

# Infants trained to concentrate show added benefits

September 1 2011

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Although parents may have a hard time believing it, even infants can be trained to improve their concentration skills. What's more, training babies in this way leads to improvements on other, unrelated tasks.

The findings reported online on September 1 in [Current Biology](#), a Cell Press publication, are in contrast to reports in adults showing that training at one task generally doesn't translate into improved performance on other, substantially different tasks. They also may have important implications for improving success in school, particularly for those children at risk of poor outcomes, the researchers say.

"Research suggests that differences in attentional control abilities emerge early in development and that children with better attentional control subsequently learn better in academic settings," said Sam Wass of the Centre for Brain and Cognitive Development at Birkbeck, University of London. "The connection is an intuitively obvious one: the better a child is at concentrating on one object, such as a book, and ignoring distractions, for instance people moving around a room, the better that child is going to learn. We show that attentional control abilities can be trained at a much earlier age than had previously been thought possible."

The researchers trained 11-month-old infants to direct their [gaze](#) toward images they observed on a computer screen. For example, in one task, a butterfly flew only as long as the [babies](#) kept their eyes on it while other distracting elements appeared on screen. Infants visited the lab five

times over the course of 15 days. Half of the 42 babies took part in training, while the other half watched TV. Each child was tested for [cognitive abilities](#) at the beginning and end of the study.

Trained infants rapidly improved their ability to focus their attention for longer periods and to shift their attention from one point to another. They also showed improvements in their ability to spot patterns and small but significant changes in their spontaneous looking behavior while playing with toys.

"Our results appeared to show an improved ability to alter the frequency of eye movements in response to context," Wass said. "In the real world, sometimes we want to be able to focus on one object of interest and ignore [distractions](#), and sometimes we want to be able to shift the focus of our attention rapidly around a room—for example, for language learning in social situations. This flexibility in the allocation of attention appeared to improve after training."

The fact that the babies' improvements in concentration transferred to a range of tasks supports the notion that there is greater plasticity in the unspecialized infant brain.

"In other words, if we want to substantially alter [cognitive development](#), it may be that the earlier we start, the better," Wass said.

There is one caveat: It remains unclear whether babies' developing and "trainable" brains might tend to lose newfound skills just as readily as they gain them.

Provided by Cell Press

Citation: Infants trained to concentrate show added benefits (2011, September 1) retrieved 20

April 2024 from <https://medicalxpress.com/news/2011-09-infants-added-benefits.html>

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