

Table S1
Correlations between Variables for the Complete Sample

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. T1 Patterns	-																	
2. T1 Block design	.58	-																
3. T1 Object assembly	.43	.49	-															
4. T1 Picture completion	.26	.32	.29	-														
5. T1 Analogies	.27	.37	.23	.24	-													
6. T1 Categories	.37	.40	.38	.39	.41	-												
7. T2 Language comprehension	.35	.36	.23	.26	.39	.37	-											
8. T2 Expressive syntax	.33	.25	.20	.22	.32	.36	.61	-										
9. T2 Expressive vocabulary	.35	.28	.19	.22	.33	.37	.67	.66	-									
10. T2 Verbal STM	.36	.33	.29	.25	.32	.32	.48	.50	.49	-								
11. T3 Active LK	.27	.35	.29	.22	.26	.22	.39	.27	.37	.37	-							
12. T3 Passive LK	.30	.37	.35	.20	.25	.25	.39	.25	.33	.34	.90	-						
13. T3 Phoneme blending	.28	.35	.23	.16	.29	.22	.46	.37	.43	.46	.70	.67	-					
14. T3 Phoneme segmentation	.31	.40	.26	.16	.26	.19	.43	.29	.38	.39	.68	.66	.86	-				
15. T3 RAN colors	.32	.26	.15	.12	.17	.16	.28	.26	.24	.29	.43	.42	.38	.40	-			
16. T3 RAN objects	.28	.24	.18	.13	.15	.16	.25	.26	.20	.29	.41	.43	.29	.31	.82	-		
17. T4 Phoneme deletion	.36	.27	.17	.07	.20	.20	.30	.37	.21	.35	.42	.46	.47	.46	.37	.32	-	
18. T4 RAN colors	.20	.15	.11	.05	.05	.11	.11	.10	.03	.09	.20	.21	.16	.19	.65	.64	.25	-

Note. STM = short-term memory, LK = letter knowledge, RAN = rapid automatized naming, T1 = kindergarten year 1, T2 = kindergarten year 1, T3 = kindergarten year 2, T4 = start Grade 2, T5 = end Grade 2, T6 = end Grade 3, T7 = Grade 6. Coefficients in italics are not significant.

Table S1 (continued)*Correlations between Variables for the Complete Sample*

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
19. T4 RAN digits	.09	.01	-.02	-.04	-.00	-.05	.09	.10	.03	.02	.24	.28	.21	.20	.49	.54	.24	.53
20. T4 Word accuracy	.24	.24	.17	.15	.10	.17	.34	.34	.28	.37	.54	.53	.53	.50	.42	.37	.61	.24
21. T4 Nonword accuracy	.30	.26	.17	.15	.14	.18	.30	.29	.21	.31	.49	.47	.50	.53	.28	.21	.59	.24
22. T4 Word reading fluency 1	.24	.25	.25	.14	.15	.23	.30	.34	.26	.28	.61	.63	.50	.53	.45	.45	.50	.25
23. T4 Word reading fluency 2	.25	.25	.23	.15	.18	.22	.30	.36	.27	.29	.60	.61	.49	.51	.44	.42	.48	.22
24. T5 Word accuracy	.24	.24	.17	.09	.19	.19	.35	.41	.25	.33	.47	.50	.45	.41	.36	.34	.57	.23
25. T5 Nonword accuracy	.26	.27	.16	.09	.11	.15	.31	.39	.22	.27	.48	.51	.44	.44	.34	.27	.58	.22
26. T5 Word reading fluency 1	.30	.25	.21	.10	.21	.21	.31	.37	.29	.30	.55	.59	.45	.46	.47	.47	.53	.30
27. T5 Word reading fluency 2	.27	.23	.22	.10	.17	.19	.31	.40	.29	.28	.54	.59	.45	.47	.46	.48	.52	.28
28. T6 Nonword accuracy	.27	.26	.20	.04	.15	.15	.20	.32	.17	.27	.42	.48	.43	.45	.33	.27	.56	.24
29. T6 Word reading fluency	.24	.24	.23	.13	.19	.17	.35	.38	.26	.32	.55	.58	.49	.52	.48	.44	.52	.26
30. T6 Nonword reading fluency	.25	.25	.22	.06	.08	.17	.28	.34	.21	.30	.38	.45	.39	.44	.36	.34	.48	.23
31. T6 Vocabulary	.19	.26	.14	.20	.20	.31	.53	.63	.55	.33	.33	.34	.35	.37	.31	.22	.30	.12
32. T7 Word reading fluency	.16	.10	.15	.15	.00	.10	.32	.34	.19	.27	.44	.45	.35	.32	.46	.52	.42	.34
33. T7 Nonword reading fluency	.21	.16	.11	.15	-.01	.10	.26	.23	.12	.24	.38	.42	.31	.28	.45	.42	.51	.33
34. T7 Vocabulary	.21	.22	.14	.04	.03	.20	.28	.40	.33	.30	.25	.32	.29	.32	.31	.34	.31	.21
35. T7 Reading comprehension	.29	.20	.06	.11	.07	.14	.28	.31	.23	.31	.18	.25	.30	.30	.35	.29	.33	.22
36. Family risk	-.11	-.06	-.07	-.02	-.07	-.10	-.17	-.12	-.08	-.22	-.25	-.27	-.32	-.33	-.26	-.31	-.34	-.17

Note. STM = short-term memory, LK = letter knowledge, RAN = rapid automatized naming, T1 = kindergarten year 1, T2 = kindergarten year 1, T3 = kindergarten year 2, T4 = start Grade 2, T5 = end Grade 2, T6 = end Grade 3, T7 = Grade 6. Coefficients in italics are not significant.

