

Exploring the factor structure of the NIH Toolbox Cognition Battery in a large sample of 8-year old children in Aotearoa New Zealand

– Supplemental Material –

Supplementary Table 1

Sociodemographic characteristics and descriptive data of the NIH Toolbox CB measures

Variable	Characteristics	
<i>Sociodemographic variables</i>		
Child Age (yrs), M (SD)	8.57	(0.41)
Child Gender, n (%)		
Boy	2176	(50.6)
Girl	2122	(49.4)
Mothers' ethnicity, n (%)		
European	2709	(63.0)
Māori	472	(11.0)
Pacific Peoples	398	(9.3)
Asian	580	(13.5)
Other	139	(3.2)
Deprivation, n (%)		
Low	1545	(35.9)
Medium	1656	(38.5)
High	1097	(25.5)
<i>NIH Toolbox CB age-adjusted normative scores, M (SD)</i>		
Picture Vocabulary Test	103.68	(14.52)
Flanker Inhibitory Control/Attention Test	96.26	(12.00)
List Sorting Working Memory Test	99.18	(14.78)
Pattern Comparison Processing Speed Test	92.87	(19.90)
DCCS Cognitive Flexibility	99.81	(13.48)
Picture Sequence Episodic Memory Test	101.87	(14.91)
Oral Reading Recognition Test	105.69	(22.13)

Supplementary Table 2

Factor loadings of the 7 NIH toolbox Cognitive Battery measures (raw scores) on the 3-factor structure from exploratory factor analysis by ethnic group

Measure	European (n = 2709)			Māori (n = 472)			Pacific People (n = 398)			Asian (n = 580)		
	F I	F II	F III	F I	F II	F III	F I	F II	F III	F I	F II	F III
Flanker Inhibitory Control/Attention Test	.70			.11		.73	.62			.69		-.11
DCCS Cognitive Flexibility	.58			.31	.13		.69			.59		
Pattern Comparison Processing Speed Test	.54			.69	-.24		.50			.61		.11
List Sorting Working Memory Test		.20	.48	.23	.49	-.10	-.22	.87	.23		.31	.27
Picture Sequence Episodic Memory Test			.51	.25	.17		.15		.61			.60
Picture Vocabulary Test		.62			.65		.17	.24	-.12	-.12	.58	.23
Oral Reading Recognition Test		.63		-.16	.54	.14		.61			.73	-.19

Note. Factor loadings >.30 are in boldface.

Supplementary Table 3

Intercorrelations of NIH Toolbox Cognition measures at 8 years

N=4420	Picture Vocabulary Test	Flanker Inhibitory Control/Attention Test	List Sorting Working Memory Test	DCCS Cognitive Flexibility	Pattern Comparison Processing Speed Test	Picture Sequence Episodic Memory Test	Oral Reading Recognition Test
Picture Vocabulary Test	1	.15** (.12**)	.30** (.26**)	.22** (.16**)	.12** (.10**)	.17** (.16**)	.34** (.30**)
Flanker Inhibitory Control/Attention Test		1	.19** (.15**)	.41** (.42**)	.35** (.35**)	.17** (.15**)	.21** (.15**)
List Sorting Working Memory Test			1	.24** (.18**)	.19** (.17**)	.27** (.26**)	.34** (.31**)
DCCS Cognitive Flexibility				1	.34** (.36**)	.20** (.18**)	.22** (.16**)
Pattern Comparison Processing Speed Test					1	.18** (.17**)	.15** (.12**)
Picture Sequence Episodic Memory Test						1	.15** (.12**)
Oral Reading Recognition Test							1

Note. **Correlation is significant at the 0.01 level (2-tailed). Intercorrelations for age-adjusted normative scores are in brackets.