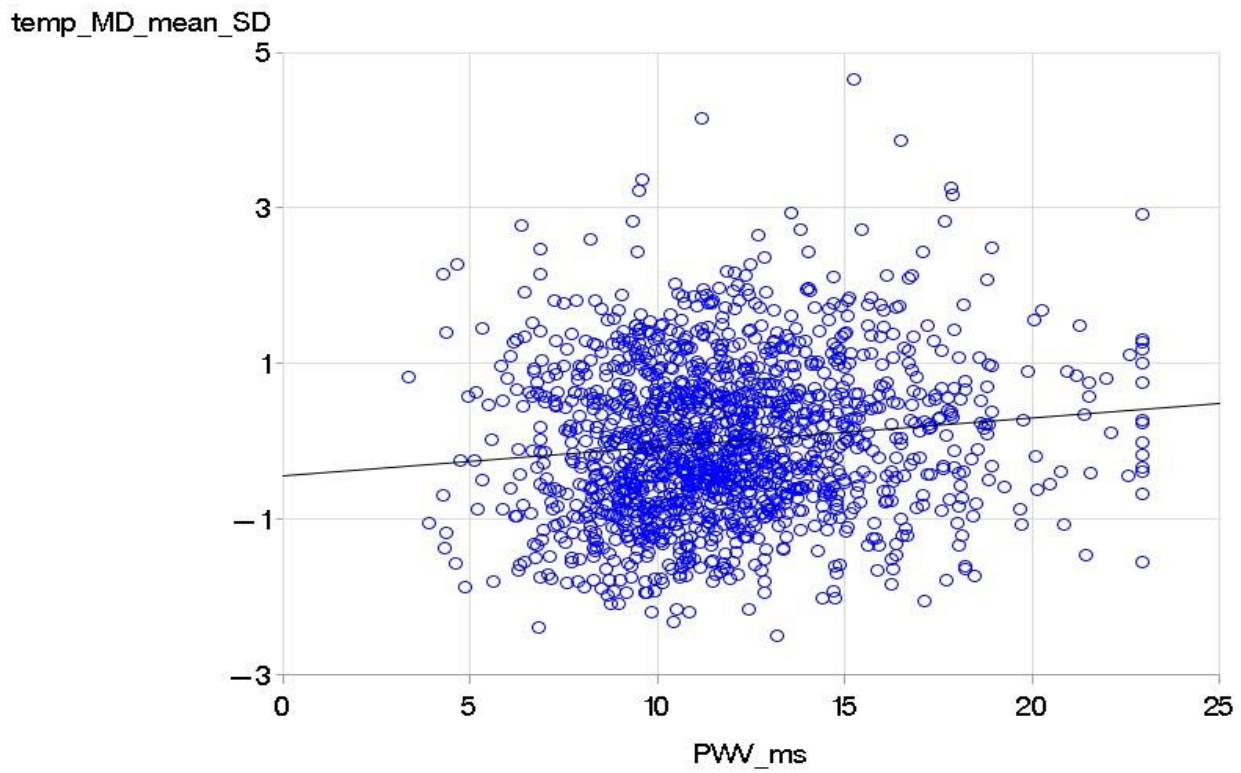


(B)

