

After School Programming and the Development of Work Habits: Dynamic Relations from Childhood through Early Adolescence

Nicole Zarrett,¹ Nestor Tulagan,² Yangyang Liu,² Sandra Simpkins,² Deborah Vandell,² Jacquelynne S. Eccles²



¹Department of Psychology, University of South Carolina
²School of Education, The University of California – Irvine



This research was supported by a John Templeton Foundation Grant (161089)

Purpose

- Strong Work Habits is an important performance character virtue (Baehr, 2017) and includes the ability to be organized, use time wisely, and solve problems on one's own.
- Teachers' assessment of youth work habits has been identified as a primary predictor of academic achievement (e.g., coursework mastery and course grades) and is a stronger predictor than even that of basic skills and cognitive performance indicators (Farkas et al., 1990).
- Organized out-of-school activities (OST) provide a context to support character development (e.g., Lynch et al., 2016), including strong work habits (Kataoka & Vandell, 2013; Pierce et al 2010).
- Little-to-no research has examined the development of work habits across the elementary school years, or the potential influence of OST programs, for promoting positive work habit trajectories.

Study Aims

Aim 1. Charting the development of work habits across the critical transition from childhood to early adolescence (Grades 2-6)

Aim 2. Examining the way in which participation in organized OST activities during the childhood and early adolescence (Grades K-5) can support the positive growth of youth's work habits

Method

Study Sample

The current study uses the Grade K-6 data collected from the NICHD Study of Early Child Care and Youth Development (SECCYD; N= 1,364 families; 48% female; 24% ethnic minority children; 11% of mothers with less than a high school education)

Measures

• **Work Habits.** Work habits was measured using teacher reports of children's work habits from Grades 2 to 5 using the Mock Report Card ($\alpha > .93$; 6 items; Vandell, & Pierce, 1998)

• **Organized Out-of-School Activities (OST).** Mothers reported their child's after school care arrangements and activities twice annually in Grades K, 1, and 2, three times annually in Grades 3 and 4, and twice annually in Grade 5 for a total of 14 K-5 epochs. Participation in OSTs were measured as the proportion of epochs in which the study child was engaged in OSTs. Proportion of epochs is less skewed than mean hours per week and is linked with various developmental outcomes in previous research (e.g., Vandell et al., 2018).

• See Table 1 for descriptive statistics of all study variables and covariates



Table 1
Descriptive Statistics for Organized Activity Participation, Work Habits and Covariates

Variable	Mean or %	SD	Min	Max	Obs
Organized OST participation (K-Grade 5 epoch %)	55.3%	0.31	0	100	1,157
<i>Teacher-reported child work habits</i>					
Grade 2	3.63	1.11	1	5	920
Grade 3	3.58	1.09	1	5	993
Grade 4	3.63	1.07	1	5	932
Grade 5	3.70	1.04	1	5	942
Grade 6	3.69	1.12	1	5	872
<i>Child characteristics</i>					
Female	48.3%				1,364
European American	76.4%				1,364
African American	12.7%				1,364
Latinx	6.1%				1,364
Other	4.8%				1,364
<i>Family characteristics</i>					
Two-parent households	85%				1,364
Maternal education	14.23	2.51	7	21	1,363
Income-to-needs ratio	2.86	2.61	0.08	25.08	1,273
HOME Inventory score	39.65	4.95	18	48.25	1,305

