Reading and math accomplishment determined by overlapping genes

Forget what they say about math versus verbal scores: The two aren't dichotomous. Children's reading and math abilities have a large and overlapping genetic component, according to a new study published in Nature Communications this week.

Math and reading abilities are known to run in families, but the system of genes affecting these cognitive traits have largely remain unknown. So, a large collaboration, including researchers from the Wellcome Trust Case-Control Consortium, went about analyzing the influence of genetics on numeracy and literacy skills.

The team measured the performance of 12-year-old English and Welsh children from nearly 2,800 families — including twins as well as unrelated children — on reading comprehension and fluency tests, as well as math questions based on the U.K. National Curriculum.

When combined with DNA data, the test results showed that math and reading skills share the same genetic basis, with a substantial overlap in the genetic variants that influence the two cognitive traits: Half the genes that contribute to how well a child can read also plays a role in his or her math performance.

"We looked at this question in two ways, by comparing the similarity of thousands of twins, and by measuring millions of tiny differences in their DNA," UCL's Oliver Davis explains in a news release. "Both analyses show that similar collections of subtle DNA differences are important for reading and math."

Read the full, original story: Math And Reading Abilities Driven By Same Genes