PWW—temporal lobe FA correlation

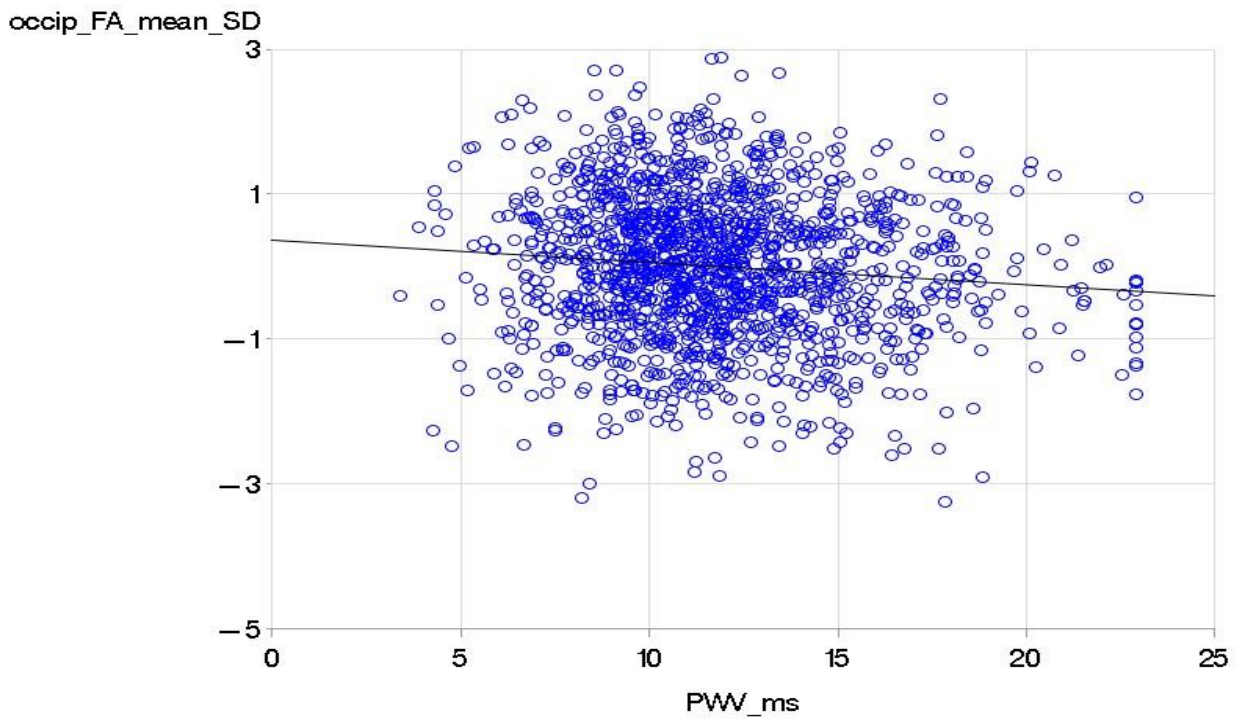


