



Parents' enthusiasm for science boosts teens' exam scores

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[Top of the class: parents can influence their child's STEM performance](#)

Teenagers with parents who conveyed the importance of science, technology, engineering and mathematics (STEM) had higher scores in mathematics and science-college preparatory examinations, a long-term US study has found. Talking to teenagers about the benefits of science boosted their exam results by as much as 12%, which in turn increased the number pursuing STEM-based careers.

The research was part of a longitudinal study that recruited families in the state of Wisconsin in 1990 and 1991 when mothers were pregnant. The STEM part of the analysis, led by psychologist [Judith Harackiewicz](#) from the University of Wisconsin–Madison, looked at 181 families from that cohort with students attending 108 different high schools.

Utility and relevance

These families were randomly assigned to either an "intervention" group or a control group. Parents in the intervention group were sent information about the utility and relevance of mathematics and science for high-school students. They received a brochure in the 10th grade – when students are 15–16 years old – and another brochure and access to a website in the 11th grade. Families in the control group received no material.

[Previously](#), Harackiewicz and colleagues found that students in the intervention group took nearly an extra semester – half a school year – of mathematics or science classes in the last two years of high school, compared with the control group.

In their latest study, the researchers found that the intervention increased mathematics and science scores in a standardized test for high-school achievement and college applications by 12%. They also found that at 20 years old, the students in the intervention group were more likely to take STEM classes in college, major in a STEM subject, desire a STEM career and value STEM, compared with the control group.

The researchers argue that the intervention improved STEM preparation, which influenced post-high-school choices. "Parents are an untapped resource for promoting STEM motivation – they know their teens and can help them connect course material to their lives," says Harackiewicz, adding that parents "can have a major impact on their teens' academic trajectories by helping them understand the importance of taking math and science courses in high school".

Parents are an untapped resource for promoting STEM motivation

**Judith Harackiewicz,
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