

Supplemental Information

METHODS

Statistical Analyses

The contributions of the individual WISC-IV indices (Verbal Comprehension, Perceptual Reasoning, Working Memory, and Processing Speed) were explored to understand which aspects of the FSIQ were most associated with the interaction between the number of invasive procedures and FA values of the superior WM.

RESULTS

Interaction Between Number of Invasive Procedures and Superior WM in Relation to the WISC-IV Indices

The interaction between the number of invasive procedures and FA of the superior WM to predict Full Scale IQ was driven by the Verbal ($B = 402.41$; $P = .05$; CI, -3.40 to 808.21) and Working Memory ($B = 352.98$; $P = .04$;

CI, 24.86 to 681.11) (Supplemental Table 6) components of the FSIQ, whereas Perceptual Reasoning ($B = 296.20$; $P = .19$; CI, -148.49 to 740.90) and Processing Speed ($B = 266.48$; $P = .29$; CI, -226.85 to 759.80) were not significantly associated with the interaction between the number of invasive procedures and FA of the superior WM.

SUPPLEMENTAL TABLE 6 Higher Number of Invasive Procedures and Lower FA of the Superior WM Predicted Lower Verbal Comprehension and Working Memory

Predictors	Verbal Comprehension Index, $n = 50$			Working Memory Index, $n = 50$		
	B	CI	P	B	CI	P
Number of invasive procedures \times FA	402.41	-3.40 to 808.21	.05	352.98	24.86 to 681.11	.04
FA	-675.44	-1444.10 to 93.22	.09	-638.96	-1260.49 to -17.44	.04
Number of invasive procedures	69.93	3.72 to 136.14	.04	76.30	22.76 to 129.84	.005
GA	-0.88	-4.35 to 2.58	.62	1.57	-1.23 to 4.37	.27
Small for GA	2.81	-11.65 to 17.28	.70	-7.14	-18.83 to 4.56	.23
Illness severity	-0.51	-1.02 to 0.01	.05	-0.31	-0.72 to 0.11	.15
Mechanical ventilation	0.007	-18.78 to 18.79	1.00	1.47	-13.72 to 16.66	.85
Morphine exposure	-6.68	-26.36 to 13.00	.51	-5.91	-21.83 to 10.00	.47
Postnatal infection	3.65	-8.03 to 15.33	.54	6.43	-3.01 to 15.87	.18
Gender	4.28	-4.59 to 13.27	.35	-3.62	-10.89 to 3.66	.33
Age at scan	-175.89	-419.67 to 67.89	.16	-54.46	-251.57 to 142.66	.59
Brain injury	-8.87	-21.39 to 3.64	.17	2.08	-8.04 to 12.19	.69