PWW—temporal lobe MD correlation

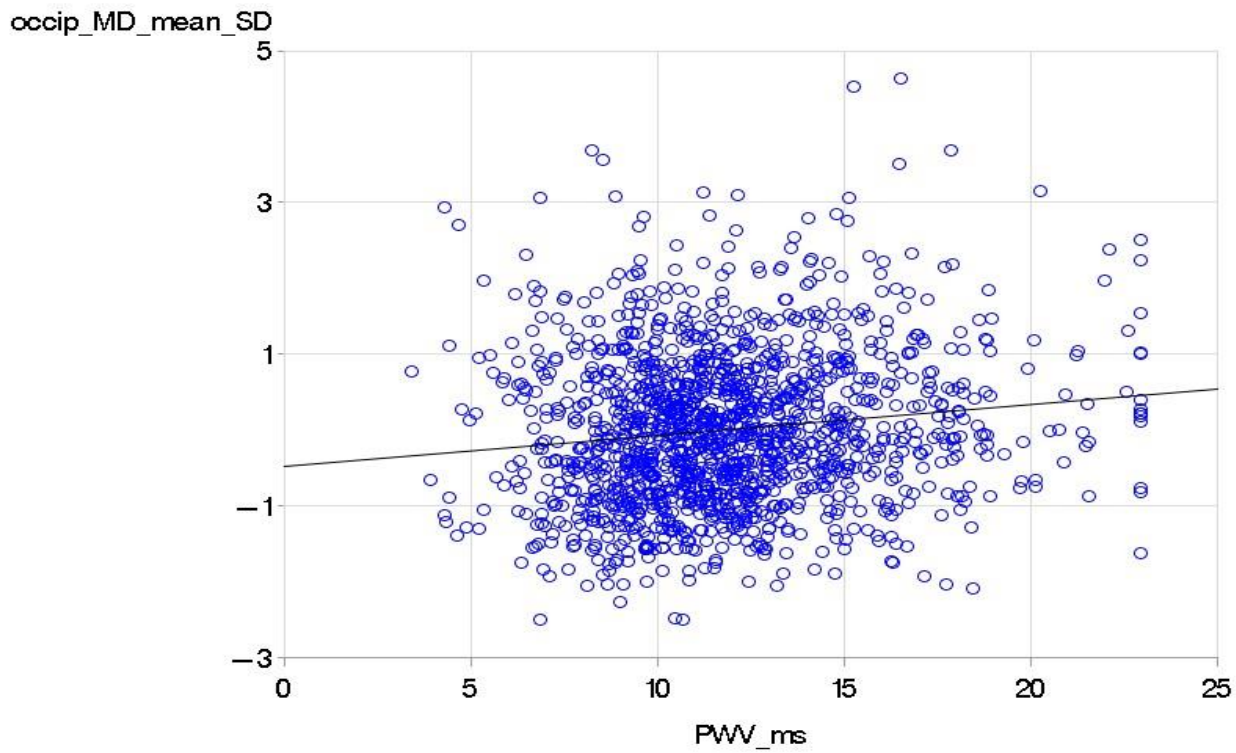


(C)

