

# **The Relationship Between Classroom Variables and Academic Achievement across the Preschool Year**



Honors Thesis

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Department: Psychology

Advisor: Mary Fuhs, Ph.D.

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## Abstract

Preschool education is designed to foster social, cognitive, and academic gains for three- to five-year-old children before they enter kindergarten. Preschool education provides three- to five-year-old children with opportunities to participate in structured educational activities and to interact with groups of peers. The current study aimed to investigate the relationship between specific elements of successful preschool classrooms and student outcomes across the preschool year utilizing data from 125 preschool classrooms in the Midwest. Controlling for demographic information, it was found that the implementation of social-emotional learning was significantly positively correlated with the development of self-regulation and literacy abilities, and increased focus on direct instruction was significantly negatively correlated to physical development.

## Dedication or Acknowledgements

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# Table of Contents

Abstract	Title Page
Introduction	1
Method	5
Materials	6
Results	9
Discussion	10
References	15
Tables	18

## **Introduction**

Preschool education is designed to increase school-related achievement skills and social-behavioral competence for three- to five-year-old children before they enter kindergarten (Burchinal et al., 2008). Preschool classrooms provide young children with the opportunity to interact with their peers and participate in organized educational activities within a formal classroom setting. During the preschool year, children are expected to make significant gains in early academic and social abilities, which are vital components for the development of school readiness skills and future academic achievement (Ansari & Gershoff, 2015). Successful completion of a high-quality preschool program has been related to significant gains in children's learning and development in both the short and long term (Barnett et al., 2018). The current study investigated the relationship between specific elements of preschool programs, such as the implementation of social-emotional learning and the quality of teacher-student interactions, and the development of executive function and school readiness abilities among preschool students to determine the specific components of successful, high-quality preschool programs.

### ***School Readiness***

Preschool education is designed to foster school readiness among three- to five-year-old children before entering kindergarten through structured educational activities and increased peer interactions. School readiness is conceptualized as the development of basic social-emotional and academic abilities that allow young children to adjust to the social and academic domains of formal school settings (Harrington et al., 2020). The development of cognitive, behavioral, and emotional self-regulation allows children to cope with increased environmental demands during the preschool years, which aids in the transition to structured, classroom environments (Williford et al., 2013).

The development of emotional or self-regulation during early childhood increases three- to five-year-old children's abilities to focus attention, inhibit behaviors, and manage emotions (Harrington et al., 2020). Children typically develop self-regulation and social-emotional skills during early childhood through exposure to meaningful interactions with peers and adults that model appropriate social behavior (Williford et al., 2013). Positive engagement with teachers, peers, and tasks in the classroom is associated

with the increased development of emotional, behavioral, and cognitive self-regulation (Williford et al., 2013). The foundational processes of emotional regulation have been observed during the preschool years as children shift from reactive to volitional strategies in navigating difficult emotional situations (Harrington et al., 2020). These skills are beneficial in the transition to school environments as they allow children to attend to structured activities and engage with peers in a formal classroom setting. Improved self-regulatory strategies combined with increased understanding of social environments allow children to make significant social-emotional and academic gains during the preschool year, which is a crucial component in fostering school readiness (Harrington et al., 2020).

The implementation of social-emotional learning in preschool classrooms encourages the development of cognitive, behavioral, and emotional self-regulation as well as social skills among peers. The mastery of learning-related social skills, or learning how to successfully navigate structured learning environments, is associated with academic achievement and the development of school readiness abilities (Ansari & Gershoff, 2015). Children that can successfully regulate their emotions within the preschool classroom setting experience fewer emotional distractions and are able to remain positive during academic challenges, which allows both the child and their peers to maximally benefit from instruction (Harrington et al., 2020). Children with adaptive emotional regulation abilities are better equipped to navigate a formal classroom environment, which is conducive to better learning, higher grades, academic achievement scores, and retention (Harrington et al., 2020).

