

New research shows parents play vital role in molding future scientists

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Parents and family make all the difference in creating the next generation of scientists, engineers and mathematicians, according to new research by George Mason University.

"We were surprised to learn that the [family](#) is more important than we ever thought in terms of igniting the passion of future scientists," says Lance Liotta, a study author and co-director of George Mason's Center for Applied Proteomics and Molecular Medicine.

The study, featured in [CBE-Life Sciences Education](#), is the first peer-reviewed article of its kind to focus on what initially attracts young people to the [science](#), technology, engineering and math (STEM) fields. The findings could shape public policy and encourage community-centered activities designed to foster a love for science in the pre-teen and preschool crowd, says Amy Adams, director of Mason's Aspiring Scientists Summer Internship Program and study co-author, along with Mason researchers Cara L. Frankenfeld, Jessica Bases and Virginia Espina.

The research team surveyed 149 participants in the Aspiring Scientists Summer Internship Program from classes from 2007 to 2013. This competitive internship attracts top high school and undergraduate students who work alongside Mason professors on real-world research.

The majority—65.5 percent—said science experiences with a family member or a childhood activity piqued their initial interest. Hands-down,

92.6 percent, of the students said hands-on lab experience cemented their decision to make a career in a STEM field.

Researchers say the message is clear: families play the leading role in building the next generation of scientists who may solve daunting problems facing our society. Only after the family, do schools and even colleges play a supporting role.

"As a mom of three children, I am inspired by the Aspiring Scientists' recollections of what initially got them interested in science," Adams says. "When I watch my two-year-old sit in a sea of blocks building creative structures or when his 10-year-old brother is amazed by the results of his chemistry experiment in the kitchen, I recognize, more than ever, that experiences like these may shape their interests in the future."

Liotta says the [holiday season](#) is a great time to play.

"I have four grandchildren and love to work on science projects with them during the holidays and on summer vacations," Liotta says.

"Among many of the fun memories, we have made autonomous robots and held robot wars at Thanksgiving. We have also tested new micro airplanes and radio-controlled butterflies, and studied the behavior of cicadas."

The researchers recommend science gifts for the holiday season to help fuel the imagination of future scientists. Family activities are another way to inspire future scientists, the researchers say.

"Parents who see the spark of science talent in their kids should reinforce that talent through family projects and nature walks," says College of Science Dean Peggy Agouris.

Provided by George Mason University

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