PWW—occipital lobe FA correlation

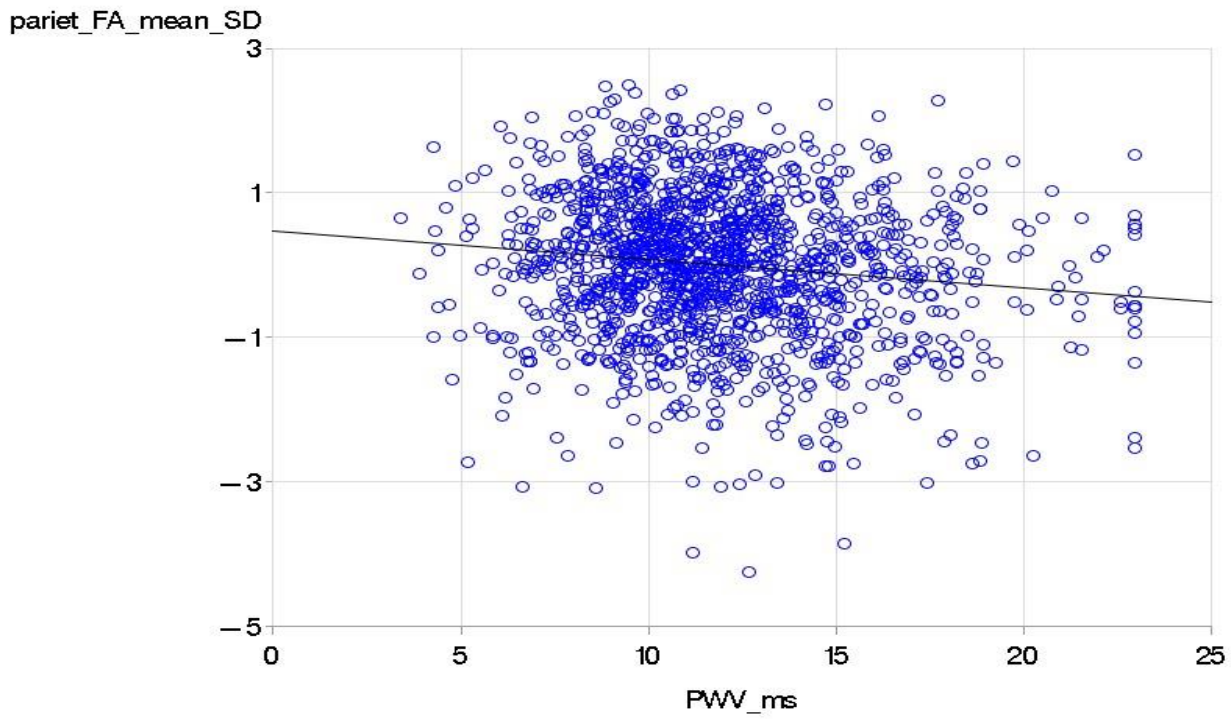


PWW—occipital lobe MD correlation

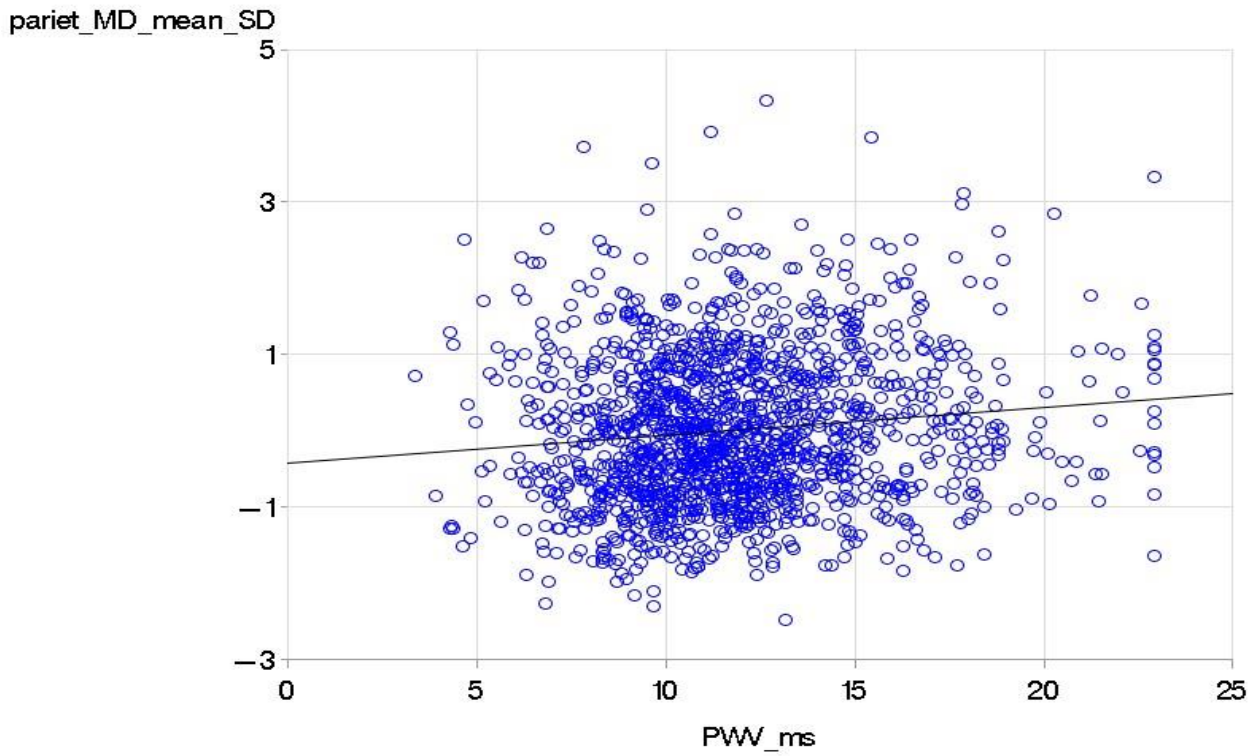


(D)