### ***Classroom Quality***

The quality of instruction and classroom interactions, rather than mere enrollment and teacher's educational levels, are key factors in fostering academic achievement throughout the preschool year (Ansari & Gershoff, 2015). Teacher instruction, or the amount of classroom time dedicated to academic content, is a significant factor in young students' academic gains and skill growth during the preschool and kindergarten years (Ansari & Gershoff, 2015). During the preschool year, teacher instruction focuses on the development of learning-related social skills that teach children the skills necessary to learn within a classroom context (Ansari & Gershoff, 2015). Teachers often implement

learning-related social skills, such as cooperation, taking turns, and sharing, during structured play activities that facilitate academic and social learning (Ansari & Gershoff, 2015). Ansari and Gershoff (2015) found that three-year-old children's development of learning-related social skills during the preschool year predicted significant improvements in academic achievement throughout the following year. The early development of learning-related social skills was foundational for academic achievement, as content instruction without a prior focus on social and behavioral development did not directly predict academic achievement (Ansari & Gershoff, 2015). Research conducted by Pianta et al. (2020) found that educationally focused and structured classrooms benefitted children's academic performance when teachers were both supportive and responsive to students. Past research emphasizes the strong relationship of positive teacher-student interactions and the development of social-emotional skills in young children's academic achievement throughout the preschool year (Ansari & Gershoff, 2015; Pianta et al., 2020).

A recent study investigating the importance of teacher-child interactions and the instructional quality of preschool classrooms revealed that positive, enriching classroom environments predicted significant gains in language, academic, and social performance for students up to one year after the successful completion of a preschool program (Burchinal et al., 2008). Positive interactions and intentional use of language through scaffolding, coherent instruction, and contingent informative feedback correlated with the development of academic skills among preschool children (Burchinal et al., 2008). However, it was found that most instructors across the 240 preschool programs only expressed moderate responsiveness and sensitivity to their students and did not successfully engage children in learning specific skills (Burchinal et al., 2008). Findings from this research can be utilized to further investigate the importance of high-quality instruction and engagement within preschool classrooms and to assist in the development of strategies to improve the quality of early educational programs.

### ***Socioeconomic Status***

Many children from low-income households are not prepared for kindergarten regarding their academic abilities, social-emotional skills, and physical health, which can potentially lead to long-term negative outcomes (Pianta et al., 2020; Barnett et al., 2018).

The academic achievement gap between children from high- and low-income households begins before kindergarten and persists throughout the K-12 years and into adulthood (Morrissey & Vinopal, 2018). Federal and state-funded public preschool programs have drastically expanded over the past two decades in attempts to lessen the achievement gap beginning in early childhood. As a result, one third of American four-year-old children are enrolled in public preschool programs (Barnett et al., 2018), and nearly 70% of low-income four-year-old children are enrolled in public preschool programs (Pianta et al., 2020). Black and Hispanic children are more likely than white children to attend public programs such as Head Start, which reflects the intersectionality of race and socioeconomic status in educational access and academic achievement (Morrissey & Vinopal, 2018).

Federally funded Head Start programs and other public preschool programs provide low-income families with access to free or subsidized preschool education and attempt to reduce economic, ethnic, and racial disparities in education (Morrissey & Vinopal, 2018). Despite increased accessibility to early childhood educational programs, state and federal investments are not optimized due to a lack of consistent funding and curricular approaches across U.S. preschool programs (Pianta et al., 2018). Past research reveals the uneven exposure to educational content in school-based and community-based preschool programs, which emphasizes the current need for curriculum implementation and development across preschool programs predominantly serving low-income students (Pianta et al., 2018). Individual classroom processes and teacher practices have become key determinants in preschool programs' successes in meeting state requirements for early learning standards and lessening the achievement gap among students (Pianta et al., 2018). Increased exposure to academic content and direct interaction from teachers in preschool programs is found to benefit low-income children's development of academic and social skills during the preschool year (Pianta et al., 2018).

Neighborhood poverty is highly related to poorer access to high-quality social and educational resources (Morrissey & Vinopal, 2018). Research conducted by Morrissey and Vinopal (2018) investigated the interaction between neighborhood poverty and center-based early childhood education participation and its relationship to school readiness among high- and low-income children. It was found that neighborhood poverty

was associated with poorer academic achievement outcomes in kindergarten, and children living in moderate-high or high-poverty neighborhoods demonstrated lower math and reading skills at the beginning of the kindergarten year (Morrissey & Vinopal, 2018). Children living in moderate-high poverty neighborhoods enrolled in Head Start programs demonstrated increased math and literacy skills, yet still fell below their peers from higher-income families (Morrissey & Vinopal, 2018). These findings suggest that the effectiveness of a preschool program is related to the educational resources and support provided within a child's home and neighborhood.

### ***Current Study***

Past research has found that preschool education is beneficial to three-to five-year-old children's development of academic and social abilities. However, there are significant gaps in the research about the specific elements of high-quality preschool education and their relationship to academic achievement across the preschool year. The current study captured this relationship through analyzing classroom variables, such as the implementation of social-emotional learning and teacher-student interactions, and their relation to student outcomes, such as the development of executive functioning and school readiness abilities across the preschool year. The current investigated the following research questions: What is the relationship between quality teacher-child interactions and academic achievement among preschoolers? How are classroom variables related to students' development of academic skills and school readiness across the preschool year? It was expected that classrooms with more responsive teachers and positive learning climates would be associated with higher academic achievement among preschool students.

## **Method**

### ***Participants***

Participants in the current study included children from 125 preschool classrooms in the Midwest of the United States. The average age of students was 4.5 years and 53% of students in each classroom were male. The average familial income was at or below the poverty line in each classroom. On average, students attended 90.21% of days

enrolled in a preschool program. The participants in the current study were included in a large scale, longitudinal study conducted from 2017 to 2019.

### ***Design and Procedure***

The current study investigated a subset of data from a large-scale, longitudinal, correlational study conducted from 2017 to 2019 in preschool classrooms the Midwest. All demographic information, classroom variables, and student outcomes were assessed at the classroom level. Demographic information and classroom variables were measured in the fall of participants' preschool year. Executive functioning was assessed in the spring of the participants' preschool year. Kindergarten readiness was assessed in the fall of the participants' kindergarten year. The variables in the current study were analyzed using bi-variate correlations and partial correlations to determine the relationship of demographic information, classroom variables, and student outcomes during the preschool year.

## **Materials**

### ***Classroom Variables***

Preschool classroom variables were measured with the Classroom Assessment Scoring System (CLASS) and *Conscious Discipline* fidelity by trained classroom assessors. CLASS is an internationally approved observation instrument that captures the quality of interactional processes between teachers and students in early childhood educational settings (Stuck, Kammermeyer, & Roux, 2016). CLASS consists of three domains measured on a seven-point scale: *Emotional Support*, *Classroom Organization*, and *Instructional Support*. Each domain consists of several dimensions to capture teacher-student interactions in the classroom. *Emotional Support* assesses teachers' creation and promotion of a positive learning environment for young students (The Office of Head Start, 2020) and consists of the dimensions of Negative Climate, Positive Climate, Teacher Sensitivity, and Regard for Student Perspective (Perlman et. al, 2016). *Classroom Organization* assesses teachers' organization and management of children's behavior in classroom routines and activities (The Office of Head Start, 2020) and consists of the dimensions of Behavior Management, Productivity, and Instructional Learning Formats (Perlman et. al, 2016). *Instructional Support* assesses teachers'

implementation of curriculum that promotes cognitive and language development (The Office of Head Start, 2020) and consists of the dimensions of Concept Development, Quality of Feedback, Language Modeling, and Literacy Focus (Perlman et. al, 2016). Scores on CLASS range from one to seven: scores of one to two demonstrate low quality of teacher-child interactions, scores of three to five demonstrate moderate quality of teacher-child interactions, and scores of six to seven demonstrate high quality of teacher-student interactions (The Office of Head Start, 2020). In 2018, the national averages for the CLASS domains were 6.08 for Emotional Support, 5.80 for Classroom Organization, and 2.96 for Instructional Support (The Office of Head Start, 2020). Hamre et al. (2007) and Pianta et al. (2008) found that CLASS has good face validity, construct and predictive validity, and acceptable reliability coefficients on the three dimensions and the respective domains. These findings were confirmed by Stuck et al. (2016).