Table S1 (continued)*Correlations between Variables for the Complete Sample*

Variables	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.
19. T4 RAN digits	-																	
20. T4 Word accuracy	.33	-																
21. T4 Nonword accuracy	.21	.71	-															
22. T4 Word reading fluency 1	.36	.75	.71	-														
23. T4 Word reading fluency 2	.34	.72	.72	.95	-													
24. T5 Word accuracy	.32	.75	.61	.70	.66	-												
25. T5 Nonword accuracy	.28	.75	.78	.74	.76	.74	-											
26. T5 Word reading fluency 1	.42	.70	.63	.87	.83	.75	.72	-										
27. T5 Word reading fluency 2	.38	.71	.68	.90	.89	.73	.76	.94	-									
28. T6 Nonword accuracy	.35	.69	.74	.69	.69	.69	.82	.66	.71	-								
29. T6 Word reading fluency	.40	.70	.66	.87	.87	.73	.77	.90	.93	.72	-							
30. T6 Nonword reading fluency	.37	.67	.71	.80	.82	.66	.79	.79	.83	.78	.86	-						
31. T6 Vocabulary	.11	.36	.28	.39	.39	.33	.40	.38	.41	.33	.44	.34	-					
32. T7 Word reading fluency	.50	.57	.55	.75	.73	.62	.62	.82	.84	.59	.85	.73	.34	-				
33. T7 Nonword reading fluency	.46	.67	.65	.76	.77	.70	.74	.81	.82	.71	.83	.87	.33	.84	-			
34. T7 Vocabulary	.29	.43	.41	.42	.44	.37	.44	.35	.40	.45	.43	.38	.46	.32	.31	-		
35. T7 Reading comprehension	.32	.37	.35	.39	.41	.43	.42	.45	.47	.36	.42	.39	.33	.40	.39	.63	-	
36. Family risk	-.28	-.43	-.36	-.41	-.42	-.40	-.40	-.39	-.44	-.45	-.47	-.50	-.16	-.39	-.45	-.17	-.34	-

Note. STM = short-term memory, LK = letter knowledge, RAN = rapid automatized naming, T1 = kindergarten year 1, T2 = kindergarten year 1, T3 = kindergarten year 2, T4 = start Grade 2, T5 = end Grade 2, T6 = end Grade 3, T7 = Grade 6. Coefficients in italics are not significant.

Table S2*Parameter Estimates of the Model reported in Figure 1*

Parameter	Unstandardized	SE	<i>p</i>	Standardized
<i>Factor loadings</i>				
General IQ				
Patterns	1.00	0.00	<.001	.69
Block design	1.03	0.10	<.001	.76
Object assembly	0.71	0.09	<.001	.60
Picture completion	0.63	0.10	<.001	.45
Analogies	0.64	0.10	<.001	.51
Categories	0.84	0.11	<.001	.60
Language comprehension	2.81	0.42	<.001	.53
Expressive syntax	2.71	0.47	<.001	.44
Expressive vocabulary	2.93	0.50	<.001	.45
Verbal STM	3.17	0.48	<.001	.51
Verbal IQ				
Language comprehension	1.00	0.00	<.001	.60
Expressive syntax	1.30	0.15	<.001	.68
Expressive vocabulary	1.39	0.15	<.001	.68
Verbal STM	0.75	0.13	<.001	.51
T3 Letter knowledge				
Active letter knowledge	6.78	0.39	<.001	.95
Passive letter knowledge	6.06	0.35	<.001	.95
T3 PA				
Phoneme blending	4.54	0.28	<.001	.94
Phoneme segmentation	4.55	0.29	<.001	.92
T3 RAN				
RAN colors	8.82	0.57	<.001	.91
RAN objects	7.70	0.55	<.001	.90
T4 PA				
Phoneme deletion	2.76	0.24	<.001	.84
T4 RAN				
RAN colors	6.25	1.05	<.001	.83
RAN digits	5.02	0.88	<.001	.66
T4 Accuracy				
Word accuracy	3.96	0.29	<.001	.72
Nonword accuracy	4.51	0.25	<.001	.83
T4 Fluency				
Word reading fluency 1	11.55	0.48	<.001	.97
Word reading fluency 2	12.89	0.52	<.001	.98
T5 Accuracy				
Word accuracy	3.96	0.29	<.001	.88
Nonword accuracy	4.51	0.25	<.001	.84
T5 Fluency				
Word reading fluency 1	11.55	0.48	<.001	.96
Word reading fluency 2	12.89	0.52	<.001	.98