PWW—parietal lobe FA correlation



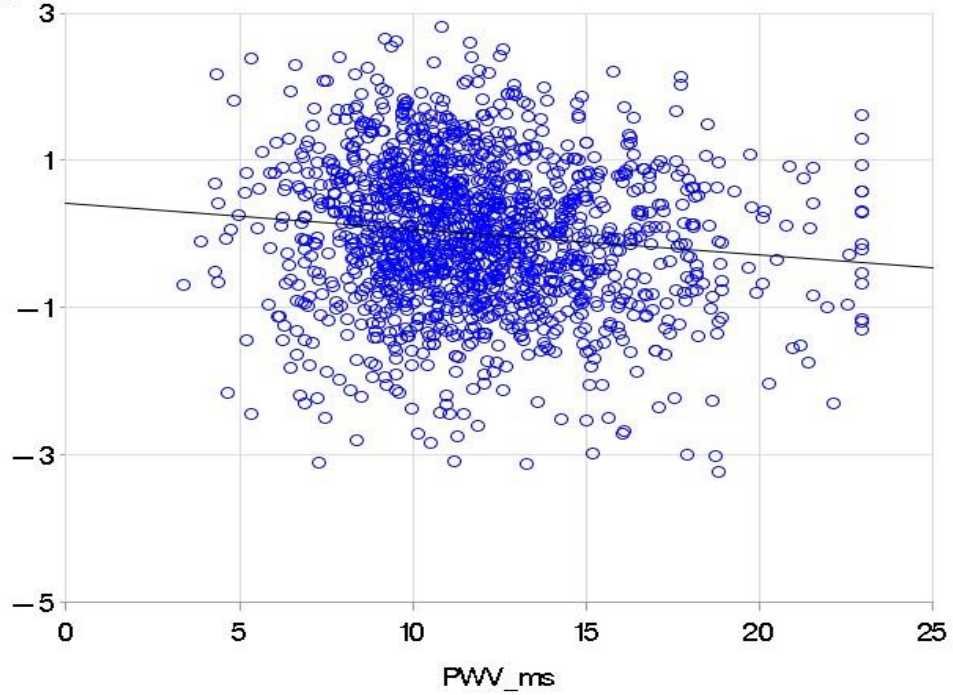
PWW—parietal lobe MD correlation



(E)

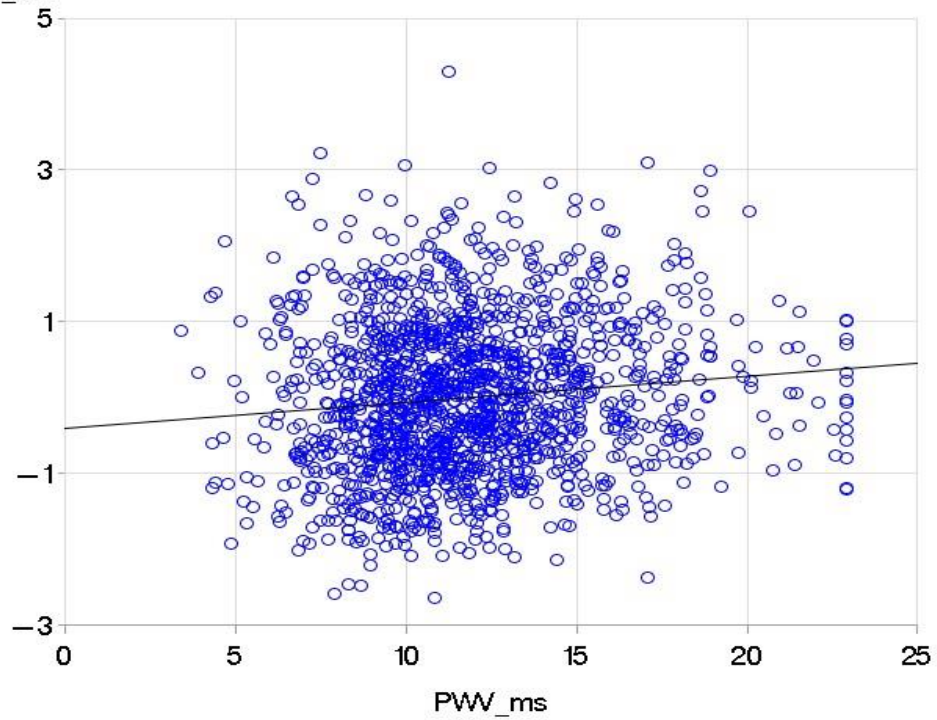
PWW—anterior corpus callosum FA correlation

