THE UPHILL CLIMB

Women and some minorities encounter disparities in STEM occupations, even with postsecondary education

Women who graduate high school and earn further degrees confront disparities in finding and working in occupations in the burgeoning and well-paying areas of science, technology, engineering, and mathematics—fields collectively known as STEM.

Members of some underrepresented minority groups, even with additional educational credentials, hit some of these hurdles too.

About 20 percent of all jobs in the U.S. economy require STEM training. Those occupations are projected to grow about 9 percent over the next decade, faster than any other employment category.

New research and analysis from the nonprofit, nonpartisan RAND Corporation found that women increasingly outpace men in earning the rising number of all types of bachelor's and associate's degrees. But they lag in doing so in STEM subjects: In 2015, the most recent year for which data were available, only 31.1 percent of all bachelor's degrees awarded to women were in STEM fields compared with 42.4 percent for men.

Furthermore, women with STEM degrees do not necessarily land in these fields. Only about 30 percent of women with STEM bachelor's degrees go on to work in STEM fields compared with 49 percent of men.

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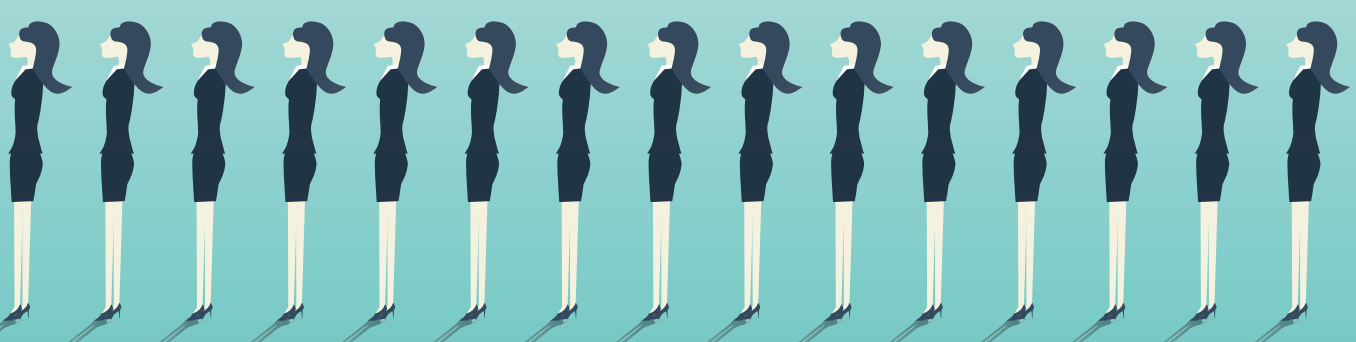

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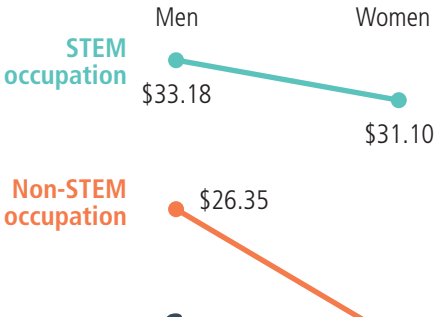
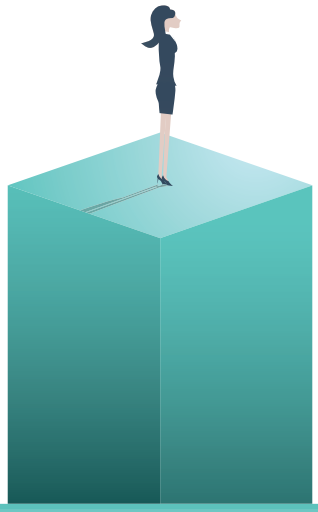


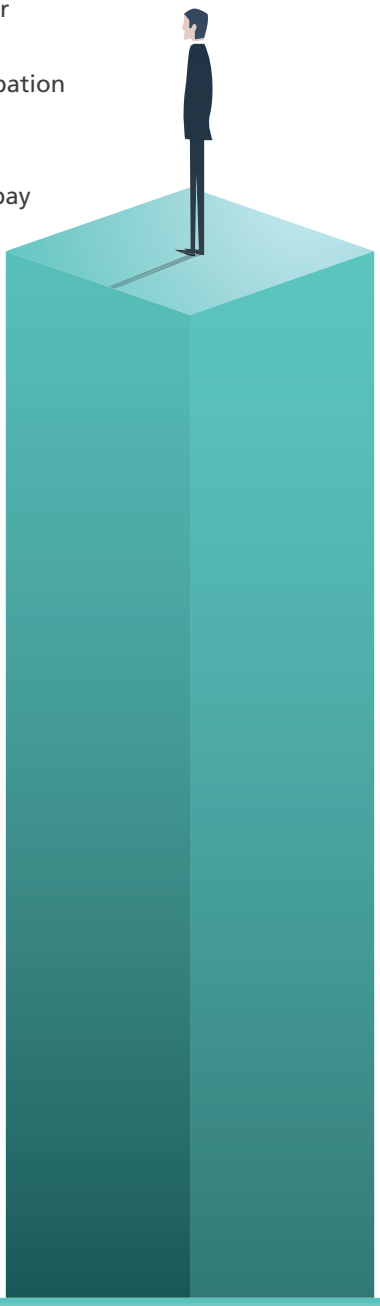


Another report finding underscores the uphill climb for women: Men with a non-STEM bachelor's degree have a slightly higher likelihood of working in a STEM occupation than do women with a STEM bachelor's degree.

Once they get in STEM occupations, women confront pay disparities, RAND researchers found. They make much more—$10.37 an hour more—than women in non-STEM occupations. But women in STEM occupations earn less—$2.08 an hour less—than men in STEM occupations. However, that is a smaller gap than the $5.62 an hour gender pay difference that women confront in non-STEM occupations. Getting more women into higher-paying STEM occupations, as well as reducing gender pay disparities in the sector, could help reduce the overall gender pay gap.

Not all STEM occupations require a bachelor's degree, but many of these good positions—such as nurses, home health aides, mechanics, engineering technicians, and information technology support—demand licenses and certifications. Women with licenses or certifications, generally speaking, were more likely to find work and earn higher wages than women without such credentials, the RAND study found. The same advantage was found for Hispanics and people who lack high school degrees.

In examining trends by racial and ethnic group, the RAND researchers found that whites and Asians earn most of the STEM bachelor's degrees and benefit more in terms of wages from their STEM educations than their black and Hispanic peers.



This brief describes work supported by the American Petroleum Institute and conducted jointly in RAND's Labor and Population and Education units, documented in *Postsecondary Education and STEM Employment in the United States: An Analysis of National Trends with a Focus on the Natural Gas and Oil Industry* by Matthew D. Baird, Robert Bozick, and Mark Harris, RR-2115-AMPI, 2017 (available at www.rand.org/t/RR2115). To view this brief online, visit www.rand.org/t/RB9978. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.