*Conscious Discipline* is a research-based classroom management program that focuses on the implementation of social-emotional learning into the classroom (Anderson et al., 2020). *Conscious Discipline* suggests that self-regulation is vital in the development of problem-solving and learning abilities and emphasizes the need for classroom environments that are safe, supportive, and conducive to young children's learning (Anderson et al., 2020). For the current study, trained classroom assessors administered classroom-level assessments to understand the classroom teachers' fidelity with the *Conscious Discipline* training program rubric. The rubric consists of 18 items that are organized within seven larger domains: *Composure* (3 items), *Adult Assertiveness/Teaching Assertiveness to Children* (4 items), *Encouragement* (3 items), *Choices* (1 item), *Empathy* (1 item), *Positive Intent* (3 items), and *Consequences* (1 item) (Anderson et al., 2020). Teachers were rated utilizing a four-point rating scale for each item, with a score of four indicating fully functional development and understanding and a score of one indicating no implementation of the *Conscious Discipline* social-emotional classroom management training program (Anderson et al., 2020). Teachers' scores on *Conscious Discipline* were utilized to understand the implementation and prevalence of social-emotional learning strategies within the preschool classroom.

## ***Student Outcomes***

Participants' self-regulation was assessed utilizing the Minnesota Executive Function Scale (MEFS). The MEFS measures children's self-regulation specifically in cognitive regulation, or executive functioning, which includes higher-order thinking skills such as inhibitory control, focusing and shifting attention, and working memory (Prager et al., 2016). The MEFS is a standardized learning assessment administered by trained assessors on an electronic tablet that requires children to sort a variety of cards based on the color and shape of specific target cards (Prager et al., 2016). The MEFS takes approximately four minutes to complete and assesses children's ability to follow and remember instructions, focus on relevant information, and switch between different rules presented through the assessment (Preschool Promise Annual Report, 2018-2019). The MEFS is an adaptive assessment that utilizes children's age to select an age-appropriate starting level (Reflection Sciences, 2020). The MEFS records participants' accuracy and response and a proprietary algorithm generates the difficulty of the executive functioning tasks on the assessment (Reflection Sciences, 2020). The national standard score on the MEFS is 100 with a standard deviation of 15 (Reflection Sciences, 2020). The MEFS is proven to be both a reliable and valid assessment tool for assessing young children's executive functioning skills (Reflection Sciences, 2020; Prager et al., 2016).

The Kindergarten Readiness Assessment (KRA) is conducted by students' kindergarten teachers in the fall of the kindergarten year. The KRA assesses students' school readiness skills and ability to engage with instruction at the kindergarten level (Ohio Department of Education, 2020). The KRA assesses four domains of school readiness: *Social Foundations*, *Mathematics*, *Physical Development and Wellbeing*, and *Language and Literacy*. Scores on each domain are utilized to assess children's school readiness abilities, and an overall scaled score ranging from 202 to 298 indicates children's levels of school readiness. *Social Foundations* assesses children's social skills, such as asking for help and following directions (Ohio Department of Education, 2019). *Mathematics* assesses mathematical skills, such as counting, sorting, and classifying objects (Ohio Department of Education, 2019). *Physical Development and Wellbeing* assesses children's motor skills, such as the muscle coordination and balance (Ohio

Department of Education, 2019). *Language and Literacy* assesses children's skills in reading, writing, speaking, listening, and letter recognition (Ohio Department of Education, 2019). *Language and Literacy* is the only KRA domain that utilizes cut scores to determine if a child is on track for future reading proficiency at the third-grade level. *Language and Literacy* scores on the KRA of 263 or higher are on track for reading proficiency in third grade, and scores of 262 or lower are not on track (Ohio Department of Education, 2019).

Scores on the KRA are divided into three categories: *Demonstrating Readiness*, *Approaching Readiness*, or *Emerging Readiness*. *Demonstrating Readiness* describes students who received an overall score ranging from 270 to 298. This category describes children that are demonstrating the foundational skills and behaviors needed for achievement in kindergarten (Ohio Department of Education, 2019). *Approaching Readiness* describes students who received an overall score ranging from 258 to 269. This category describes children that are demonstrating some of the foundational skills and behaviors needed for achievement in kindergarten (Ohio Department of Education, 2019). *Emerging Readiness* describes students who received an overall score ranging from 202 to 257. This category describes children that are demonstrating minimal foundational skills and behaviors needed for achievement in kindergarten (Ohio Department of Education, 2019).