anterior_CC_FA_mean_SD



PWW—anterior corpus callosum MD correlation

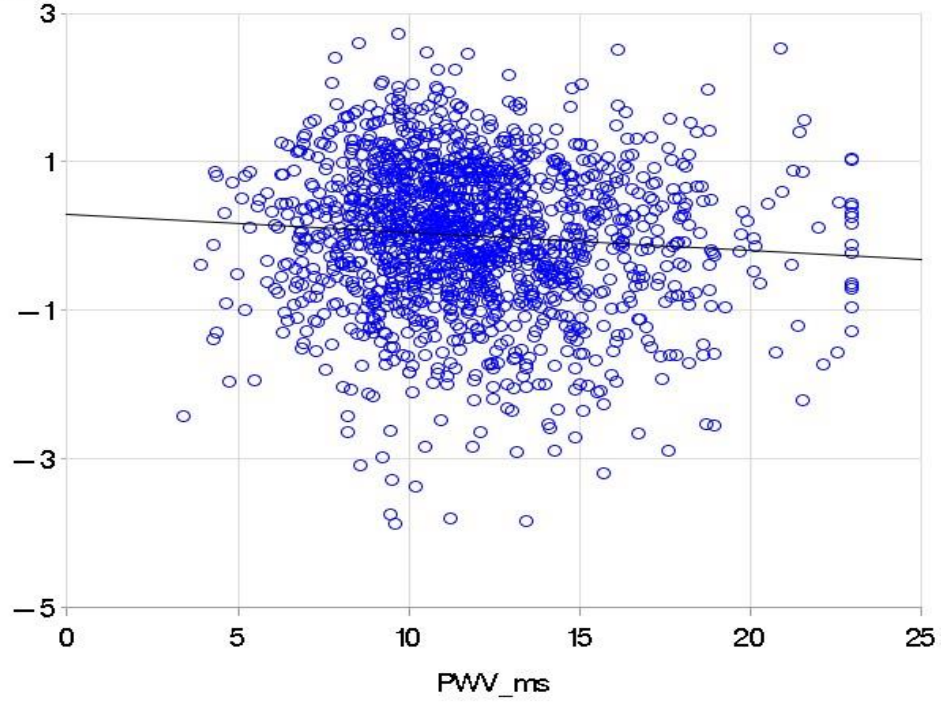
anterior_CC_MD_mean_SD



(F)

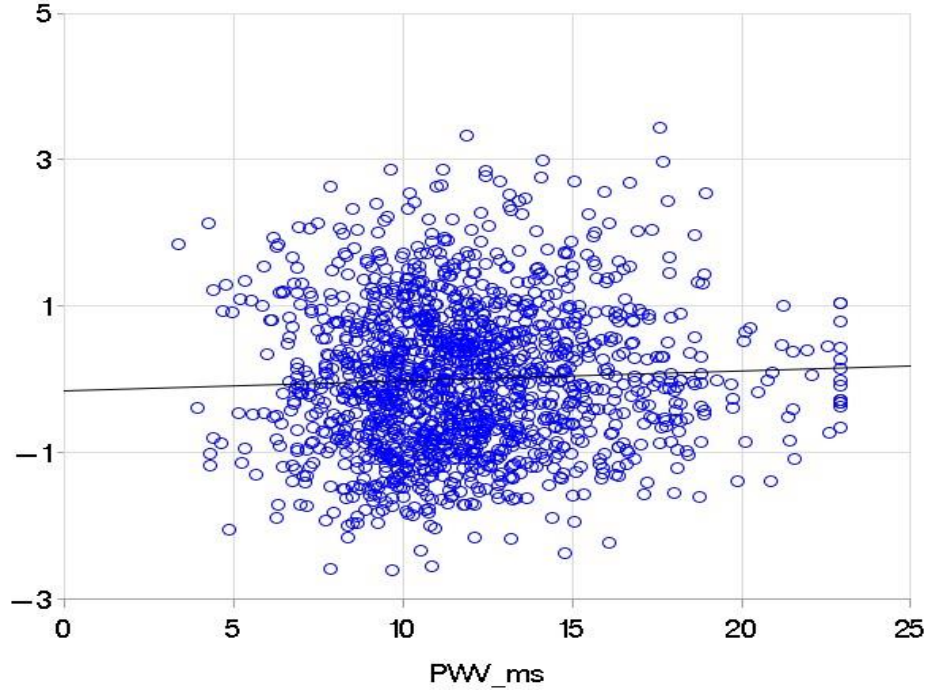
PWW—posterior corpus callosum FA correlation

posterior_CC_FA_mean_SD



PWW—posterior corpus callosum MD correlation

posterior_CC_MD_mean_SD



(G)