

Envisioning the next Einstein as a GIRL

Our perceptions of scientists, even at the youngest of ages, often have white lab coats, pocket protectors, crazy hair – and are male. Try it yourself; ask your child to draw a scientist.

At the Girls, Math & Science Partnership, we are focused on changing these perceptions – dramatically. Our mission is to engage, educate, and embrace girls as architects of change. By focusing on girls 11 – 17 (a demographic that often falls in love with science and then out of love with it somewhere in middle school), we are hoping to build a network of girls that just might change the world with math and science.

Why does it matter?

Embracing girls in the fields of math and science is prudent for two key reasons – one intellectual, the other, economic. Taking neurology into account, women's minds are built differently than men's. Women, for instance, have a larger speech area and also have stronger connections between their left and right brain – making them more holistic thinkers. Men, on the other hand, have enhanced capacities with their spatial abilities. This means that, when a woman's intellect is brought to bear in the science arena, she thinks in a different way than if "the lab" was full of men. Diverse thinking leads to better discoveries – and more innovative ones. New questions are also emerging about what role women's emotional intelligence may play when it comes to math and science.

Consider the larger picture. In Southwestern Pennsylvania by the end of this decade, 2.2 million jobs in science and technology need to be filled, but only 9% of women (compared to 26% of men) are pursuing degrees in these fields. Our mid-sized media market doesn't receive the national campaigns which influence girls in math and science. Ironically, our regional economic revitalization is built on science and technology. This mirrors what is happening at the most global scale – America is losing ground quickly with its science and technology workforce versus countries who invest it in more systematically. To maintain global economic vibrancy, our government is currently undertaking a major initiative through Secretary Spellings' Department of Education. She spoke in May at the first ever National Summit on the Advancement of Girls in Math and Science, saying, "We're reaching out to bring professionals from the field into our classrooms...who better than Sally Ride to show students what math and science can accomplish in the real world? Our country can't afford to lose half of our potential innovators, especially in this ever-flattening, Ipod-loving, Tivo-watching world."

What we're doing about it.

After decades of achievement gaps – and the needle not moving – here are some cutting-edge programs run by the Girls, Math & Science Partnership that were created to change the trends.

BrainCake.org is an online sisterhood launched in March of 2005. In only a year, it had more than two million hits. The site is built to encourage girls to express their opinion openly, learn what types of programs are out there to build their knowledge, and to feel a

sense of belonging to a community of people their age. Girls on BrainCake.org don't hesitate to talk openly about "being the only _____" ...in science and math, extracurricular activities and in general. They are already aware, at this age, that they are a rarity. Many express a deeply resolute love of science. And many, say they aren't so sure about the subject. In a recent poll, over a quarter of the girls, when asked about what kind of career they might choose (A chemist studying makeup? A mathematician solving environmental issues?), a quarter of them say "I'm not sure math and science are for me." So, this online environment appears to have a broad appeal to girls of all capacities in science.

Click!, was launched this summer. The only mixed-reality summer camp in the nation (part Real World, part Charlie's Angels), Click! is designed to engage girls ages 11 – 14 in science, technology, and math in innovative ways. Girls attending the camp solved a biomedical mystery in Pittsburgh by taking on different roles and engaging in science activities, technology and team-building. The camp culminates in the girls proposing their own solution to the mystery by searching the North Shore for clues, interviewing witnesses, and using cutting edge technology including a computer operating system designed only for Click! Agents, digital cameras, and global positioning systems.

BrainCake and Click! are just at their earliest stages and we have several more programs currently being developed. We believe we can provide experiences that help girls ultimately change the world by using math and science.

About GMSP: Born out of The Heinz Endowments 1998 study, *Promising Futures*, the Girls, Math & Science Partnership was created to address issues regarding girls, their participation in science, and the expansion of their influence on the regional workforce. In 1999, The Heinz Endowments began collaborating with the Alcoa Foundation and Family Communications, Inc. to incubate the partnership, establishing its commitment to scientific literacy projects that have long-term impact and ensure that women play a vital role in the region's future. Carnegie Science Center is now providing the administrative oversight for the partnership and acting as a steward of its continuing mission.

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