



Distinct Influences of Mothers and Fathers on Kindergartners' Numeracy Performance: The Role of Math Anxiety, Home Numeracy Practices, and Numeracy Expectations

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ABSTRACT

The current study analyzed maternal and paternal differential influences on numeracy performance in kindergarten children. Participants were 180 Chilean children from backgrounds of low and high socioeconomic status (SES), their mothers, and their fathers. A path analysis was used to explore the influences of both maternal and paternal numeracy practices on children's numeracy performance and the influences of maternal and paternal expectations and anxiety on those activities. *Research Findings:* Results showed that mothers and fathers who endorse higher numeracy expectations for their children and who report lower levels of math anxiety also report engaging more frequently in advanced numeracy practices with their children. Mothers'—but not fathers'—engagement in numeracy practices at home predicted children's numeracy performance. Also, low-SES mothers engaged more frequently in numeracy practices with their children, and mothers in general engaged more often in numeracy activities with girls than with boys. *Practice or Policy:* These findings improve understanding of how maternal and paternal processes relate differently to numeracy performance in kindergarten children. Moreover, these results highlight the need to take into account parents' numeracy attitudes and practices, as well as their SES, when designing interventions directed at increasing family support for math achievement.

Numeracy skills are crucial not only for school success but also for success in several areas of adult life (De Smedt, Noël, Gilmore, & Ansari, 2013; Falch, Nyhus, & Strøm, 2014; Lyons, Price, Vaessen, Blomert, & Ansari, 2014). However, Latin American children, and Chilean students in particular, seem to be ill prepared to face the challenges of the workplace, as suggested by the fact that more than half of the students who took the standardized math Program for International Student Assessment (PISA) test in 2012 did not obtain the score considered necessary to participate in a modern society (Organisation for Economic Co-operation and Development, 2014). This is particularly serious in the case of girls and of students from low-income groups, who obtain worse results on standardized math achievement tests in Chile than their counterparts (Organisation for Economic Co-operation and Development, 2010, 2014; Sistema de Medición de la Calidad de la Educación, 2012, 2013). This article addresses this issue by studying the early home influences of numeracy performance in Chilean kindergarten children, specifically both paternal and maternal engagement in home numeracy, as sources of influence on numeracy outcomes.

The preschool and early elementary years play a crucial role in preparing children for developing their numeracy skills (LeFevre et al., 2009; McWayne, Green, & Fantuzzo, 2009). Indeed, several