

## Genes and learning: Will early reading really make a difference?

Read to your kids everyday, starting day one is the recommendation the [American Academy of Pediatrics \(AAP\)](#) made to new parents late this month. That's correct: the advisory panel suggests that newborns will benefit from book reading. That's hardly an earth shaking recommendation.... and it's not even clear that early reading will provide that much of an advantage, considering the impact of genetics and other environmental factors.

One huge confounding factor is wealth—the socio-economic status of parents, and the high IQs associated with successful people. The New York Times' Motoko Rich [hinted at the scope of the challenge](#) in her report on the new guidelines:

Reading, as well as talking and singing, is viewed as important in increasing the number of words that children hear in the earliest years of their lives. Nearly two decades ago, an oft-cited study found that by age 3, the children of wealthier professionals have heard words millions more times than have those of less educated, low-income parents, giving the children who have heard more words a distinct advantage in school. New research shows that these gaps emerge as early as 18 months.

Pushing reading, the AAP argues, may begin to remedy the disparity so that children with different socio-economic statuses might enter the public education system on more equal footing. But socio-economic status is a placeholder for a lot of other factors, some of which maybe genetic. So are these early reading recommendations really a way for nature to trump nurture?

Blogger and [geneticist Razib Kahn writes](#) often about the human intelligence debate: To what extent are we born or are we made by experience and environment?

Naturally the first thing that comes to mind is that socioeconomic status and intelligence are not totally uncorrelated, and intelligence is at least somewhat heritable. Smart parents might simply talk more to their children, and those children will tend to be smarter than you would expect by chance.

The relationship of genes and environment is complicated. Identical twins share the same genes, and numerous studies have shown that environmental factors play a comparatively small role in IQ; studies of identical twins raised apart, in extremely varying circumstances often have IQs within a point or two of each other despite often radically different environments.

But non-identical siblings are another matter. Because of the shuffling of genes, environmental factors play a larger role in shaping intelligence. "The standard deviation of IQ in groups of [non identical] siblings is nearly the same as the standard deviation of IQ in the general population," Kahn writes. His advice to potential parents who want to give their kids a leg up:

The single biggest thing you as an expectant parent can do to have a child with a large vocabulary is to select a mate with a large vocabulary. This won't guarantee anything, because there is going to be lots of variation on individual outcomes, but in a developed world context this is probably the lowest hanging fruit in terms of 'return on investment.' Think of it as 'loading the die.'

All that being said, reading to your kid, no matter what age, is a great way to spend some quality time together. It might not eliminate society's vocabulary inequality, but it will make you both feel good.

**Additional Resources:**

- [Chimpanzee's highly heritable intelligence is window on human IQ](#), Genetic Literacy Project
- [SAT revamp stirs IQ and genes debate, roiling egalitarian sensibilities](#), Genetic Literacy Project
- [Searching for the super genius genes](#), Genetic Literacy Project