Table S2 (continued)

Parameter	Unstandardized	SE	<i>p</i>	Standardized
T6 Accuracy				
Nonword accuracy	4.51	0.25	<.001	.93
T6 Fluency				
Word reading fluency	3.92	0.47	<.001	.97
Nonword reading fluency	3.59	0.43	<.001	.90
T6 Vocabulary				
Vocabulary	1.44	0.14	<.001	.90
T7 Fluency				
Word reading fluency	3.92	0.47	<.001	.93
Nonword reading fluency	3.59	0.43	<.001	.87
T7 Vocabulary				
Vocabulary	6.32	0.57	<.001	.91
T7 Reading comprehension				
Reading comprehension	4.12	0.87	<.001	.82
<i>Direct effects</i>				
General IQ				
Family risk	-0.65	0.36	.071	-.13
Verbal IQ				
Family risk	-1.90	1.22	.119	-.12
T3 Letter knowledge				
General IQ	0.27	0.05	<.001	.49
Verbal IQ	0.04	0.01	.004	.20
Family risk	-0.45	0.16	.005	-.17
T3 PA				
General IQ	0.30	0.05	<.001	.50
Verbal IQ	0.06	0.01	<.001	.32
Family risk	-0.69	0.17	<.001	-.23
T3 RAN				
General IQ	0.19	0.04	<.001	.37
Verbal IQ	0.03	0.01	<.001	.15
Family risk	-0.59	0.17	<.001	-.24
T4 PA				
T3 PA	0.60	0.10	<.001	.59
Family risk	-0.63	0.22	.004	-.21
T4 RAN				
T3 RAN	1.39	0.28	<.001	.85
T4 Accuracy				
T3 Letter knowledge	0.44	0.14	.002	.30
T3 PA	0.54	0.13	<.001	.40
T3 RAN	0.10	0.10	.328	.06
Family risk	-1.13	0.23	<.001	-.29

Table S2 (continued)

Parameter	Unstandardized	SE	<i>p</i>	Standardized
T4 Fluency				
T3 Letter knowledge	0.72	0.13	<.001	.52
T3 PA	0.08	0.11	.469	.06
T3 RAN	0.27	0.09	.002	.19
Family risk	-0.93	0.18	<.001	-.26
T5 Accuracy				
T4 Accuracy	0.89	0.06	<.001	.85
T5 Fluency				
T4 Fluency	0.95	0.04	<.001	.85
T6 Accuracy				
T5 Accuracy	0.99	0.06	<.001	.88
T6 Fluency				
T5 Fluency	2.17	0.29	<.001	.97
T6 Vocabulary				
General IQ	0.31	0.07	<.001	.42
Verbal IQ	0.16	0.03	<.001	.67
T7 Fluency				
T6 Fluency	1.00	0.04	<.001	.97
T7 Vocabulary				
T6 Vocabulary	0.41	0.09	<.001	.56
T7 Reading comprehension				
T7 Fluency	0.09	0.05	.087	.20
T7 Vocabulary	1.16	0.35	.001	.74
Family risk	-0.83	0.41	.043	-.20
<i>Latent factor covariances</i>				
T3 Letter knowledge				
T3 PA	0.66	0.05	<.001	.66
T3 RAN	0.30	0.07	<.001	.30
T3 RAN				
T3 PA	0.19	0.08	.031	.19
T4 Accuracy				
T4 Fluency	0.81	0.05	<.001	.81
T4 PA	0.69	0.09	<.001	.69
T4 RAN	0.00	-	-	.00
T4 Fluency				
T4 PA	0.18	0.08	.030	.18
T4 RAN	0.00	-	-	.00
T4 RAN				
T4 PA	0.00	-	-	.00
T5 Accuracy				
T5 Fluency	0.76	0.07	<.001	.76
T6 Accuracy				
T6 Fluency	0.30	0.15	.043	.30
T6 Vocabulary	0.00	-	-	.00

Table S2 (continued)

Parameter	Unstandardized	SE	<i>p</i>	Standardized
T6 Fluency				
T6 Vocabulary	0.00	-	-	.00
T7 Fluency				
T7 Vocabulary	0.00	-	-	.00
<i>Indicator residual covariances</i>				
T4 word accuracy				
T5 word accuracy	6.49	2.87	.024	.24
T4 nonword accuracy				
T5 nonword accuracy	11.93	2.91	<.001	.38
T6 nonword accuracy	10.61	2.75	<.001	.49
T4 word reading fluency 1				
T5 word reading fluency 1	13.54	4.00	.001	.41
T4 word reading fluency 2				
T5 word reading fluency 2	2.39	3.71	.519	.12
T5 nonword accuracy				
T6 nonword accuracy	12.10	2.84	<.001	.56
T6 word reading fluency				
T7 word reading fluency	1.60	4.40	.716	.06
T6 nonword reading fluency				
T7 nonword reading fluency	31.01	6.89	<.001	.49

Note. STM = short-term memory; RAN = rapid automatized naming; PA = phonological awareness; T = time point.

p* < .05. ** *p* < .01. * *p* < .001