



## HOW A BRAIN GROWS

### Five Ways to Aid Development

by Lisa Marshall

Parents that believe playing Beethoven for their infant, investing in educational videos for their toddler or forcing school-age youngsters to sit still and study for hours will help them to build a better brain have another “think” coming.

“People are anxious to do everything they can to improve their child’s intelligence, yet many are focusing their energy in places where they are not getting the best payoff for it,” says neuroscientist Sandra Aamodt, Ph.D., co-author of *Welcome to Your Child’s Brain: How the Mind Grows from Conception to College*.

In their new book, Aamodt and Princeton University Neuroscience Professor Sam Wang try to dispel what they believe are many myths that have

led parents to worry too much about the influence they can have on a child’s cognitive development and in some cases, have led to doing more harm than good.

Aamodt says that genetics and thousands of years of human evolution have already exerted a heavy influence on a child’s developmental future before he or she is born. In the absence of abuse and neglect, and with good nutrition and a stimulating environment, a child’s brain “raises itself” in many ways, the authors maintain. Meanwhile,

they argue that there is little scientific evidence showing that factors like birth order and exposure to classical music and educational videos have an impact on cognitive development.

“Children come ‘out of the box’ with individual temperaments that strongly influence the possible paths they can take through life,” Aamodt observes. “Most parents believe that they can have a bigger influence on their child’s personalities than they actually do. They should relax and enjoy their kids more.”

The authors offer these scientifically backed tips for parents and caregivers to influence a child’s developing brain:

**Don’t stress during pregnancy.**

“The hormones produced in the mother’s body during stressful times can cross over into the placenta, exposing the child. If it’s a chronic condition, it can lead to problems with brain development,” counsels Aamodt.

One 2008 review paper from Harvard Medical School led researchers to conclude that babies born to stressed mothers are more likely to suffer from autism spectrum disorders. Others, from researchers in Canada and the UK, found that women that endure natural disasters while pregnant are more likely to have babies that suffer from schizophrenia, decreased IQ and depression. Animal research has repeatedly demonstrated that babies of stressed mothers often grow up with touchy stress-response systems.

**Switch off the baby videos.** University of Washington researchers have found that baby educational videos, like *Baby Einstein* and *Brainy Baby* fail to boost language skills and may actually slow acquisition of vocabulary. “For every hour per day spent watching baby DVDs and videos, infants understood an average of six to eight fewer words than infants that did not watch them,” the report said.

Other research by the American Academy of Pediatrics suggests that exposure to action-packed videos may increase the risk of development of attention disorders. “Babies are wired to learn from other people, and every period of time they are not interacting with people because they are watch-

ing TV interferes with that face-to-face interaction,” says Aamodt.

**Teach a second language.** Bilingual children consistently outperform single-language speakers in tests of executive brain function (a measure of organizational and planning skills) and tend to be better at making choices and understanding other people’s perspectives, Aamodt says. “The very first act of speech for a bilingual person is picking which language to use, and you do that based on your understanding of the other person’s perspective.” Aamodt recommends exposing youngsters to a second language in infancy—if possible, just by speaking to them in a different language—and exploring more formal instruction before the age of 8.

**Foster self-control.** “Ultimately, parents can make the biggest difference in their child’s adult quality of life by promoting self-control,” Aamodt says. Recent research published in the journal *Science* and elsewhere suggests that children with greater self-control (meaning they can resist temptation, stay on task and control their own behavior) achieve greater success in school, the workplace and their personal lives. “Preschool children’s ability to resist temptation is a much better predictor of academic success than their IQ scores,” Aamodt notes.

She recommends engaging and progressively more challenging tasks. “You want to stretch the child just a little; get them to do something a little bit hard, but that they can succeed at if they concentrate.”

**Encourage study breaks.** “Some very old science tells us that to learn effectively, you need to take breaks and allow your brain to consolidate what you have already learned before you go back and try to learn some more,” says Aamodt. “If you study a total of an hour, you will learn twice as much if you break it up into two 30-minute spans.”

Hooray for recess.

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