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IDEAS | MIND & MATTER

Why Aren't There More Women in Science and Technology?

A new study finds puzzling national differences: a bigger share of STEM degrees for women in Tunisia than in Sweden

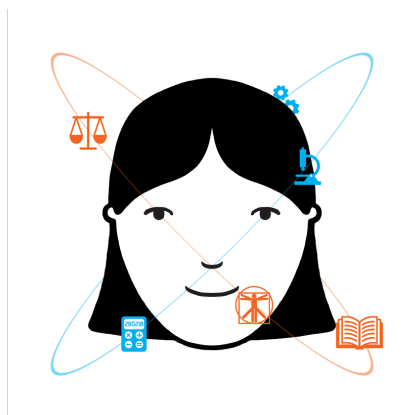


ILLUSTRATION: TOMASZ WALENTA

By Susan Pinker

March 1, 2018 10:37 a.m. ET

A **key tenet** of modern feminism is that women will have achieved equity only when they fill at least 50% of the positions once filled by men. In some fields, women have already surpassed that target—now comprising, for example, 50.7% of new American medical students, up from just 9% in 1965, and 80% of veterinary students. But the needle has hardly moved in many STEM fields—such as the physical sciences, technology, engineering and math, in which barely 20% of the students are female.

A new study suggests some surprising reasons for this enduring gap. Published last month in the journal *Psychological Science*, the study looked at nearly a half million adolescents from 67 countries who participated in the Program for International Student Assessment, the world's largest educational survey. Every three years, PISA gauges the skills of 15-year-olds in science, reading and math reasoning. In each testing year, the survey focuses in depth on one of those categories.

In 2015 the focus was on science literacy, which gave the psychologists Gijsbert Stoet of Leeds Beckett University and David Geary of the University of Missouri a rich data set for examining not only national differences but

also the range of academic strengths and weaknesses within each student.

Some fascinating gender differences surfaced. Girls were at least as strong in science and math as boys in 60% of the PISA countries, and they were capable of college-level STEM studies nearly everywhere the researchers looked. But when they examined individual students’ strengths more closely, they found that the girls, though successful in STEM, had even higher scores in reading. The boys’ strengths were more likely to be in STEM areas. The skills of the boys, in other words, were more lopsided—a finding that confirms several previous studies.

If boys chose careers based on their own strengths—the approach usually suggested by parents and guidance counselors—they would be most likely to land in a STEM discipline or another field drawing on the same sorts of skills. Girls could choose more widely, based on their own strengths. And both, of course, would pursue their particular interests, as best they could.



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Which leads to the study’s most thought-provoking finding. Based on how female students did in math and science in high

school, the researchers predicted that at least 41% of girls would pursue a college STEM degree. This was indeed what they found, using Unesco education data—but only in countries with relatively weak legal protections for women, such as Algeria, Tunisia, Albania and the United Arab Emirates. So the nations with the least gender equality, as determined by the World Economic Forum’s Global Gender Gap Report, had the highest representation of women in STEM.

Conversely, nations with the strongest protections for women and the most dependable social safety nets—such as Sweden, Switzerland, Norway and Finland—had the fewest female STEM graduates, about 20% overall. The study puts the American STEM graduation rate at 24%.

I asked Wendy Williams, founder and director of the Cornell Institute for Women in Science, what she makes of these findings. She wrote that if girls expect they can “live a good life” while working in the arts, health or

sciences, then girls choose to pursue what they are best at—which could be STEM, or it could be law or psychology. She added, “However, if the environment offers limited options, and the best ones are in STEM, girls focus there...Stoet’s and Geary’s findings deservedly complicate the simplistic narrative that sex differences in STEM careers are the result of societal gender biases.”

That conclusion should prompt a rethink. If women are most likely to choose STEM careers in societies that offer less equality and fewer personal freedoms, then that’s a steep price to pay just to say we’re 50/50.

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