Note. HOME = Home Observation Measurement of the Environment

Aim 1: Charting the Development of Work Habits from Grades 2 to 6

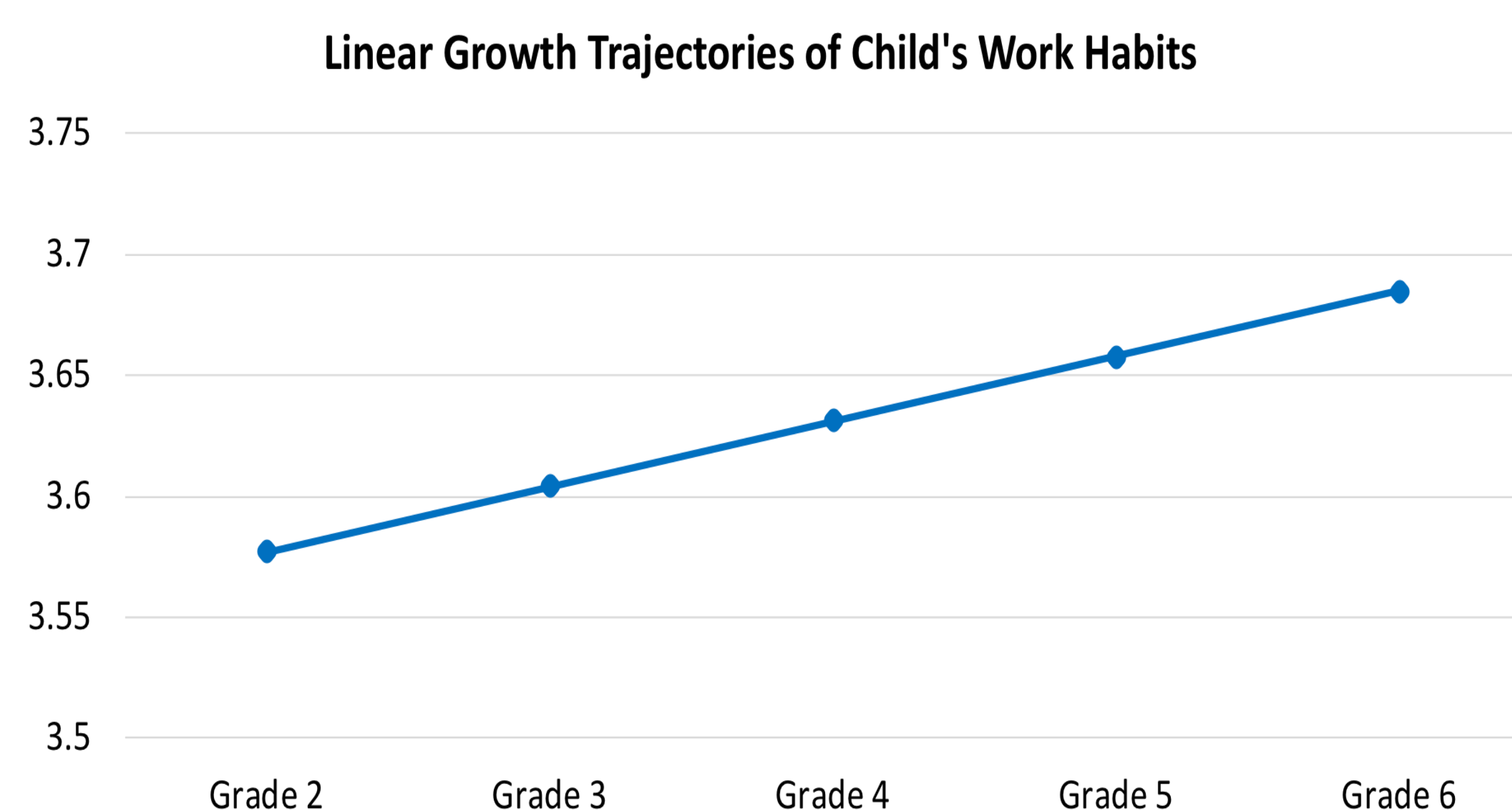
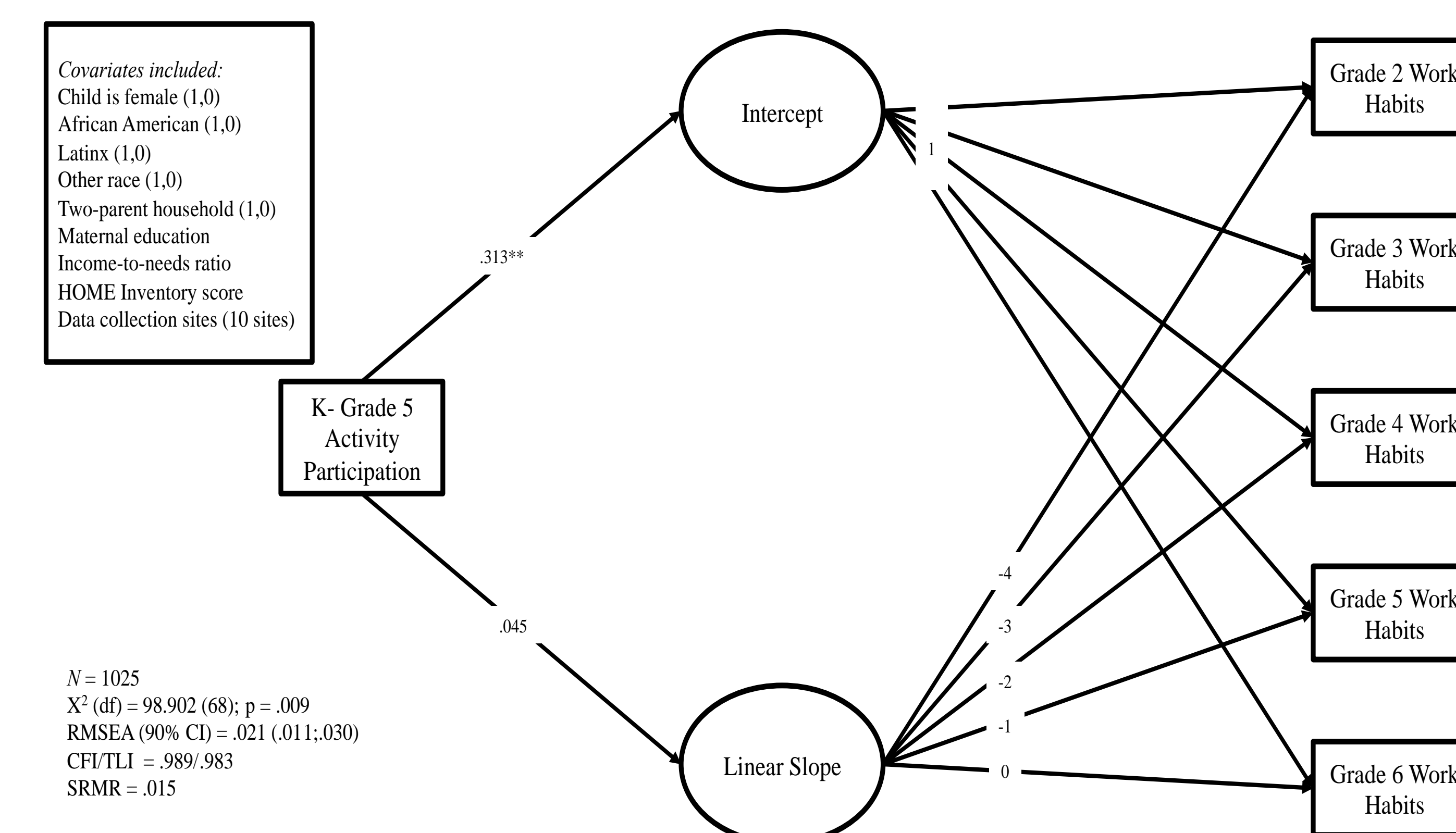