## **Results**

### ***Descriptive Statistics***

The current study found that at the classroom level, participants scored below the national average for executive functioning abilities on the MEFS assessment ( $M = 95.38$ ,  $SD = 6.99$ ). Participants had an overall KRA score of 264.37, which indicated that most students were demonstrating kindergarten readiness (Table 1). Participants scored as demonstrating readiness on the *Social Foundations* dimension ( $M = 272.12$ ,  $SD = 15.38$ ), and scored as approaching readiness on *Language and Literacy*, *Math*, and *Physical Development and Wellbeing* of the KRA ( $M = 269.22$ ,  $SD = 9.32$ ;  $M = 699.22$ ,  $SD = 9.16$ ;  $M = 269.01$ ,  $SD = 14.72$ ) (Table 1). Classrooms' average scores on CLASS are consistent with national averages for the *Emotional Support*, *Classroom Organization*,

and *Instructional Support* dimensions (Table 1). Scores on the *Conscious Discipline* fidelity were also consistent with national averages ( $M = 2.03$ ,  $SD = 0.64$ ).

### ***Bi-variate Correlations***

Scores on all measures of child outcomes were significantly correlated as expected. The CLASS domain of *Instructional Support* was significantly negatively correlated with the KRA domain of *Physical Development and Wellbeing* (Table 2). The CLASS domains of *Emotional Support* and *Classroom Organization* were not significantly correlated with any child outcomes. Scores on the *Conscious Discipline* fidelity were significantly positively correlated with Spring MEFS scores and KRA scores on the *Literacy and Language* domain (Table 2). Gender was significantly negatively correlated with scores on the *Social Foundations and Physical Development* domains of the KRA (Table 2). Income was significantly positively correlated with scores on all dimensions of the KRA and with Spring MEFS scores. Attendance rate was significantly positively correlated with overall KRA scores and scores on the dimensions of *Language and Literacy* and *Physical Development* (Table 2).

### ***Partial Correlations***

Partial correlations were conducted that controlled for the demographics of age, gender, income, and attendance rate. Scores on all measures of child outcomes were significantly correlated as expected, excluding scores on the Spring MEFS and the KRA domain of *Physical Development and Wellbeing* (Table 3). No significant correlations between the CLASS domains of *Emotional Support* and *Classroom Organization* and child outcomes were found. Scores on the CLASS *Instructional Support* domain were significantly negatively correlated with the KRA domain of *Physical Development and Wellbeing* (Table 3). Scores on the *Conscious Discipline* fidelity were significantly correlated with Spring MEFS scores and the KRA domain of *Language and Literacy* (Table 3).

## **Discussion**

During the preschool year, three- to five-year-old children are expected to make significant gains in early academic and social abilities, which assists in the development of school readiness skills and future academic achievement (Ansari & Gershoff, 2015).

Preschool programs provide children with the opportunity to participate in formal educational activities as well as interact with their peers, and the successful completion of a high-quality preschool program is linked to significant gains in young children's learning and development in both the short and long term (Barnett et al., 2018). Although past research has found preschool education to be beneficial to young children, little is known about the specific elements of preschool classrooms that create successful learning environments for preschool children. The current study sought to investigate the relationship between specific elements of high-quality preschool classrooms and academic achievement among preschool children utilizing data from a large-scale, longitudinal correlational analysis conducted in the Midwest. It was hypothesized that classrooms with more responsive teachers and positive learning climates would be associated with higher academic achievement among preschool students. The current study produced three main findings that confirmed the hypothesis and provided valuable insights into the specific elements of high-quality preschool education.

