

Gender Equity and Inclusion in the US STEM Education System and Workforce Pipeline are Essential for National Defense and Economic Security

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The United States has long recognized science as critical for our national defense and economic security. Indeed, our STEM workforce is a global leader in innovation and discovery. Yet, to maintain our leadership in a more competitive global economy, we must increase the size of and bolster the support of our STEM workforce.

In every community and every locality, women are central to growing and enhancing our STEM workforce.

We have made great strides in higher educational attainment for women over the past decades; in fact, women now comprise the majority of college students. To enter the STEM workforce, women must be able to reliably complete STEM degrees—but external factors are all too often barriers to graduation.

Completing advanced degrees and advancing careers in STEM fields are hard and a complex supportive environment is necessary for women to succeed unimpeded. The very ability for women to complete college and go on in STEM fields presupposes high-quality and easily accessible health care. Access to safe abortion is an important part of good health care.

Curtailing the right to abortion, and creating barriers to reproductive services generally, directly affect the ability of women to advance their education and participate fully in the research ecosystem and the STEM workforce.

- The most common demographic profile of someone receiving an abortion is a woman in her 20s who has attended some college.¹ Nearly 40% of people who seek an abortion say they do so at least partially because having a child could derail their education.²
- Access to safe abortions affects educational outcomes. A 2019 study used data from 876 women who had chosen to terminate their pregnancies—some of the women received abortions, while others were turned away and went on to give birth. Comparing the outcomes of the two groups, and among those who completed high school, the study found that only 27% of the women denied an abortion earned a college degree, while 71% of those who received an abortion became college graduates.³
- Research demonstrates that legalized abortion leads to increases in educational attainment and improvements in employment outcomes and earnings. These effects are particularly large for Black women.⁴
- Women who do not complete college will fall behind economically—adults with a bachelor’s degree earn an average of \$1.2 million more over their careers than the median worker with a HS diploma.⁵ People who are denied an abortion and carry an unwanted pregnancy to term have four times greater odds of living below the Federal Poverty Level.⁶

The negative educational and economic impact of denying women access to safe abortions is sweeping and profound.

A state-by-state approach to abortion—wherein some states ban access entirely—comes with enormous danger for women. Our most intimate, personal data are now collected and shared—often without our consent or even awareness—to various entities, including law enforcement agents. Menstrual cycle data, location-tracking, and online purchases, for example, could be used against women as they navigate a new and challenging health care system.

Fundamental research in mathematical sciences has helped to enable this powerful surveillance apparatus. As such, we mathematicians find it particularly important to stand up when data are—or are in danger of—being misused, or used with ill intent. **With this ethical concern, and a priority to support the education and careers of our members, we support health-related data privacy legislation.**

- The **Health and Location Data Protection Act** (S.4408) would ban data brokers from selling health and location data. This would, for example, protect data in a period-tracking app, and help keep private visits to doctors' offices. Period-tracking apps are often not covered under the Health Insurance Portability and Accountability Act, or HIPAA. If abortion is a crime, data from a period-tracking app could be used to incriminate women.
- The **My Body, My Data Act** (H.R.8111, S.4434), backed by Planned Parenthood and NARAL Pro-Choice America, would protect personal data collected by entities not currently covered under HIPAA, including data collected by apps, cell phones, and search engines.
- The **Fourth Amendment is not for Sale Act** (H.R. 2738, S.1265), while not limited to information collected by period-trackers, would prohibit data brokers from selling this and other personal information to law enforcement or intelligence agencies without court oversight.

¹ <https://www.nytimes.com/interactive/2021/12/14/upshot/who-gets-abortion-in-america.html>

² <https://www.diverseeducation.com/students/article/15114980/abortion-access-and-college-students>

³ <https://www.sciencedirect.com/science/article/abs/pii/S104938671930475X>

⁴ <https://www.brookings.edu/research/what-can-economic-research-tell-us-about-the-effect-of-abortion-access-on-womens-lives/>

⁵ <https://www.forbes.com/sites/michaelnietzel/2021/10/11/new-study-college-degree-carries-big-earnings-premium-but-other-factors-matter-too/?sh=7734797f35cd>

⁶ <https://www.populationassociation.org/blogs/paa-web1/2022/06/10/implications-of-restricting-access-to-abortion>

About the American Mathematical Society

Founded in 1888, the American Mathematical Society (AMS) is dedicated to advancing the interests of mathematical research and scholarship and connecting the diverse global mathematical community. The AMS has 30,000 individual members worldwide and supports mathematical scientists at every career stage.

Contact

Dr. Karen Saxe
Associate Executive Director
Director of Government Relations
American Mathematical Society
kxs@ams.org