Table 2
Model Fit Comparisons of No Growth, Linear Growth, and Quadratic Growth Models and Means and Variances of Linear Growth Model

Model	Work Habits Grades 2-6									
	χ^2	df	p	$\Delta\chi^2$	Δ df	p	RMSEA	CFI	TLI	SRMR
No Growth	128.01	17	0.000	—	—	—	0.077	0.955	0.974	0.066
Linear	31.63	14	0.005	96.383	3	0.000	0.034	0.993	0.995	0.043
Quad	23.03	10	0.011	8.593	4	0.072	0.043	0.994	0.994	0.042
	Means	SE	p	Variance	SE	p				
Intercept	3.685	0.032	0.000	0.876	0.050	0.000				
Linear	0.027	0.008	0.001	0.025	0.003	0.000				

Results

Aim 2: The Impact of Organized Out-of-School Activities on Work Habit Trajectories



N = 1025
 χ^2 (df) = 98.902 (68); p = .009
RMSEA (90% CI) = .021 (.011;.030)
CFI/TLI = .989/.983
SRMR = .015

Figure 3. Final conditional linear growth curve model examining the associations of organized activity participation from Kindergarten to Grade 5 on the intercept and linear slope of teacher reports of child's work habits from Grade 2 to Grade 6 with covariates. Standardized coefficients are shown. European American participants were the reference group for the ethnicity coefficients. A tenth site was the reference group for the data collection site coefficients.
**p = .01.

Table 3
Standardized Coefficients for the Associations between Organized Activity Participation (K-Grade 5 Epoch Percentage) and Teacher-Reported Work Habit Linear Growth Intercept and Slope

Predictors	Intercept (Grade 6)		Linear Slope (Grade 2 - Grade 6)	
	Beta	SE	Beta	SE
Organized OST participation (K-Grade 5 epoch %)	0.313**	0.113	0.045	0.034
<i>Child characteristics</i>				
Female (1,0)	0.601***	0.057	0.041*	0.017
African American (1,0)	-0.391**	0.112	-0.025	0.034
Latinx (1,0)	-0.165	0.128	-0.053	0.038
Other (1,0)	0.017	0.137	0.004	0.041
<i>Family characteristics</i>				
Two-parent household (1,0)	0.100	0.113	0.031	0.034
Maternal education	0.042**	0.015	-0.004	0.004
Income-to-needs ratio	0.003	0.013	-0.001	0.004
HOME Inventory score	0.051***	0.009	-0.001	0.003
Observations	1025			

Note. Model Fit: χ^2 (df) = 98.902 (68); p = .009. RMSEA (90% CI) = .021 (.011;.030). CFI/TLI = .989/.983. SRMR = .015. European American participants were the reference group for the ethnicity coefficients. A tenth site was the reference group for the data collection site coefficients. Full information maximum likelihood was used in Mplus to account for missing data.

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

Discussion and Future Directions

- Findings contribute to our understanding of character development across childhood and early adolescence, indicating a significant linear growth in work habits from Grades 2 to 6.
- The influence of OST activities on work habit trajectories (with intercept set at Grade 6) indicated excellent model fit
- Youth with a higher percentage of OST participation epochs had stronger work habits at Grade 6. However, OST participation did not predict rate of growth across Grades 2 through 6
- Future research will be needed to examine best practices in OST for supporting strong work habits and the development of other virtues