***Main Finding #1: Social-Emotional Learning + Executive Functioning***

It was found that scores on the *Conscious Discipline* fidelity were significantly positively correlated to scores on the Minnesota Executive Function Scale (MEFS) administered in the spring of the preschool year (Table 3). This finding indicated that classrooms that functionally implemented social-emotional learning into the curriculum, which created a more positive learning environment for young students, possessed children that demonstrated greater self-regulation abilities. This finding was consistent with past research regarding social-emotional learning and the development of learning-related social skills, which have been found to allow children to successfully adjust to the demands of formal academic settings (Ansari & Gershoff, 2015). Past research suggested that children that can successfully navigate challenging emotional situations and demonstrate social-emotional competence possess greater self-regulation skills, including the ability to focus attention, inhibit behaviors, and manage emotions in multiple contexts (Harrington et al., 2020). Findings from the current study were consistent with past research (Ansari & Gershoff, 2015; Harrington et al., 2020), as children that were exposed to higher levels of social-emotional learning demonstrated greater self-regulation abilities at the end of the preschool year. This main finding suggests that preschool

educators may be able to implement social-emotional learning into the preschool classroom curriculum to improve children's self-regulation and specifically executive functioning abilities. This finding also highlighted the dynamic relationship between the development of social-emotional skills to higher-order executive functioning abilities, which are both necessary abilities for young students' successful adaptation to the demands of a formal academic setting.

### ***Main Finding #2: Social-Emotional Learning + Language and Literacy***

It was found that scores on the *Conscious Discipline* fidelity were significantly positively correlated to scores on the *Language and Literacy* domain of the Kindergarten Readiness Assessment (KRA) administered in the fall of the kindergarten year (Table 3). This main finding indicated that classrooms that successfully implemented social-emotional learning into the preschool curriculum possessed students that demonstrated greater literacy abilities, such as reading, writing, speaking, listening, and letter recognition, at the beginning of the kindergarten year. Past research suggested that classrooms that create positive learning environments for young students through social-emotional learning have children that demonstrate significant gains in language, academic, and social performance up to one year after completing a preschool program (Burchinal et al., 2008). The current main finding was consistent with past research (Burchinal et al., 2008), as children that were enrolled in classrooms that focused on social-emotional learning demonstrated higher language and literacy abilities at the beginning of the kindergarten year. This finding suggests that preschool educators may be able to implement social-emotional learning to create a more positive and responsive learning environment for young students, which can lead to potential positive academic outcomes following the successful completion of a preschool program. This finding also highlighted the relationship between the development of social-emotional skills to future academic achievement, which can guide curriculum development and classroom management for preschool students.

### ***Main Finding #3: Instructional Support + Physical Development***

It was found that scores on the *Instructional Support* domain of the Classroom Assessment Scoring System (CLASS) were significantly negatively correlated with scores on the *Physical Development and Wellbeing* domain of the Kindergarten

Readiness Assessment (KRA) (Table 3). This finding indicated that classrooms that focused primarily on promoting cognitive and language development had children that demonstrated weaker motor skills, such as muscle coordination and balance. Although this finding was unexpected and seemed counterintuitive, it can be inferred that classrooms that dedicated vast amounts of time on academically oriented activities did not directly focus on the development of motor skills, which could have potentially led to losses in physical development throughout the preschool year. This finding suggests that preschool educators should include a variety of activities that target a range of physical and cognitive abilities to successfully promote development throughout the preschool year to prepare young students for kindergarten and beyond.

### ***Limitations + Future Directions***

The data utilized for the current study was a subset of data from a large-scale, longitudinal correlational study from 125 American preschool classrooms in the Midwest. Due to the limited scope of the large-scale study, several variables of interest were not included in the current study due to lack of available assessments and resources. Future research utilizing a variety of assessments to capture classroom variables and student outcomes could provide more detailed information about the specific elements of successful preschool programs.

All assessments utilized in the current study examined the relationship between classroom variables and short-term, rather than long-term, student outcomes. Assessments were only conducted in the fall and spring of the preschool year and the fall of the kindergarten year. Future research could utilize a variety of longitudinal measures and assessments throughout the elementary school years to better examine the relationship between preschool classroom variables and long-term student outcomes. A longitudinal analysis investigating long-term student outcomes would provide a more comprehensive understanding of the impacts of a successful preschool classroom curriculum, and guide future research about the development and implementation of specific preschool classroom teaching strategies and techniques.

Additionally, the current study utilized correlational analyses, rather than experimental, to understand the relationship between preschool classroom variables and student outcomes. Future research could experimentally manipulate a variety of

preschool classroom variables to understand the causal, rather than correlational, relationship between elements of preschool classrooms and student outcomes. Direct interventions could be performed at the individual and classroom levels to investigate the direct impacts of specific preschool classroom variables on student outcomes.

### ***Conclusions***

The primary aim of the current study was to investigate the specific elements of preschool classrooms that contribute to significant cognitive, behavioral, and academic gains for three- to five-year-old children throughout the preschool year. It was found that there was a significant relationship between preschool classroom variables and student outcomes for preschool students at the classroom level. The main findings suggested that classrooms with more opportunities for social-emotional learning possessed children who developed higher self-regulation and literacy abilities; Classrooms with higher instructional support demonstrated lower physical development, which suggested that increased time spent on instruction could be related to decreased focus on motor skills.

The main findings from the current study indicated that there are significant relationships between preschool classroom variables and student outcomes at the classroom level. These findings suggested that the quality of preschool education, rather than mere enrollment or a completion of a program, is significantly related to students' behavioral, cognitive, and academic gains throughout the preschool years.

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## Tables

**Table 1. Descriptive Statistics**

Variable	N	Range	M	SD
Spring MEFS	136	61.00 – 118.75	95.38	6.99
KRA Overall	129	240.00 – 293.00	264.37	9.26
KRA Social Foundations	129	230.00 – 298.00	272.12	15.38
KRA Language and Literacy	129	236.00 – 289.40	262.99	9.32
KRA Math	129	234.50 – 298.00	262.99	9.16
KRA Physical Development	129	223.00 – 289.00	269.01	14.72
CLASS Emotional Support	140	4.00 – 7.00	5.92	0.67
CLASS Classroom Organization	140	2.50 – 7.00	5.32	0.86
CLASS Instructional Support	140	1.17 – 6.17	3.04	1.16
Conscious Discipline Fidelity	140	1.00 – 3.83	2.03	0.64

**Table 2. Bivariate Correlations**

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Spring MEFS	—													
2. KRA Overall	.420**	—												
3. KRA SF	.389**	.846**	—											
4. KRA LL	.388**	.904**	.664**	—										
5. KRA Math	.359**	.819**	.528**	.712**	—									
6. KRA PD	.290**	.789**	.788**	.615**	.443**	—								
7. CLASS ES	.076	-.044	-.084	.023	.029	-.113	—							
8. CLASS CO	.122	-.009	-.062	.035	.072	-.077	.784**	—						
9. CLASS IS	.063	-.100	-.153	-.055	.035	-.191*	.635**	.578**	—					
10. Conscious Discipline	.299**	.173	.120	.241**	.145	.060	.423**	.398**	.390**	—				
11. Age	-.003	.090	.049	-.002	.156	.099	-.082	-.044	-.077	.047	—			
12. Gender	-.208*	-.206*	-.242**	-.093	-.112	-.261**	-.032	.035	.046	.010	.025	—		
13. Income	.472**	.431**	.350**	.412**	.372**	.280**	.008	.095	-.033	.116	-.125	-.027	—	
14. Attendance Rate	.024	.208*	.115	.256**	.154	.173*	-.035	.016	-.108	.001	-.013	-.012	.280**	—

Note: SF = Social Foundations, LL = Language and Literacy, ES = Emotional Support, CO = Classroom Organization, IS =

**Table 3. Partial Correlations**

Measure	1	2	3	4	5	6	7	8	9	10
1. KRA Overall	—									
2. KRA SF	.801**	—								
3. KRA LL	.891**	.597**	—							
4. KRA Math	.779**	.414**	.667**	—						
5. KRA PD	.728**	.738**	.533**	.318**	—					
6. Spring MEFS	.237**	.228*	.233**	.217*	.132	—				
7. CLASS ES	-.027	-.080	.061	.053	-.125	.102	—			
8. CLASS CO	-.035	-.089	.024	.054	-.108	.113	.784**	—		
9. CLASS IS	-.058	-.126	-.009	.091	-.184*	.090	.606**	.559**	—	
10. Conscious Discipline	.131	.087	.204*	.106	.008	.273**	.454**	.407**	.403**	—

Note: SF = Social Foundations, LL = Language and Literacy, ES = Emotional Support, CO = Classroom Organization, IS = Instructional Support. Partial correlations controlling for Age, Gender, Income, and Attendance Rate

\* $p < .05$ , \*\* $p < .01$