

Extracurricular Participation and
Academic Outcomes in the
NICHD Study of Early Child Care &
Youth Development

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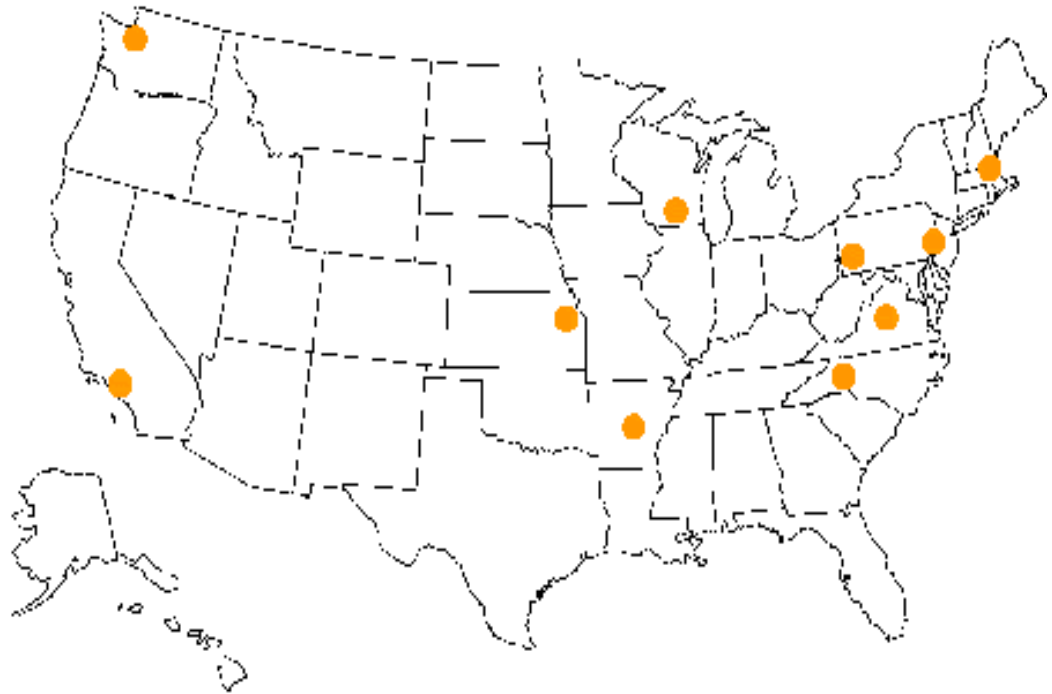
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NICHD Study of Early Child Care & Youth Development

- Prospective longitudinal design
- Large and diverse national sample
- Extensive measures of family and school contexts, and child prior functioning

10 Data Collection Sites

- Wellesley, Massachusetts
- Philadelphia, Pennsylvania
- Pittsburgh, Pennsylvania
- Charlottesville, Virginia
- Morganton, North Carolina
- Madison, Wisconsin
- Little Rock, Arkansas
- Lawrence, Kansas
- Irvine, California
- Seattle, Washington



Earlier Findings

NICHD ECCRN, 2004

- Activity participation in kindergarten and first grade:
 - Consistent
 - Sometimes
 - Never
- Consistent participation associated with higher math achievement scores at end of first grade, controlling for prior adjustment and child, family, and early child care factors

Research Questions

1. Is participation in extracurricular activities across time (defined as the proportion of epochs when the child participated) associated with academic outcomes in Grades 3 & 5, controlling for child, family, and school characteristics?
3. Is the intensity of participation in these activities (defined as the proportions of epochs when participation was for low, moderate, and high amounts of time) associated with the outcomes?

Sample Characteristics

	Recruitment sample <i>N</i> = 1,364	Analysis sample <i>N</i> = 1,157
Child male	52%	51%
Child minority ethnicity	24%	23%
Single-parent household	14%	18%
Maternal education h.s. or less	31%	29%
Poor or near-poor	29%	23%

Measures of Activity Participation

Kindergarten, Grades 1-2

- Two interviews annually with mother, in fall & spring
- 12 arrangement types, including structured activities or lessons (e.g., coached sports, music lessons)
 - Weekdays, 7:00 a.m. – 7:00 p.m.
 - Whether utilized in past week
 - Hours in past week

Grades 3-5

- 3 interviews with mother annually in Grades 3 & 4;
2 interviews in Grade 5
- Weekdays, school dismissal until 6:00 p.m.
- Typical week
- Clock time for each arrangement recorded
- Structured activity coded for these reports:
 - Interest group or club
 - Team or individual sports
 - Art, music, or performance lessons
 - Academic enrichment or tutoring
 - Religious service or class

