How the Math Anxiety of Teachers, Parents, and Children Themselves Relate to the Math Achievement of 1st and 2nd Grade Girls and Boys

Children's early math knowledge has been shown to predict their long-term math achievement (e.g., Duncan et al., 2007). Therefore, it is important to understand the factors that impact the development of math knowledge of young children. Our research implicates multiple aspects of adult input in early individual differences in math knowledge, including socio-emotional inputs. In one study we found that 1st- and 2nd-grade teachers' own math anxiety was negatively related to the math learning of the girls but not the boys in their classrooms. In a larger follow-up study, we examined the role of parents as well as teachers on 1st- and 2nd-graders' math achievement. We again found a negative relation between teacher math anxiety and children's math learning over the school year for girls but not boys. Moreover, girls with either a math-anxious parent, a math-anxious teacher, or both, showed less math growth than those whose teacher and parent were both low in math anxiety. This suggests that young girls are sensitive to the math anxiety of important adult role models. We also found that children's own math anxiety was most deleterious to math performance for children with higher working memory and this was true of both girls and boys. We reasoned that math anxiety may interfere with the advanced problem-solving strategies typically used by high working memory children in solving math problems. Consistent with this, we found that children' use of advanced problem-solving strategies is a significant mediator of the relation between math anxiety and math achievement for these children.