

The background features a dark blue gradient with a starry space pattern. On the left side, there are several technical diagrams, including circular gauges with numerical scales (140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) and various circular arrows and lines, suggesting a scientific or engineering theme.

THE GENDER GAP IN STEM EDUCATION

CAMILLA HARRIS



CULTURE VS. SKILLS

- History of Education and Schools
 - Focused on boys education
 - Structures in place
- What it means to be “good” at something

WHAT IS THIS GAP?

- High School – around the time girls stop taking higher levels of science and math courses
- The closer to college, the wider this gap becomes
- Often compounded with issues of race and class

Percent female participation in the American Mathematics Competition by grade and achievement level

LEVEL OF ACHIEVEMENT	% FEMALE AMONG TOP STUDENTS IN GRADE				% OF CHANGE 9 → 12
	Grade 9	Grade 10	Grade 11	Grade 12	
Top 5000	30.5	25.8	24.3	21.8	-29%
Top 1000	21.1	17.6	16.3	14.6	-31%
Top 500	17.9	15.5	13.1	11.7	-35%
Top 100	11.0	11.4	8.0	7.5	-32%
Top 50	8.4	8.4	7.7	6.8	-19%

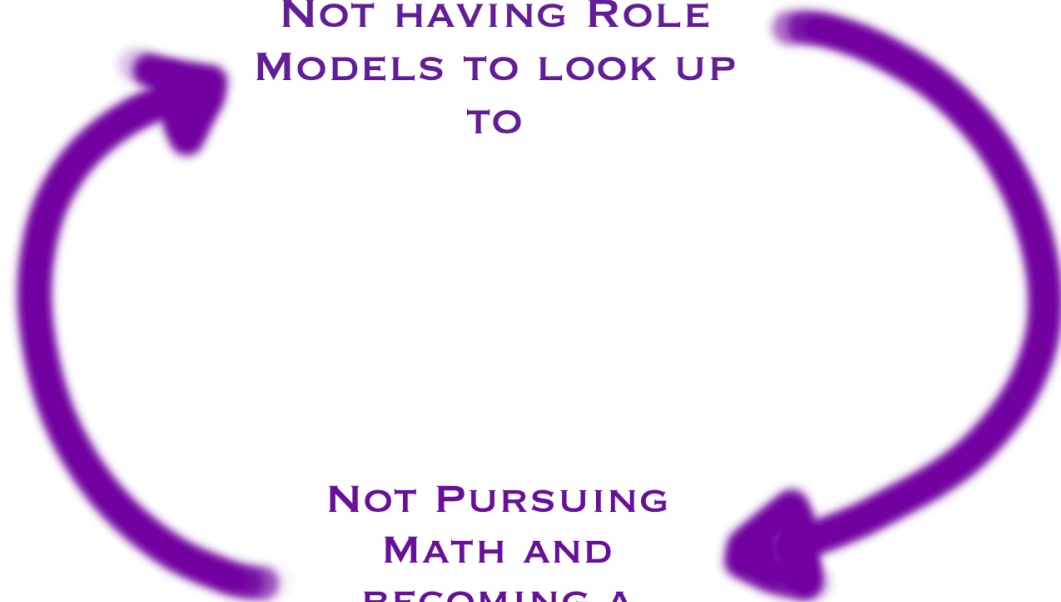
Source: "Dynamics of the Gender Gap in High Math Achievement" by Glenn Ellison and Ashley Swanson.

WHY IS IT IMPORTANT?

- Fair education for all children
- Impact on jobs and life
- Cycle forming

NOT HAVING ROLE
MODELS TO LOOK UP
TO

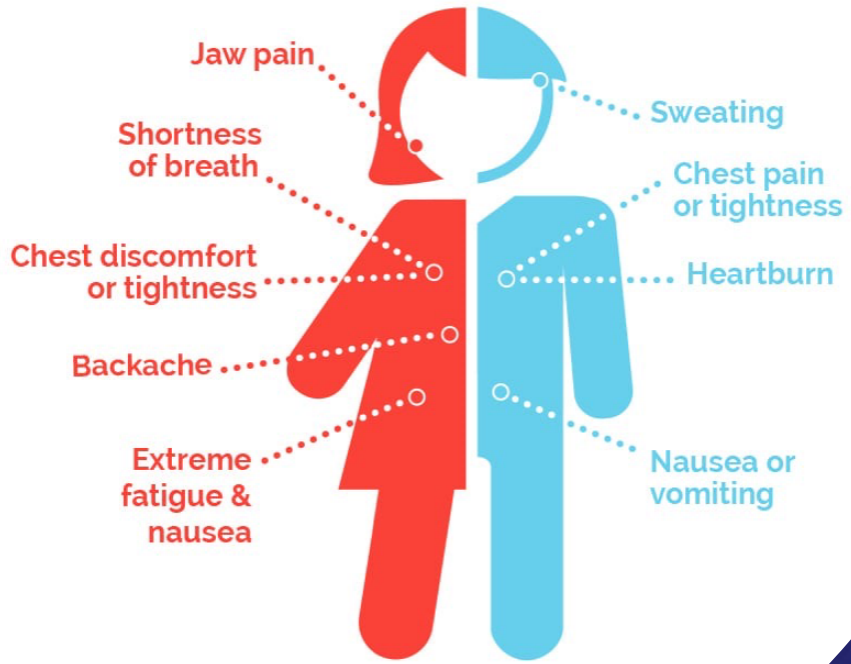
NOT PURSUING
MATH AND
BECOMING A
ROLE MODEL





Know the difference

Warning signs differ between men and women.



Women symptoms include chest discomfort which radiates up to the throat, jaw and through to the back and shoulder blades, extreme fatigue, shortness of breath, heart fluttering, light-headedness and nausea.



MEDICAL STUDIES

SOME BARRIERS

- Stereotype threat - the idea that a group that one is a part of is inherently not good at a field of study or task
 - Both teachers and the curriculum can inadvertently contribute to this
- Lack of Representation
- Intersections with Race and Class
 - More money allows for stereotypes to be pushed further such as sending sons to robotics camps vs art camps
- The Format
 - Analysis of an admissions tests for an elite New York City high school
 - Why were girls lower yet their grades similar if not better?
- Lack of Confidence

POSSIBLE SOLUTIONS

Teachers

- Strive to foster a growth mindset - emphasize practice over innate ability to improve performance
- Move away from multiple choice tests and place more emphasis on open ended questions and assignments
- Provide more hands on and real world examples

Curriculum

- Adding images of female mathematicians or scientists throughout classroom material
- Addition of after school programs focused on girls and STEM
- Restructure of math programs to address widening gap in knowledge between accelerated and non



Ada Lovelace



Margaret Hamilton



Grace Hopper



Sofia
Kovaleyskaya

IMPORTANT WOMEN IN MATH

MY EXPERIENCE



SOURCES

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