

Practice Makes Perfect: Study Shows Chinese Children Excel in Math at an Early Age

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In China and other East Asian countries, parents tend to emphasize the importance of mathematics more so than parents in Western countries, such as the United States. Even before students start elementary school, parents in Asian countries encourage their children to practice simple arithmetic. But a recent experiment supports the notion that Chinese children may be more skilled than American children at mathematics, even when both groups are introduced to the same, novel concept.

Psychologists Robert Siegler and Yan Mu, Carnegie Mellon University, tested the math skills of kindergarteners from a school in China and a school in the U.S. to determine whether Chinese children had a better overall understanding of numbers.

The children completed two activities, one of which was a novel task that instructed the students to fill in a number line. The other activity asked the students to calculate the sum, from two through ten, for as many arithmetic problems as they could manage in one minute.

The results, published in the August issue of *Psychological Science*, a journal of the Association for Psychological Science, suggested that the Chinese kindergarteners performed significantly higher on both the arithmetic and the novel number completion tasks.

These results may be due to, at least in part, the emphasis Chinese parents place on arithmetic practice at an early age. For example, previous research has supported the notion that children who count on their fingers to solve math problems can improve their understanding of numbers in a visual, auditory, temporal and physical sense. Not to mention counting games, such as Chutes and Ladders, have shown to increase preschoolers' understanding of numbers.

“Practice in adding and counting is surely not the only source of differences between Chinese and U.S. children’s numerical knowledge, but it may well be one source,” wrote the authors. “Analyzing everyday activities in terms of the cues they provide for inducing desired concepts may advance understanding of cross-cultural, individual, developmental, and social-class differences in knowledge and learning,” they concluded.