

Table S1*Age (in Years) of Assessments by Cohort*

Variable				
Cohort (<i>N</i>)	Negative Emotionality	Preschool EC Assessment	Preschool P-Factor	4 th Grade P-Factor
3-0 (228)	3, 3.75, 4.5	5.25	5.25	~10
3-9 (57)	3.75, 4.5	5.25	5.25	~10
4-6 (113)	4.5	5.25	5.25	~10
5-3 (99)	<i>Missing</i>	5.25	5.25	~10

Table S2*Description of Executive Control Tasks (modified from James, Choi, Wiebe, and Espy, 2016)*

Task	Brief Description	Source
<i>Working Memory</i>		
Delayed Alternation	Child attempts keep the last reward location in mind over a delay to retrieve the reward in the alternate location.	Espy et al. (1999)
Nine Boxes	Child searches among nine differently colored and shaped boxes for a reward. The child must remember which boxes he/she has already searched to find the reward in the fewest number of trials.	Adapted from Diamond et al. (1997)
Nebraska Barnyard	Child is shown nine animals in colored boxes arranged in a 3x3 grid. Child must remember which animal went on which box in progressively increasing sequences of animals and correctly reproduce the sequence on the touch screen.	Adapted from Hughes, Dunn, & White. Noisy Book task (1998)
<i>Inhibitory Control</i>		
Big-Little Stroop	Child is presented with images of smaller objects within larger objects. Child must name the smaller object, which requires suppressing the larger object name.	Adapted from Kochanska et al. (2000)
Go/No-Go	Child is asked to press a button when a fish is shown to catch the fish. The child must inhibit pressing the button when a shark is shown because the shark will break the net.	Adapted from Simpson & Riggs (2006)
Shape School - Inhibit	Child is presented with happy or sad cartoon faces and is asked to name the color of the stimulus when the face is happy and to inhibit naming the color when the face is sad.	Espy (1997)
Modified Snack Delay	Child is seated next to a piece of candy and is asked to remain still until a bell rings despite researcher visual and verbal distractions.	Adapted from Kochanska et al. (1996)
<i>Flexible Shifting</i>		
Shape School - Switching	The child is presented with cartoon figures that are different colors and shapes. Child is asked to say the color of the stimulus when the figure is not wearing a	Espy (1997)

hat and to say the shape when it is wearing a hat.

Trails - Switching

Child is asked to alternate between placing a stamp mark on either the dog or bone stimuli of progressively increasing sizes.

Adapted from
Espy & Cwik
(2004)

Task Psychometric Information: The tasks have demonstrated excellent psychometric properties with excellent discriminant validity (e.g., distinct from foundational cognitive abilities), construct validity (e.g., associated with parent reported effortful control, sleep, observed classroom behavior) and reliability (refer to Espy, 2016 for a more detailed description of psychometric performance of the tasks).

For scored or coded tasks, interrater reliability was calculated from redundant offline coding or scoring from the videos filmed during the assessment on a random sampling of 20% of files.

Interrater reliabilities for the coding of Nine Boxes (96%), Delayed Alternation (100%), Nebraska Barnyard (96%), Big-Little Stroop (99%), Shape School Inhibit condition (99%), Snack Delay (91%), Shape School Switching condition (99%), Trails Switching condition (95%) were excellent.

Table S3. *Unstandardized parameter estimates for preschool moderation model*

	Unstandardized		
	Estimate	S.E.	<i>p</i> -value
<i>Outcome with predictors</i>			
Preschool P-Factor			
Preschool Executive Control	-0.260	0.090	0.004
Preschool Negative Emotionality	0.539	0.089	0.001
Executive Control x Negative Emotionality	-0.237	0.111	0.033
Sex	0.234	0.118	0.047
<i>Covaried Predictors</i>			
Executive Control – Negative Emotionality	-0.151	0.066	0.023
Sex – Negative Emotionality	-0.012	0.028	0.671
Sex – Executive Control	-0.062	0.028	0.027
<i>Covaried Residuals</i>			
Shape School Switching – Shape School Inhibition	0.004	0.002	0.107

