

Table E1a: Regression Analysis - Cognition										
	WPPSI		WPPSI		WPPSI		WPPSI		Visual-Motor	
	Full Scale IQ		Verbal IQ		Performance IQ		Processing Speed		Integration	
	Univariable	Multivariable	Univariable	Multivariable	Univariable	Multivariable	Univariable	Multivariable	Univariable	Multivariable
	(<i>n</i> = 111)	(<i>R</i> ² = 0.30)	(<i>n</i> = 112)	(<i>R</i> ² = 0.24)	(<i>n</i> = 110)	(<i>R</i> ² = 0.20)	(<i>n</i> = 102)	(<i>R</i> ² = 0.19)	(<i>n</i> = 112)	(<i>R</i> ² = 0.21)
<i>Patient Characteristics</i>										
Race	< 0.01 (-)		< 0.01 (-)		< 0.01 (-)		< 0.01 (+)			
Caucasian (reference)									0.60	
Black	< 0.01 (-)		< 0.01 (-)		< 0.01 (-)		< 0.01 (-)		0.36	
Other	0.59		0.17		0.74		0.10		0.60	
Gender	0.98		0.86		0.69		0.88		0.93	
Larger Birth Weight	0.03 (+)		0.24		< 0.01 (+)	0.01 (+)	< 0.01 (+)		< 0.01 (+)	< 0.01 (+)
Larger Birth Head Circumference	0.07		0.25		0.02 (+)		< 0.01 (+)		< 0.01 (+)	
Older Gestational Age	< 0.01 (+)	0.03 (+)	0.06		< 0.01 (+)		< 0.01 (+)	< 0.01 (+)	< 0.01 (+)	
Presence of Genetic Anomaly	< 0.01 (-)		0.01 (-)		< 0.01 (-)		0.17		< 0.01 (-)	

Normal (reference)									
Suspected	0.01 (-)		0.03 (-)		< 0.01 (-)		0.25		0.05 (-)
Confirmed	0.01 (-)		0.02 (-)		0.02 (-)		0.11		< 0.01 (-)
APOE Genotype	0.80								
$\epsilon 3/\epsilon 3$ (reference)			0.80		0.62		0.62		0.40
$\epsilon 2/\epsilon 2$ $\epsilon 2/\epsilon 3$	0.74		0.92		0.48		0.49		0.22
$\epsilon 3/\epsilon 4$ $\epsilon 4/\epsilon 4$	0.53		0.51		0.41		0.41		0.39
Greater Maternal Education									
Less than High School (reference)	0.09		0.36		0.09		0.34		0.05 (+)
Finished high school/some college	0.98		0.75		0.70		0.54		0.57
Finished College	0.76		0.75		0.96		0.35		0.97
Graduate School	0.10		0.42		0.09		0.12		0.08
Higher Socioeconomic Status									
Professional (reference)	0.21		0.22		0.40		0.55		0.78

Skilled/clerical	0.99		0.86		0.98		0.15		0.64	
Unskilled	0.86		0.76		0.76		0.31		0.48	
Semi(-)skilled	0.23		0.30		0.40		0.25		0.95	
Presence of HLHS vs. Other SV	0.18		0.97		0.02 (-)		0.81		0.82	
Use of Preoperative Mechanical Ventilation	0.37		0.63		0.28		0.71		0.16	
<i>First Operation</i>										
Older Age at First Surgery	0.47		0.88		0.23		0.38		0.70	
Larger Weight at First Surgery	0.10		0.38		0.01 (+)		0.05 (+)		0.04 (+)	
Longer Duration CPB at First Operation	0.08		0.05 (-)		0.44		0.54		0.39	
Longer Duration DHCA at First Operation	0.10		1.00		0.01 (-)		0.16		0.52	
Higher Hematocrit after Hemodilution	0.01 (+)	0.04 (+)	0.01 (+)	0.03 (+)	0.04 (+)		0.14		0.05 (+)	0.04 (+)

Longer Postoperative Length of Stay	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	0.01 (-)	< 0.01 (-)	0.03 (-)	< 0.01 (-)	< 0.01 (-)
<i>Additional Operations</i>										
Greater Number of Additional Operations with CPB	0.23		0.47		0.12		0.61		0.57	
Longer Duration Additional CPB	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	0.02 (-)	< 0.01 (-)	0.01 (-)	0.05		0.08	
Longer Duration Additional DHCA	0.81		0.71		0.70		0.61		0.74	

