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What counts in the development of young children's number knowledge?

Dev. Psychol. 46, No. 5, 1309-1319 (2010).

Summary: Prior studies indicate that children vary widely in their mathematical knowledge by the time they enter preschool and that this variation predicts levels of achievement in elementary school. In a longitudinal study of a diverse sample of 44 preschool children, the authors examined the extent to which their understanding of the cardinal meanings of the number words (e.g., knowing that the word "four" refers to sets with 4 items) is predicted by the "number talk" they hear from their primary caregiver in the early home environment. Results from 5 visits showed substantial variation in parents' number talk to children between the ages of 14 and 30 months. Moreover, this variation predicted children's knowledge of the cardinal meanings of number words at 46 months, even when socioeconomic status and other measures of parent and child talk were controlled. These findings suggest that encouraging parents to talk about number with their toddlers, and providing them with effective ways to do so, may positively impact children's school achievement.

Classification: C31 C61

Keywords: achievement; numbers; preschool children; family environment; child development; numeracy; number concepts; longitudinal studies; predictor variables; socioeconomic status; parent influence; toddlers; language acquisition; educational attainment

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