

# School quality, genetics play role in child's reading ability

August 12 2016, by Kathleen Haughney

---



Credit: Florida State University

Good genes can give a young child a head start when it comes to learning to read, but it's not enough to overcome the effects of a poorly rated school.

Those are the findings of Florida State University researchers who looked at whether schools or genetics play a greater role in influencing a child's ability to read. The research is outlined in a new study published in the journal *Developmental Science*.

The study indicates that while attending a top or "A" school will help a child's natural intellectual abilities flourish, that same child might falter if he or she attended a school with a lower ranking.

"The letter grade a school receives has such power—from the funding the school will receive to the autonomy it is allowed to the home prices around the school and real estate purchases," said Assistant Professor of Psychology Sara Hart. "We wanted to see if school grades actually mattered to children's reading achievement."

Hart, who is also a part of the Florida Center for Reading Research (FCRR), and FSU doctoral student Rasheda Haughbrook, the lead author on the new study, wanted to see how students do in different learning environments and whether that critical school ranking reflected a child's reading performance.

They found that genetic factors had a greater influence on pre-reading skills for students who attended "A" schools than on those children who attended lesser ranked schools. In lower ranked schools, environmental factors appeared to be more varied, leading to inconsistency in pre-reading skills among students.

States' ranking systems can vary to some degrees, but many school scores are reflected with an "A" through "F" score.

These rankings play a significant role in the country's current educational framework, but there has been little information on whether these school grades influence how individual children learn to read.

"Often, it seems that the way these grades are measured is based on arbitrary cutoffs and calculations," Haughbrook said. "We wanted to know if school grades really made a difference for student performance."

To do this research, Hart and Haughbrook focused on a very special segment of the population—twins.

They examined 1,313 sets of twins in kindergarten through third grade who were given five reading assessment tests, including knowing letters of the alphabet, recognizing and producing the first letter of a word, segmenting a word into groups of syllables, fluidly reading text and correctly reading syllables of made-up words.

Of the group, 34 percent of the twins were identical and 66 percent were fraternal. They were spread out among schools with "A" through "F" rankings.

Because twins typically share both genetics and environments, the researchers compared identical and fraternal twins to better understand the influence of genes, shared environments—such as the school or home—and non-shared environments—such as different classrooms or friends.

They determined that if identical twins are more similar than fraternal twins in how they learn to read, it is likely genetic influences have the greatest impact. If fraternal twins and identical twins are more similar, it is likely their shared environments are the biggest influencer. On the flip side, if identical [twins](#) differ in a given area—such as their reading abilities—it suggests that the non-shared environment is the deciding factor in reading development.

**More information:** Rasheda Haughbrook et al. Genetic and environmental influences on early literacy skills across school grade contexts, *Developmental Science* (2016). [DOI: 10.1111/desc.12434](https://doi.org/10.1111/desc.12434)

Provided by Florida State University

Citation: School quality, genetics play role in child's reading ability (2016, August 12) retrieved

27 April 2024 from <https://phys.org/news/2016-08-school-quality-genetics-role-child.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.