The Relation Between SES & Children's Early Academic Skills

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Introduction

• There has been an increased focus on early childhood education which could be attributed to a new body of research linking high quality early childhood education with later school success (NICHD Early Child Care Research Network, 2005).

• Early language and literacy skills are particularly important to later achievement outcomes (Duncan et al., 2007; Storch & Whitehurst, 2002).

• However, literacy skills, such as vocabulary, are an area of weakness for children who are raised in poverty (Justice, Meier, & Walpole, 2005).

• Ecological systems theory asserts that children are active in shaping their own experience; children's unique approach to interacting with other people and with learning materials contributes to their classroom experiences and the acquisition of skills across both academic and social emotional domains (Bronfenbrenner, 1979).

• Specifically, children's interactions with teachers stimulate cognitive, academic, and social-emotional learning (Buhs, Ladd & Herald, 2006).

• Large scale studies indicate that task orientation, defined as children's attention, enthusiasm, and persistence as they engage in activities and tasks, is a consistent predictor of higher achievement outcomes in preschool and into early elementary school (McClelland, Morrison, & Holmes, 2000).

• This study examines the impact of SES on children's language and literacy skills, with teacher and task engagement as moderators.

Hypotheses

1- SES will be positively related to children's language and literacy development.

2- Task orientation and teacher interaction will moderate the relationship between SES and language and literacy development such that:

•Children with higher SES combined with higher task orientation and teacher interactions would make more progress in developing language and literacy skills compared to children who come from high SES backgrounds but do not engage as positively with teachers and tasks in the classroom.

Procedures

•Data was collected in Fall 2007 and Spring 2008 from a large urban region in the southwest United States in 103 preschool classrooms (31% Head Start)

•Up to 4 children per classroom were observed in alternating cycles across the morning (generally 4 cycles per child)

• Each observation cycle was 15 minutes (10 minutes observing, 5 minutes coding)

• Teachers completed ratings on all observed children

Participants

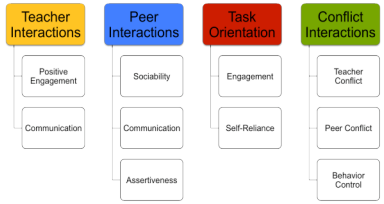
Total Students	N= 378
Girls	191
Boys	187
Mean Age	4 years old

	Mean	SD	Min	Max
Income/Needs	1.68	1.50	.05	7.81
Family Income	$36,680	$30,492	$2,500	$87,500

Ethnicity	Hispanic/ Latino	Caucasian	Asian American	African American	Other
Percentage	70%	15%	6%	3%	6%

Methods

The Individualized Classroom Assessment Scoring System (inCLASS) is a child-focused observational tool that examines classroom-based interactions in early childhood.



• Ten dimensions are coded across the domains on a 7-point scale (1=low, 7=high) using behavioral markers in a standardized manual.

• For the purposes of this study, we only examined teacher interactions and task orientation. Behavioral control was also included under task orientation.

Academic Rating Scale (ARS)
13-item Literacy and Language subscale, with items rated on a 5-point scale

Sample Items:
"Reads simple books independently"
"Orders a group of objects."

Teacher-Child Rating Scale (TCRS)
38-item measure, rating social/relational and self-regulatory functioning on a 5-point scale

Sample Items:
"Copes well with failure"
"Well liked by classmates."

SES was measured using an Income to Needs Ratio:

Total Income
Government Standards

Government Standards= If you have X amount of people living in your house you should make X amount of money
•Considers the number of children and adults in the household

i.e. Higher ratio means more economic advantage, whereas low ratio refers to at-risk

Results

Hierarchical linear modeling (HLM) was used to account for the nesting of children within classrooms. Children's gains in language and literacy were estimated by predicting their spring scores after controlling for their fall scores.

• We initially examined both teacher interactions and task orientation in the models. However, teacher interactions were not significant. The reduced models only show task orientation.

Observed Task Orientation and SES Predicting Gains in Children's Language and Literacy.

*p<.05

	B	SE
inCLASS Task Orientation	**-.057**	**.106**
SES	**-.009**	**.041**
Task X SES	**-.105***	**.050**

• There were no main effects for task orientation nor SES.

•There was a significant interaction between task orientation and SES as illustrated in Figure 1.

Children With Low Socio-Economic Status

• For children with a low SES background, high task orientation predicted greater gains in language and literacy across one year of pre-kindergarten.

•Task orientation appears to be a protective factor for low SES children. These children made greater gains than low SES children who had low task orientation.

•The opposite relationship is evident for children high in SES.

The Effect of Task Orientation and SES on Language and Literacy

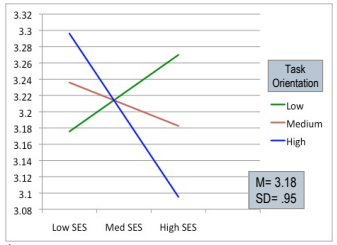


Figure 1

Teacher Rated Task Orientation and SES Predicting Gains in Children's Language and Literacy

**p<.01

	B	SE
TCRS Task Orientation	**.431****	**.075**
SES	**-.010**	**.036**
Task X SES	**.022**	**.029**

•Children's whose teachers rated children as having higher task orientation in the classroom tended to make greater gains in their language and literacy skills during preschool.

•The main effect for SES and the interaction between teacher rated task orientation and SES were not significant.

Discussion

A possible reason why teacher interaction was not significant to the model could be that children are improving their language abilities through interactions with peers and family members, not just through teachers.

• Research has found cognitive abilities, academic skills, early parenting skills, and SES to be critical factors in predicting children's achievement and progress throughout school (Martin, Ryan, & Brooks-Gunn, 2010).

• Children's experiences with their families are a primary influence for developing language skills during early childhood (Britto, 2001).

• Family factors such as maternal education level and parenting beliefs predicted receptive vocabulary at age four, while teacher-child relationships did not (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002). It may be that family influences on receptive vocabulary are stronger than classroom influences at such an early age.

Differences in observed versus teacher-rated task orientation could be attributed to the fact that children's language and literacy skills were also assessed through teacher report. In the future, the addition of a direct assessment of children's academic progress should be included.

The sample for this study was fairly low SES. The lack of variability may have masked the impact of SES on children's language and literacy development. Using a sample with more economic variance could show significant differences in the effect of SES on academic outcomes.

The results indicate the importance and need for additional research to explore how children's preschool experiences interact with child and family characteristics, such as SES, to impact their development of school readiness skills.

• Observational studies indicate wide variability of children's interactions with teachers, peers and learning materials across preschool classrooms, and the quality of these interactions is often low (Pianta et al., in press).

Since children enter school with different skill sets and experiences, it is important to understand the interactive processes within preschool classrooms that are associated with children's academic progress.

Identifying the experiences and behaviors that are most essential to student productivity and learning will help to decrease the gap between children who are performing at lower levels and increase quality interaction.

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