

Abstract Title Page
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Title:

The Role of Relational and Instructional Classroom Supports in the Language Development of At-Risk Preschoolers

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Abstract Body

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Background / Context:

Description of prior research and its intellectual context.

Young children enter preschool with a variety of skills that make them differentially prepared for school success (Bowman, Donovan, & Burns, 2001; N. Zill et al., 2003). Oral language is one fundamental skill consistently shown to predict preschoolers' literacy success (NICHD Early Child Care Research Network, 2005; Storch & Whitehurst, 2002). Many children experiencing sociodemographic risk demonstrate low oral language skills that put them at risk for later reading and academic difficulty (Snow, Burns, & Griffin, 1998; N. Zill & Resnick, 2006). For these children in particular, high-quality preschool experiences are an important mechanism for offsetting early language risk (Justice & Ezell, 2002; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009; Lonigan, Farver, Phillips, & Clancy-Menchetti, 2011; McCabe, Boccia, Bennett, Lyman, & Hagen, 2009-2010; Wasik, Bond, & Hindman, 2006). As such, preschool interventions seek to enhance classroom supports for children's language and literacy development. The current study is a part of a larger RCT that sought to enhance Instructional and Relational Supports (IS and RS, respectively) for children's development. While previous studies have reported the impact of this intervention on children's language and literacy development (Mashburn, Downer, Hamre, Justice, & Pianta, 2010; Pianta, Mashburn, Downer, Hamre, & Justice, 2008), this study examines mechanisms of this intervention by combining participants across conditions to see how these mechanisms differ by child characteristics.

We are particularly interested in the extent to which IS and RS are associated with young children's language development and whether the strength of these associations vary across children with different degrees of language ability. Research has generally shown that high-quality IS is supportive of children's language development in preschool, and these effects extend to the end of the kindergarten year (Burchinal et al., 2008; Burchinal, Vandergrift, Pianta, & Mashburn, 2010; Curby et al., 2009; Howes et al., 2008; Mashburn et al., 2008). Classrooms providing high-quality IS have teachers who develop children's understanding by using thought-provoking, extended conversations, and carefully attuned, responsive verbal feedback (Pianta, LaParo, & Hamre, 2008). The teacher-child relationship, or RS, is thought to be critical to children's development because it provides a 'safe base' for children, thus fostering their sense of security and promoting their ability to engage in the classroom environment (Ainsworth & Bell, 1974; Bus & IJzendoorn, 1988; Pianta, Nimetz, & Bennett, 1997). High-quality RS, characterized by warm and open communication, is directly associated with language development in preschool, suggesting that children may utilize RS as a pathway through which to access language-learning opportunities (Howes et al., 2008; Oades-Sese & Li, 2011; Peisner-Feinberg et al., 2001; Pianta et al., 1997). Increasingly, research suggests that the benefit of classroom supports to children's development may vary; yet little research has examined the complex relationship between these supports and language skills. Some prior research suggests that high-quality classroom supports act as a protective factor for children experiencing risk (Baker, 2006; Hamre & Pianta, 2005); other investigations have concluded that these resources are equally beneficial to all children (Maier, Vitiello, & Greenfield; Peisner-Feinberg et al., 2001). In terms of our study, then, we are interested in investigating how preschool children's language abilities might interact with the quality of classroom supports to impact language development.

Purpose / Objective / Research Question / Focus of Study:

Description of the focus of the research.

The purpose of this study is to contribute to the limited research base on the complex relationships between classroom supports and language development by addressing two research aims. The first aim is to determine the unique association between RS and IS and preschoolers' language development. The second aim is to determine whether this association is moderated by initial language ability. This second aim expands previous research by examining whether classroom supports may be particularly protective for children who begin preschool with low language skills and are at risk of difficulty acquiring literacy.

Setting:

Description of the research location.

This study took place in state-funded preschool classrooms serving at-risk children in the state of Virginia.

Population / Participants / Subjects:

Description of the participants in the study: who, how many, key features, or characteristics.