+ = better performance, - = worse performance

Table E1b: Regression Analyses – Behavior and Social Skills								
	Inattention		Impulsivity		Restricted Behavior		Social Skills	
	Univariable	Multivariable	Univariable	Multivariable	Univariable	Multivariable	Univariable	Multivariable
	(n = 112)	(n = 112)	(n = 112)	(n = 112)	(n = 112)	(n = 112)	(n = 112)	(n = 112)
<u>Patient Characteristics</u>								
Race	0.05 (+)		< 0.01 (+)		0.21		0.47	
Caucasian (reference)								
Black	0.02 (-)		< 0.01 (-)		0.07		0.22	
Other	0.64		0.20		0.79		0.99	
Gender	0.30		1.00		0.04 (+)	0.03 (+)	0.86	
Larger Birth Weight	< 0.01 (+)		< 0.01 (+)		0.02 (+)		0.13	
Larger Birth Head Circumference	< 0.01 (+)	< 0.01 (+)	< 0.01 (+)	< 0.01 (+)	0.06		0.12	
Older Gestational Age	< 0.01 (+)		0.04 (+)		< 0.01 (+)	0.02 (+)	0.13	
Presence of Genetic Anomaly	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	0.01 (-)	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	

Skilled/clerical	0.25	< 0.01 (-)	0.81	0.10	0.29		0.61	
Unskilled	0.40	0.02 (-)	0.12	0.64	0.58		0.93	
Semi(-)skilled	0.34	0.37	< 0.01 (+)	< 0.01 (+)	0.42		0.82	
Presence of HLHS vs. Other SV	0.50		0.68		0.86		0.31	
Use of Preoperative Mechanical Ventilation	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	0.01 (-)	0.02 (-)	0.07	
<i>First Operation</i>								
Older Age at First Surgery	0.20		0.44		0.56		0.17	
Larger Weight at First Surgery	0.34		0.09		0.14		0.42	
Longer Duration CPB at First Operation	0.02 (-)	< 0.01 (-)	0.75		0.02 (-)	< 0.01 (-)	0.17	
Longer Duration DHCA at First Operation	0.90		0.43		0.49		0.60	
Higher Hematocrit after Hemodilution	< 0.01 (+)		< 0.01 (+)		0.05 (+)		0.10	

Longer Postoperative Length of Stay	< 0.01 (-)		0.01 (-)		< 0.01 (-)		0.01 (-)	
<u>Additional Operations</u>								
Greater Number of Additional Operations with CPB	0.09		0.68		0.17		0.22	
Longer Duration Additional CPB	0.34		0.47		0.19		0.85	
Longer Duration Additional DHCA	0.10		0.07		0.22		0.26	

+ = better performance, - = worse performance

Table E1c: Regression Analyses – Academic Achievement				
	Mathematics		Reading	
	Univariable	Multivariable	Univariable	Multivariable
	(n = 109)	(n = 106)	(n = 107)	(n = 102)
<u>Patient Characteristics</u>				
Race	< 0.01 (-)	< 0.01 (-)	<0.01 (+)	<0.01 (+)
Caucasian (reference)				
Black	< 0.01 (-)	< 0.01 (-)	< 0.01 (-)	< 0.01(-)
Other	0.25	0.61	0.50	0.56
Gender	0.41		0.97	
Larger Birth Weight	0.01 (+)		0.81	
Larger Birth Head Circumference	0.07		0.98	
Older Gestational Age	0.01 (+)		0.31	
Presence of Genetic Anomaly	0.02 (-)		0.05 (+)	
Normal (reference)				
Suspected	0.13		0.02 (+)	
Confirmed	0.01 (-)		0.27	

APOE Genotype				
ε3/ε3 (reference)	0.59		0.61	
ε2/ε2 ε2/ε3	0.97		0.91	
ε3/ε4 ε4/ε4	0.31		0.32	
Greater Maternal Education	0.03 (+)		< 0.01 (-)	< 0.01 (-)
Less than High School (reference)				
Finished high school/some college	0.30		0.11	0.26
Finished College	0.19		0.04 (-)	0.24
Graduate School	0.01 (+)		< 0.01(-)	< 0.01 (-)
Lower Socioeconomic Status				
Professional (reference)	0.23		0.04 (NS)	
Skilled/clerical	0.69		0.85	
Unskilled	0.41		0.30	
Semi(-)skilled	0.10		0.07	
Presence of HLHS vs. Other SV	0.94		0.79	
Use of Preoperative Mechanical Ventilation	0.39		0.54	

<u>First Operation</u>				
Older Age at First Surgery	0.40		0.80	
Larger Weight at First Surgery	0.02 (+)		0.48	
Longer Duration CPB at First Operation	0.34		0.33	
Longer Duration DHCA at First Operation	0.64		0.44	
Higher Hematocrit after Hemodilution	0.14		0.24	
Longer Postoperative Length of Stay	< 0.01 (-)	< 0.01 (-)	0.11	
<u>Additional Operations</u>				
Greater Number of Additional Operations with CPB	0.38		0.36	
Longer Duration Additional CPB	0.02 (-)	0.03 (-)	0.05 (+)	
Longer Duration Additional DHCA	0.24		0.47	

+ = better performance, - = worse performance