Filipinas stare through the glass ceiling in STEM fields

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More Filipinas are getting involved in STEM but continue to struggle against social attitudes in school and in the workplace. Credit: Renemari Padillo/Ddcmis (https://commons.wikimedia.org/wiki/File:OPTO2.jpg). CC BY-SA 4.0 (https://creativecommons.org/licenses/by-sa/4.0/deed.en)

The Philippines is celebrating March as women's month while citing its achievements in gender equality from increased female educational attainment to political empowerment.

But does this advancement holds true for women in the science, technology, engineering and mathematics (STEM) fields?

A report by the Philippines' Science Education Institute (SEI) offered a picture of women's engagement in these sectors based on data from 1990 to 2015. It said, optimistically, that the number of women in science and technology careers was increasing, including in the engineering and ICT fields. The report also said that roughly 45% of the 3.7 million bachelor's degree holders in science and technology were women.

However, the grounds for optimism were limited. "Despite the increase in the number of women engaged in the S&T (science and technology) industries in the past 25 years, it is also observed that the percentage gap between female and male S&T professionals did not diminish but rather increased," the Philippine Business Coalition for Women Empowerment (PBCWE) said in a statement to SciDev.Net.

"The competence and skills of women in STEM are on par with that of men, and yet the gender gap persists if you investigate a more detailed picture of the STEM professions women occupy," the PBCWE statement said.

Barriers in engagement

Overall, the Philippines has achieved significant gains in bridging the gender gap ranking 19th in the 2022 Global Gender Gap report although it's two rungs lower than the 17th place in 2021. However, focusing on STEM, there are cracks that need to be fixed in order to encourage more women.

Nantawan Hinds, program coordinator for UNESCO Bangkok's section for inclusive quality education, tells SciDev.Net that barriers which prevent girls and women from engaging in STEM may occur at the

individual, family, school and societal levels.

"At the individual level, girls may be discouraged from pursuing STEM fields due to their perceptions of these fields and their own abilities," Hinds says, citing a Philippine survey that showed that girls may lose interest in STEM as early as at the primary education level because of the perception that STEM is male-dominated.

"This perception is linked to gender stereotypes and biases that portray girls and women as less capable in STEM fields, which in turn can discourage them from pursuing these areas," she says.

Families may also discourage girls from pursuing studies and careers that are outside women's stereotypical roles.

"Girls and women may not receive the same level of encouragement and support from their family to pursue studies and career paths that are considered 'non-traditional,' such as STEM fields, compared to boys and men," