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Study Shows Head Start Teachers' Depressive Symptoms Related to Children's Math Skills

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Teacher Depressive Symptoms and Child Math Achievement in Head Start: The Roles of Family–Teacher Relationships and Approaches to Learning

Read the Child Development article:

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The Relationship was Through Family-Teacher Relationships Linking with Approaches to Learning

Teachers play a key role in supporting children's development in early childhood education classrooms such as Head Start. Research shows significant associations between teachers' depressive symptoms and their students' social and emotional development. However, little research has focused on the associations between teachers' depressive symptoms and academic outcomes of preschoolers from low-income families. Specifically, one important pathway that has not been examined is whether teacher depressive symptoms have implications for the quality of family-teacher relationships. This in turn could affect how supportive parents are of their children's learning.

A new study examined both direct and indirect pathways by which preschool teachers' depressive symptoms could influence preschool children's early mathematical skills. The study showed that teachers' depressive symptoms were significantly associated with children's math achievement in Head Start programs. In addition, the linkage was through the quality of the teachers' relationships with the families, which in turn affected young children's motivation, engagement, and persistence in learning (called their approaches to learning).

The findings were published in a *Child Development* article, written by researchers at the University of Oklahoma-Tulsa, Johns Hopkins University, The Ohio State University, and the Community Action Project (CAP) Tulsa.

"The results indicate that alleviating Head Start teachers' depressive symptoms could support positive family-teacher relationships, as well as gains in children's approaches to learning and thereby their mathematical skills," said Shinyoung Jeon, senior research and policy associate at the University of Oklahoma-Tulsa Early Childhood Education Institute. "More research is needed to understand the best

mechanisms through which to reduce Head Start teachers' depressive symptoms, and more investment is needed in support of teachers' mental well-being. Interventions that pair support for teachers' psychological wellbeing along with emphasis on building high-quality family-teacher relationships, may benefit children's learning and development."

The study used data from the nationally representative Head Start Family and Child Experiences Survey 2014 (FACES 2014). FACES 2014 used multiple methods to collect comprehensive information on Head Start children, families, teachers, classroom quality and programs through direct child assessments, teacher surveys, parent surveys, classroom observation and director surveys. The study included a sample of 1,547 children from 212 classroom in 113 centers at 59 Head Start programs in the United States. Children in the present study were 49% female and featured a diverse range of ethnicities, 27% White, 24% Black, 41% Hispanic/Latino, and 8% others.

The study focused on the following measures gathered through teacher report, parent report, and direct assessments of the children:

- **Teacher depressive symptoms**: Teacher responses to statements (such as "I had trouble keeping my mind on what I was doing," and "I felt that everything I did was an effort").
- **Family-teacher relationships:** Teacher reports of knowledge about families (such as, "I know their cultures and values"), practices involving working together families regarding their children ("How often are you able to set goals with parents for their child") and fostering attitude about engagement with the children (such as, "I encourage parents to make decisions about their children's education and care") were rated.
- **Approaches to learning:** Teacher reports about children's motivation, attention, organization, persistence, and independence in learning (such as "How often in the past month did he or she show eagerness to learn new things").
- **Math skills:** Direct assessments conducted with the children focusing on students' measuring, analyzing, and solving practical problems related to numbers and operations in mathematics, as well as understandings of relative size, ordinal numbers, pattern matching, number recognition and children's ability to count, recognize shapes, add, and solve word problems.
- **Covariates:** Data provided by a parental survey on child gender (boy vs. girl), age in months (at time of spring data collection), returning status (newly enrolled vs. enrolled in a previous year in Head Start), English proficiency, child race, maternal education level and income-to-poverty ratio.

The findings showed that teachers with higher levels of depressive symptoms reported more negative relationships with families. While the association between them was not linked to children's math gains, there was evidence that family-teacher relationships are indirectly linked to math skills through children's approach to learning. Poorer family-teacher relationships were associated with lower gains for children in approaches to learning, which was important to how much they progressed in terms of their math skills.

"Since we focused on Head Start children from low-income families, our study adds to the existing literature by identifying possible associations between a teacher's mental wellbeing and children's academic achievement that function via the quality of the teacher-parent relationship," said Lieny Jeon, associate professor at the Johns Hopkins University School of Education. "The study findings support Head Start's strong emphasis on family partnerships as a way to enhance Head Start children's learning behaviors and their subsequent effects on academic achievement."

The authors acknowledge that the findings do not imply causal inferences given potential unobserved variables and selection bias. The authors also recognize that the data included teacher self-reported depressive symptoms collected at a single time point which is not necessarily an indicator of clinically diagnosed depression or the teacher's depressive state throughout the school year. Finally, three of the key variables of focus in this study, teacher's depressive symptoms, family-teacher relationships, and children's approaches to learning were all measured via self-report from the teacher. Future work could be strengthened by using different rather than the same respondent for these key measures.

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Summarized from *Child Development*, Teacher Depressive Symptoms and Child Math Achievement in Head Start: The Roles of Family-Teacher Relationships and Approaches to Learning by Jeon, S. (University of Oklahoma – Tulsa), Jeon, L. (Johns Hopkins University), Lang, S. (The Ohio State University), Newell, K. (CAP Tulsa). Copyright 2021 The Society for Research in Child Development, Inc. All rights reserved.