Table S4. *Standardized parameter estimates for preschool moderation model*

	Standardized		
	Estimate	S.E.	<i>p</i> -value
<i>Outcome with predictors</i>			
Preschool P-Factor			
Preschool Executive Control	-0.214	0.068	0.002
Preschool Negative Emotionality	0.444	0.054	0.001
Executive Control x Negative Emotionality	-0.195	0.083	0.018
Sex	0.096	0.048	0.047
<i>Covaried Predictors</i>			
Executive Control – Negative Emotionality	-0.151	0.066	0.023
Sex – Negative Emotionality	-0.024	0.057	0.671
Sex – Executive Control	-0.124	0.056	0.027
<i>Covaried Residuals</i>			
Shape School Switching – Shape School Inhibition	0.174	0.095	0.066

Table S5. Unstandardized parameter estimates for 4th grade moderation model

	Unstandardized		
	Estimate	S.E.	p-value
<i>Outcome with predictors</i>			
4 th Grade P-Factor			
Preschool Executive Control	-0.043	0.077	0.575
Preschool Negative Emotionality	0.183	0.094	0.053
Executive Control x Negative Emotionality	-0.219	0.079	0.006
Preschool P-Factor	0.686	0.108	0.001
<i>Covaried Predictors</i>			
Executive Control – Negative Emotionality	-0.129	0.068	0.056
Preschool P-Factor – Negative Emotionality	0.437	0.057	0.001
Preschool P-Factor – Executive Control	-0.285	0.071	0.001
<i>Covaried First Order Factors</i>			
Preschool Internalizing – 4 th Grade Internalizing	0.575	0.119	0.001
Preschool Externalizing – 4 th Grade Externalizing	0.561	0.211	0.008
Preschool Attention– 4 th Grade Attention	0.434	0.208	0.037
<i>Covaried Residuals</i>			
Shape School Switching – Shape School Inhibition	0.004	0.002	0.107
Preschool AF – 4 th Grade AF	0.799	0.472	0.091
Preschool AX – 4 th Grade AX	1.834	0.702	0.009
Preschool AN – 4 th Grade AN	0.127	0.155	0.413
Preschool AH – 4 th Grade AH	1.285	0.252	0.001
Preschool ODD – 4 th Grade ODD	0.462	0.209	0.027
Preschool CD – 4 th Grade CD	0.344	0.138	0.013

Table S6. Standardized parameter estimates for 4th grade moderation model

	Standardized		
	Estimate	S.E.	p-value
<i>Outcome with predictors</i>			
4 th Grade P-Factor			
Preschool Executive Control	-0.033	0.059	0.573
Preschool Negative Emotionality	0.141	0.071	0.048
Executive Control x Negative Emotionality	-0.169	0.058	0.003
Preschool P-Factor	0.529	0.065	0.001
<i>Covaried Predictors</i>			
Executive Control – Negative Emotionality	-0.129	0.068	0.056
Preschool P-Factor – Negative Emotionality	0.437	0.057	0.001
Preschool P-Factor – Executive Control	-0.285	0.071	0.001
<i>Covaried First Order Factors</i>			
Preschool Internalizing – 4 th Grade Internalizing	0.575	0.119	0.001
Preschool Externalizing – 4 th Grade Externalizing	0.561	0.211	0.008

Preschool Attention– 4 th Grade Attention	0.434	0.208	0.037
<i>Covaried Residuals</i>			
Shape School Switching – Shape School Inhibition	0.004	0.002	0.107
Preschool AF – 4 th Grade AF	0.187	0.097	0.053
Preschool AX – 4 th Grade AX	0.278	0.091	0.002
Preschool AN – 4 th Grade AN	0.083	0.097	0.389
Preschool AH – 4 th Grade AH	0.404	0.063	0.001
Preschool ODD – 4 th Grade ODD	0.391	0.146	0.008
Preschool CD – 4 th Grade CD	0.201	0.075	0.007

Table S7. *Unstandardized parameter estimates for preschool correlated factors moderation model*

