

## How gender plays role in careers

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By Noel Um / Pittsburgh Post-Gazette

Does a person's verbal skills have any impact on whether he or she pursues a career in science, technology, engineering or math?

Apparently so, according to a recent study by the University of Pittsburgh. Because women overall have stronger verbal abilities, they have more career options and so may be less likely to pursue jobs in these more technical fields.

The Pitt research team, headed by principal investigator Ming-Te Wang, collaborated with colleagues at the University of Michigan to investigate whether differences in math and verbal ability were playing a role in the gender disparity in these STEM careers -- science, technology, engineering and mathematics.

"Our study suggests that it's not a lack of ability or differences in ability that orients females to pursue non-STEM careers but, because they're good at both, they can consider a wide range of occupations," Mr. Wang said about the research findings published in the journal *Psychological Science*.

Although women make up half of the U.S. workforce, they hold fewer than 25 percent of STEM jobs, according to a 2011 report by the U.S. Department of Commerce. This gender gap has remained relatively consistent over the past decade.

The research team looked at a pool of 1,490 randomly selected college-bound U.S. students drawn from a national longitudinal study and found that students who had higher verbal abilities -- a group that contained more women than men -- were less inclined to pursue a STEM occupation.

The survey highlighted data on several factors, including participants' SAT scores, their motivational beliefs and values and their occupations at age 33. Those participants who reported feeling more able and successful at math were more likely to end up in STEM-related jobs. This was especially true for males who had high math abilities and only moderate verbal abilities.

Efforts to close the gender gap are critical because of the fields expected to have the greatest job growth through 2018. Nine of the 10 fastest-growing occupations that require at least a bachelor's degree will require significant scientific or mathematical training, according to the U.S. Labor Department. Some of these largest increases will be in engineering and computer fields.

Professors and researchers in STEM fields have a number of initiatives under way to encourage women fully capable of excelling in STEM careers to pursue them.

"We should be tapping into the already existing potential of those women who are both mathematically and verbally skilled," Mr. Wang said. "One way might include increasing women's self-identification with mathematics, especially those who are high math and verbal achievers. Likewise, we need to ensure that females are well informed of the diverse range of options available in various STEM careers."

Carnegie Mellon University, a tech-heavy school with chronic gender imbalances in its student enrollment, has made

a concerted effort to encourage more women into STEM fields through campus organizations such as Women@SCS, a program that supports opportunities for women in computer science, said Carol Frieze, the group's director.

In past years, females made up a little more than 40 percent of CMU's overall enrollment. But that is creeping up. Last year CMU's incoming freshman class hit a record high at 46 percent women.

Despite the still-male-dominant student body population, CMU is doing a better job than other places in encouraging women to pursue STEM careers, she said.

"We pay attention to getting a good gender balance and our percentages of women in computing are better than the national average of undergraduate females majoring in computer science," Ms. Frieze said. "We have a very active group of undergrads, grads and faculty that are working to build up the next generation of women computer scientists."

Noel Um: [num@post-gazette.com](mailto:num@post-gazette.com).

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