

**Supplemental Table S3.** Mediation analyses three-factor model ( $n= 182$ );  $p$ -value  $<.05^*$

Mediators	Estimate	SE	p-value
<b>Mathematics</b>			
Inhibition (path cg)	-0.022	0.015	0.327
Working Memory (path dh)	-0.006	0.023	0.870
Cognitive Flexibility (path ei)	0.145	0.040	0.021*
Global indirect effect	0.117	0.022	0.001*
Total effect	0.254	0.053	0.002*
<b>Grammar, spelling, vocabulary</b>			
Inhibition (path cg)	-0.029	0.017	0.283
Working Memory (path dh)	-0.006	0.021	0.861
Cognitive Flexibility (path ei)	0.154	0.042	0.023*
Global indirect effect	0.119	0.022	0.001*
Total effect	0.206	0.055	0.020*

**Supplemental Table S4.** Fit indices of executive functions models

Model	CFI	TLI	AIC	BIC	RMSEA	SRMR
<b>Bifactor model</b>	0.980	0.953	3904.112	4029.068	0.041	0.031
Three-factor model	0.953	0.929	3840.850	3936.971	0.052	0.053

Endorsed model in BOLD; comparative fit index (CFI); Tucker-Lewis index (TLI); root-mean-square error of approximation (RMSEA); and standardized root mean residual (SRMR).

**Supplemental Table S5.** Proportion of variance captured by each executive function as measured by our 9 tasks;  $p$ -value  $<.05^*$

Task	Bifactor model				Three-factor model		
	CEF	INH	FLEX	WM	INH	FLEX	WM
<b>FT</b>	0.301	0.039			0.259		
<b>ST</b>	0.438	0.362			0.848		
<b>GNG</b>	0.009	0.555			0.182		
<b>CSST</b>	0.071		0.111			0.181	
<b>GSST</b>	0.211		0.181			0.392	
<b>TMT</b>	0.028		0.507			0.376	
<b>SNB</b>	0.002			0.231			0.241
<b>BDST</b>	0.008			0.527			0.590
<b>LMT</b>	0.018			0.199			0.164

Executive functions components acronyms: CEF: common executive functions; INH: inhibition; FLEX: cognitive flexibility; WM: working memory. Executive functions' tasks acronyms: FT: Flanker task; ST: Simon task; GNG: Go/No-go task; CSST: Color-shape switch task; GSST: Gender-smile switch task; TMT: Trail making test; SNB: Spatial n-back task; BDST: backwards digit-span task; LMT: Letter-memory task.