	Unstandardized		
	Estimate	S.E.	<i>p</i> -value
<i>Outcomes with predictors</i>			
Preschool Externalizing			
Preschool Executive Control	-0.281	0.107	0.008
Preschool Negative Emotionality	0.419	0.107	0.001
Executive Control x Negative Emotionality	-0.220	0.199	0.270
Preschool Attention			
Preschool Executive Control	-0.211	0.083	0.011
Preschool Negative Emotionality	0.400	0.084	0.001
Executive Control x Negative Emotionality	-0.143	0.086	0.095
Preschool Internalizing			
Preschool Executive Control	-0.087	0.097	0.369
Preschool Negative Emotionality	0.795	0.126	0.001
Executive Control x Negative Emotionality	-0.198	0.165	0.229
<i>Correlated First Order Factors</i>			
Preschool Externalizing – Preschool Internalizing	0.597	0.081	0.001
Preschool Attention – Preschool Internalizing	0.622	0.076	0.001
Preschool Attention– Preschool Externalizing	0.841	0.050	0.001

Table S8. *Standardized parameter estimates for preschool correlated factors moderation model*

	Standardized		
	Estimate	S.E.	p-value
<i>Outcomes with predictors</i>			
Preschool Externalizing			
Preschool Executive Control	-0.241	0.077	0.002
Preschool Negative Emotionality	0.358	0.067	0.001
Executive Control x Negative Emotionality	-0.188	0.156	0.226
Preschool Attention			
Preschool Executive Control	-0.187	0.070	0.008
Preschool Negative Emotionality	0.353	0.064	0.001
Executive Control x Negative Emotionality	-0.126	0.073	0.083
Preschool Internalizing			
Preschool Executive Control	-0.066	0.071	0.355
Preschool Negative Emotionality	0.606	0.057	0.001
Executive Control x Negative Emotionality	-0.151	0.118	0.202
<i>Correlated First Order Factors</i>			
Preschool Externalizing – Preschool Internalizing	0.597	0.081	0.001
Preschool Attention – Preschool Internalizing	0.622	0.076	0.001
Preschool Attention– Preschool Externalizing	0.841	0.050	0.001

Table S9. *Unstandardized parameter estimates for 4th grade correlated factors moderation model*

	Unstandardized		
	Estimate	S.E.	p-value
<i>Outcomes with predictors</i>			
4 th Grade Externalizing			
Preschool Executive Control	0.105	0.083	0.205
Preschool Negative Emotionality	0.221	0.126	0.080
Executive Control x Negative Emotionality	-0.222	0.080	0.005
Preschool Externalizing	0.912	0.283	0.001
4 th Grade Attention			
Preschool Executive Control	-0.147	0.086	0.088
Preschool Negative Emotionality	0.212	0.125	0.090
Executive Control x Negative Emotionality	-0.176	0.082	0.032
Preschool Attention	0.588	0.252	0.020
4 th Grade Internalizing			
Preschool Executive Control	0.042	0.109	0.699
Preschool Negative Emotionality	0.015	0.147	0.918
Executive Control x Negative Emotionality	-0.026	0.142	0.853
Preschool Internalizing	0.746	0.275	0.007
<i>Correlated First Order Factors</i>			
4 th Grade Externalizing – 4 th Grade Internalizing	0.616	0.076	0.001
4 th Grade Attention – 4 th Grade Internalizing	0.618	0.086	0.001
4 th Grade Attention – 4 th Grade Externalizing	0.747	0.056	0.001

Table S10. *Standardized parameter estimates for 4th grade correlated factors moderation model*

	Standardized		
	Estimate	S.E.	p-value
<i>Outcomes with predictors</i>			
4 th Grade Externalizing			
Preschool Executive Control	0.082	0.064	0.204
Preschool Negative Emotionality	0.172	0.095	0.069
Executive Control x Negative Emotionality	-0.173	0.060	0.004
Preschool Externalizing	0.711	0.197	0.001
4 th Grade Attention			
Preschool Executive Control	-0.113	0.065	0.081
Preschool Negative Emotionality	0.164	0.094	0.081
Executive Control x Negative Emotionality	-0.136	0.060	0.024
Preschool Attention	0.453	0.183	0.013
4 th Grade Internalizing			
Preschool Executive Control	0.035	0.090	0.700
Preschool Negative Emotionality	0.012	0.122	0.918
Executive Control x Negative Emotionality	-0.022	0.117	0.853
Preschool Internalizing	0.616	0.195	0.002
<i>Correlated First Order Factors</i>			
4 th Grade Externalizing – 4 th Grade Internalizing	0.616	0.076	0.001
4 th Grade Attention – 4 th Grade Internalizing	0.618	0.086	0.001
4 th Grade Attention – 4 th Grade Externalizing	0.747	0.056	0.001

Supplemental Material References

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