ARE STEREOTYPES KEEPING WOMEN AWAY FROM SCIENCE?
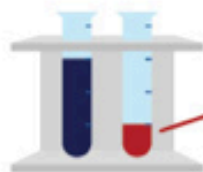

THE FACTS ABOUT WOMEN AND SCIENCE

Lack of Women in the STEM Workforce

Women's share of the STEM workforce has stayed **low**

even as women's share of the college-educated workforce has increased (46% in 2000 to 49% in 2009).

Within STEM fields, women are concentrated to certain areas, with relatively high shares of women in the

Social Sciences **53%**

and Biological and Medical Sciences **51%**

and relatively low shares in

Engineering **13%**

and Computer and Mathematical Sciences. **26%**

Women represent **50%** of the population and **49%** of the US workforce,

but only **24%** of the STEM workforce (Science, Technology, Engineering, Math).

46% 2000

49% 2009

The percentage of men working in a STEM job with some college, an associate's degree, bachelor's degree, or master's degree is

triple or quadruple

that of women with the same degree.

The percent of women with a doctorate working in a STEM job is still only about

half

that of men with a doctorate.

Lack of Women Receiving STEM Degrees

In **2009** there were
2.5 million
college-educated working women with STEM degrees

6.7

2.5

compared to
6.7 million men

Although the number of women earning doctorates in Science & Engineering Fields has increased, men are consistently earning more doctorates than women.

1991 - **17,214 Men** earned Science & Engineering doctorates compared to **7,481 Women**

2011 - **15,364 Women** earning doctorates in Science and Engineering fields – compared to **20,887 men**

17,214

20,887

15,364

7,481

1991   2011

Lack of Compensation for STEM Work

The average hourly earnings in a STEM position by a man is

$36.34/hr

but only
$31.11/hr
for women

For every dollar a man in STEM makes, women in STEM earn $0.86

$1

$0.86

THE ISSUES FACING WOMEN IN SCIENCE

Lack of Recognition

The number of female scholarly award winners is only

half

– in some cases a **third** or even a **quarter** – of what it should be given the number of female PhDs

MATH

Women represented about **13%** of newly awarded PhDs in math

but only about **4-5%** of scholarly award winners in math

GENETICS

25% of PhDs awarded in genetics were given to women but only about

6% of award winners in the field

Prejudice in Science

Karen or Brian?

ONE STUDY

gave different groups of experienced evaluators the exact same resume to evaluate **with only one change** – the name of the candidate was either Karen or Brian

THE RESULT

Both Male and Female evaluators

preferred to hire "Brian" over "Karen"

- **25%** of the Male evaluators favored the male candidate over **15%** favoring the female
- **24%** of the Female evaluators favored the male candidate – twice as many as the **12-13%** favoring the female candidate

STEM Degrees Used in non-STEM Jobs

Female STEM majors are

twice as likely

as men to work in education or healthcare

HEALTHCARE

Nearly **1 in 5 STEM college-educated women** works in healthcare occupations compared to only **1 in 10 men**

EDUCATION

About **14% of female STEM majors** end up in education occupations compared with about **6% of men**

STEREOTYPES ARE INGRAINED EARLY

ON TESTS MEASURING VISUAL-SPATIAL ABILITIES MIDDLE SCHOOL GIRLS

SCORED POORLY
- → when they were told that boys do better on the tasks OR
- → when they were given no information and allow cultural stereotypes to operate

SCORED HIGHER
- → WHEN they were led to believe that there were no gender differences on the tasks

WHY SHOULD WOMEN STUDY COMPUTER SCIENCE?

Computer Science

Even with an economic downturn, new Computer Science graduates are the most likely among all majors

to have received a job offer

YOU'RE HIRED!

In **2009**, female professionals employed in computer fields earned a median of

$1,253 weekly, compared to $887 median weekly for education or $970 median weekly in health care

$1,253 median weekly

The **2013** average salary in Computer Science is

$59,977

up from $57,529 in 2012, and

$10-$20,000 more

than other fields most women work in

Closing the Gender Gap in Computer Science

Tactics to help solve the problem:

More-diverse programming activities, to seize the interest of middle-school girls, in the same way that role-playing video games are embraced by boys.

Early exposure to research projects during the first year of college.

A revamped introductory course, whether taken in college or as an Advanced Placement course in high school, to provide a broad overview of the real-world applications of Computer Science.

Opportunities for undergraduates to interact with women who have enjoyed successful careers in technology.

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