Activity Participation

	Participated	<i>M (SD)</i> min/ week, all children	<i>M (SD)</i> min/ week, participants	Maximum min/week
K	48%	40 (64)	82 (70)	1080 [360]
Grade 1	61%	56 (74)	92 (75)	1095 [435]
Grade 2	66%	72 (82)	110 (77)	600
Grade 3	55%	53 (79)	96 (85)	875
Grade 4	59%	59 (86)	100 (91)	606
Grade 5	58%	74 (102)	127 (106)	638

Activity Participation Across Time

81% of the sample participated in structured activities during at least one epoch in K-Grade 3

88% participated during at least one epoch in K-Grade 5

Intensity of Participation: Min/Week (tertiary splits)

	<u>Kindergarten</u>	<u>Grade 5</u>
<u>Low</u>		
<i>M (SD)</i>	53 (12)	55 (17)
Range	15-60	20-85
<u>Moderate</u>		
<i>M (SD)</i>	89 (7)	123 (24)
Range	75-105	90-175
<u>High</u>		
<i>M (SD)</i>	174 (102)	297 (129)
Range	120+	180+

Cumulative Activity Participation

Proportion of Epochs When Participated (yes/no)

	<i>M</i>	<i>SD</i>	Range
K-Grade 3	43.9	33.5	0-100
K-Grade 5	43.3	31.3	0-100

Proportion of Epochs: Low, Moderate, High Intensity

	<i>M</i>	<i>SD</i>	Range
K-Grade 3			
Low	16.0	17.3	0-100
Moderate	12.4	15.4	0-75
High	15.5	21.8	0-100
K-Grade 5			
Low	15.2	15.1	0-79
Moderate	12.9	13.7	0-77
High	15.2	20.4	0-100

Measures of Child Functioning

Academic Performance: Mock Report Card

- Prior functioning: Social Skills Rating Scale, Academic Competence (Kindergarten)

Work Habits: Mock Report Card

- Prior functioning: Social Skills Rating Scale, Cooperation (Kindergarten)

Reading Achievement: WJ-R Letter-Word Identification

- Prior functioning: WJ-R Letter-Word Identification (54 months)

Math Achievement: WJ-R Applied Problems

- Prior functioning: WJ-R Applied Problems (54 months)

Control Variables in Regressions

Data collection site

Child sex

Child ethnicity

- White
- Black
- Hispanic
- Other

Family Context

Maternal education (1 month)

Single-parent household (Grades 1, 3, 5; cumulative)

Income-to-needs ratio (Grades 1, 3, 5; cumulative)

Maternal weekly work hours (Grades 1, 3, 5; cumulative)

Maternal sensitivity (Grades 1, 3, 5; cumulative)

- Supportive presence
- Respect for child's autonomy
- Hostility (reflected)

Maternal stimulation (Grades 1, 3, 5; cumulative)

- Stimulation of child's cognitive development
- Quality of assistance

School Context

Full-day kindergarten (56.5%)

Classroom instructional quality (Grades 1, 3, 5; cumulative)

- Richness of instructional methods
- Productive use of instructional time
- Evaluative feedback

Classroom emotional climate (Grades 1, 3, 5; cumulative)

- Teacher sensitivity, detachment (reflected), intrusiveness/overcontrol (reflected)
- Classroom positive emotional climate, negative emotional climate (reflected), chaos (reflected)

Activity Participation (yes/no)

	G3 outcomes % epochs K-G3 β	G5 outcomes % epochs K-G5 β
Academic performance	.079 *	.066 ⁺
Work habits	.090 *	.124 ***
Reading achievement	.028	.037
Math achievement	.055 ⁺	.106 **

Analyses controlled for data collection site, child sex & ethnicity, maternal education, single-parent household, income-to-needs ratio, maternal weekly work hours, maternal sensitivity & stimulation, full-day kindergarten, classroom instructional quality & emotional climate, and prior adjustment.

Intensity of Participation: % Epochs

	<u>Low intensity</u>		<u>Moderate intensity</u>		<u>High intensity</u>	
	G3 β	G5 β	G3 β	G5 β	G3 β	G5 β
Academic performance	.049	.026	.036	.000	.045	.073 *
Work habits	.049	.024	.042	.083 **	.055 +	.083 *
Reading achievement	-.020	.033	.063 *	-.003	-.001	.030
Math achievement	.019	.044	.052 +	.071 *	.018	.051 +

Analyses controlled for data collection site, child sex & ethnicity, maternal education, single-parent household, income-to-needs ratio, maternal weekly work hours, maternal sensitivity & stimulation, full-day kindergarten, classroom instructional quality & emotional climate, and prior adjustment.

Conclusions

- Sustained participation in extracurricular activities during elementary school in the after-school hours was associated with children's academic outcomes, and relatively large amounts of participation did not hinder these outcomes.
- Our findings suggest that substantial learning can occur in the context of nonacademic activities outside of school, even for young children.