Participants in the current study were preschool children ($N = 360$) and their teachers ($N = 95$) who were part of a RCT on teacher professional development (condition in RCT was statistically controlled in all analyses). Of the participating children (mean age = 4 years, 5 months), 51% were male; the majority were Black (27% White, 30% Other); 70% came from poor households; and 40% of mothers had a high school diploma or less. Participating teachers were lead teachers in preschool classrooms; had an average of 15 years of experience (range = 0-37); and had at least a Bachelor's degree (33% had an Advanced Degree).

Intervention / Program / Practice:

Description of the intervention, program, or practice, including details of administration and duration.

Teachers' practices regarding classroom supports were evaluated using two well-established measures of classroom quality. IS was measured using the Classroom Assessment Scoring System Pre-K (CLASS; (Pianta et al., 2008), an observational tool designed to characterize the quality of teacher-child interactions in preschool classrooms. RS was assessed using the Student-Teacher Relationship Scale (STRS; (Pianta, 1992b), a 15-item rating scale designed to capture teachers' perceptions of their relationships with their students along the dimensions of *closeness* (e.g., *I share an affectionate, warm relationship with this child*) and *conflict* (e.g., *This child easily becomes angry with me*).

Research Design:

Description of the research design.

In the parent study, classrooms were randomly assigned to condition by district. In each classroom, a subset of children was randomly selected to represent each classroom from among

all children who returned consent forms. In the current study, a correlational research design was employed to examine the associations between classroom supports and language development.

Data Collection and Analysis:

Description of the methods for collecting and analyzing data.

Teachers rated their relationship with each student and submitted videotapes of instructional activities that were coded for IS. Children's language skills were assessed in the fall and spring by asking children to tell a narrative describing the events of the wordless picture book, *Frog, Where are You?* (Mayer, 1969). Narratives were coded for linguistic content and structure using the Narrative Assessment Protocol- Short Form (2010). Multilevel modeling techniques were employed to account for the nested structure of the data (children within classrooms). Child-level covariates (including language skills pre-test) and RS (closeness and conflict) were modeled at Level 1; IS and condition in the RCT were modeled in Level 2.

Findings / Results:

Description of the main findings with specific details.

IS was a significant predictor of language skills when already considering RS in the classroom, but neither RS-closeness nor RS-conflict accounted for unique variation in language development (see Table 1). This main effects model explained 23% of the within-classroom variability and all of the between-classroom variability in children's language development, which is a small a fraction of total variance in children's language development. The interactions between Language x IS and Language x RS-closeness were significant (see Figures 1 and 2) and explained an additional 1% of the variance in children's language development (for RS, $B=.06$, $SE=.03$, $p=.04$; for IS, $B=-.15$, $SE=.08$, $p=.04$). Children with high initial language ability in classrooms with high IS had stronger spring language skills than their peers who were experiencing lower-quality IS. Children with low initial language ability who had close relationships with their teachers had higher spring language scores compared to children with similar language abilities but less-close relationships.

Conclusions:

Description of conclusions, recommendations, and limitations based on findings.

Our study looked across conditions of a RCT to examine whether IS and RS, potential mechanisms for children's language growth, accounted for variation in children's language development and whether children's language skills influenced the strength of this association. . Results indicated that IS, but not RS, accounted for a significant portion of the variance in children's language skills. However, both IS and RS interacted with children's language skills to predict language development. Specifically, RS-closeness acted as a protective factor for children's language development. As such, this study contributes to literature employing child by environment models of development in order to examine whether children might differentially benefit from classroom environments depending on particular child characteristics {{752 Ladd,Gary W. 2003}}. An important limitation of the current study is its correlational design, the results of which cannot be interpreted as causal. Additionally, the measure of RS employed in this study, namely teacher ratings of their relationship with a particular child, could potentially be influenced by factors external to the relationship, such as academic achievement and the

teacher-caregiver relationship. Future investigations of RS could measure the child's perception of the teacher-child relationship, as well.

In summary, our results have important implications for researchers and educators seeking to maximize use of resources in preschool classrooms serving at-risk children. Specifically, these findings demonstrate that classroom supports function differently for children with varying degrees of language skill and suggest that certain preschool resources may be more beneficial for particular children.

Appendices

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Appendix A. References

References are to be in APA version 6 format.

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Appendix B. Tables and Figures

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Table 1.

Multilevel Model Results for Classroom Supports Predicting Children's Language Skill Development (N = 360)

Variable	Coefficient	<i>SE</i>	<i>df</i>	<i>p</i> -value
Language skills intercept (β_{0j})	18.00	1.42	12973	<.001
Child-level variables				
Age (β_{1j})	-0.58	1.05	3045	.58
Maternal education (β_{2j})	0.48	0.16	14693	.004
Race (β_{3j})	-0.59	0.45	66558	.19
Sex (β_{4j})	-1.32	0.62	8858	.03
English (β_{5j})	1.76	1.08	7199	.10
Literacy skills (β_{6j})	1.55	0.49	958	.002
Fall NAP scores (β_{7j})	0.32	0.05	512	<.001
Closeness (β_{8j})	0.88	0.52	19496	.09
Conflict (β_{9j})	0.34	0.42	7375	.42
Teacher-level variables				
Condition (λ_{01})	1.47	0.65	58386	0.02
Instructional Support (λ_{02})	1.33	0.62	128304	0.03

Figure 1.
Children's Initial Language Skill Moderates the Effect of Instructional Support on Language Development

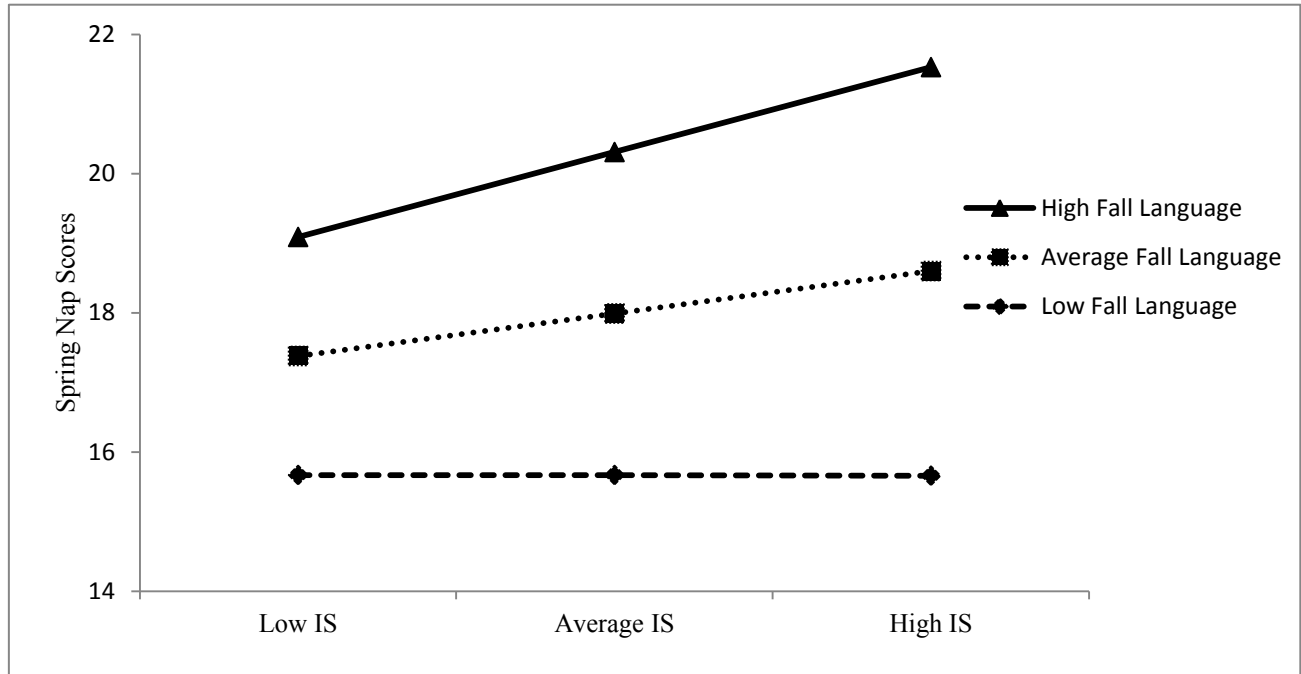


Figure 2.
Children's Initial Language Skill Moderates the Effect of Relational Support on Language Development

