

TABLE 3 Associations between GM/WM CBF, BOLD and TCD and neurocognitive variables using Linear Mixed Effects Models

Outcomes	GM-CBF <sup>a</sup>		WM-CBF <sup>a</sup>		BOLD <sup>a</sup>		TCD <sup>a</sup>	
	Est(SE)	P	Est(SE)	P	Est(SE)	P	Est(SE)	P
BOLD	-0.045(0.02)	0.069	-0.00047(0.037)	0.99	NA	NA	-0.0015(0.01)	0.89
TCD velocity	0.19(0.42)	0.66	0.049(0.54)	0.93	-0.33(4.86)	0.95	NA	NA
Neurocognitive Evaluation								
Full Scale IQ	-0.31(0.14)	<b>0.048</b>	-0.18(0.19)	0.38	3.3(1.7)	0.11	-0.068(0.086)	0.45
Verbal Comprehension	0.063(0.19)	0.74	0.28(0.25)	0.27	2.8(2)	0.21	-0.0058(0.085)	0.95
Perceptual Reasoning	-0.21(0.26)	0.44	-0.24(0.35)	0.51	0.89(1.8)	0.63	-0.018(0.12)	0.89
Working Memory	-0.37(0.25)	0.16	-0.49(0.34)	0.17	1.7(2.5)	0.52	-0.2(0.12)	0.11
Processing Speed	-0.33(0.22)	0.16	-0.28(0.3)	0.36	6.1(2.1)	<b>0.031</b>	-0.23(0.1)	<b>0.049</b>
WJ Letter Word ID	-22(11)	0.072	-24(13)	0.093	18(110)	0.88	-5.7(6.9)	0.43
WJ Reading Fluency	-0.19(0.17)	0.29	-0.34(0.19)	0.1	2(1.1)	0.14	0.035(0.096)	0.73
WJ Calculation	0.017(0.32)	0.96	0.24(0.46)	0.62	1.7(3)	0.59	-0.24(0.13)	0.1
WJ Math Fluency	-0.0061(0.0087)	0.49	-0.012(0.012)	0.34	0.021(0.079)	0.8	-0.0097(0.0035)	<b>0.017</b>
WJ Passage Comprehension	-12(18)	0.52	-23(22)	0.33	120(230)	0.62	-10(7.9)	0.22
WJ Applied Problems	0.058(0.19)	0.76	-0.032(0.24)	0.9	-0.72(1.2)	0.56	-0.15(0.091)	0.13

P<0.05 indicates significance (two-sided). False discovery rate adjusted p-values ( $p^{\text{FDR}}$ ) for all tests were >0.05. <sup>a</sup>Adjusted for age in the model

Est (SE)=Beta coefficient estimate and standard error (calculated from linear mixed effect models).

Abbreviations: NA = not applicable, GM-CBF=gray matter cerebral blood flow, WM-CBF=white matter cerebral blood flow, BOLD=blood oxygen level dependent, TCD=transcranial Doppler ultrasound, WJ=Woodcock-Johnson.