

WOMEN IN THE CANADIAN STEM PIPELINE

A LEAKY PIPELINE

Despite Canadian progress towards gender equality, the gender gap in Canadian STEM studies and employment is still significant.

This is due to the "leak" of women in the STEM pipeline at key moments in their career path: choosing high school courses, choosing and transferring University programs, and being hired and retained in STEM industry roles.

As STEM jobs become more and more central in a 21st-century economy, there is a risk of women being left behind. Closing the wage gap is dependent on supporting women's participation in STEM fields.

Canadian Women STEM Pipeline



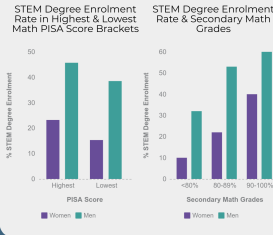
Canadian Men STEM Pipeline



HIGH SCHOOL

Young women are performing well in STEM school subjects, yet are choosing STEM degrees at a lower rate than men. Data indicates that women need to score 90% or higher in math before considering themselves candidates for STEM degrees.

Women who perform well in math are half as likely as their male counterparts to pursue STEM degrees. Men with math marks are up to 66% MORE likely to pursue STEM degrees than women with strong marks.



UNDERGRADUATE

Women make up 60% of undergraduate enrolment, but only 44% of STEM program enrolment.

However, women are persisting in their degrees, with higher retention rate after 5 years and graduating faster than men.

Rate of Graduation (%)



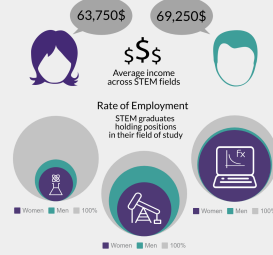
Enrolment by Field



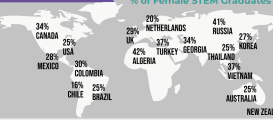
EMPLOYMENT

Significant wage gaps in STEM are due to women holding more junior roles, especially in Engineering fields. Women are most concentrated in Science careers, the lowest earning STEM discipline.

Among STEM graduates in all fields, fewer women are finding employment in their area of study than men.



INTERNATIONALLY



CAUSES & ACTIONS

Self Perception

CAUSE
Women who self-identify with STEM subjects are more likely to pursue STEM degrees, regardless of their ability. Having a positive self-perception of math and other science subjects is linked to higher enrollment and persistence in STEM degrees. Identify more with these subjects with strong but negative women STEM views.

ACTION
Cultivate a culture of STEM diversity by making female STEM students and female STEM students highlight their communication and problem-solving skills to support success in STEM roles.

ACTION
Overcoming stereotype culture, including gender and social stereotypes, requires a societal shift. Policy and education are important in supporting women to enter STEM industries. Include and encourage the career path to STEM for all, not just those who are already in STEM.

Impact & Interest

CAUSE
Women are less likely to receive degrees and salaries in the field of Education. It is often in contrast of how societal and cultural norms, gender inequalities, and the impact of science on our lives. These likely play into women's perceptions for careers and roles with high impact in STEM.

ACTION
Demonstrate and highlight how advancements in Engineering, Technology and science are not improving the world and how that could impact.

Financial Stability

CAUSE
Countries with higher gender equality and social security tend to have lower rates of women in STEM occupations. The industries that are essential tend to carry a much higher financial burden for women, especially in their gender non-STEM career options.

SOURCES

- StatsCan: Gender differences in science, technology, engineering, mathematics and computer science (STEM) programs at university
- StatsCan: Persistence and representation of women in STEM programs
- StatsCan: Women in Education: Qualifications, Skills and Technology
- StatsCan: Education in Canada: Key Results from the 2016 Census
- StatsCan: Are young bachelor's degree holders finding jobs that match their studies?
- StatsCan: Is field of study a factor in the earnings of young bachelor's degree holders?
- StatsCan: Ability in mathematics and science at age 15 and program choice in university: differences by gender
- TD Economics: Women in STEM: Bridging the Divide
- The Atlantic: The More Gender Equality, the Fewer Women in STEM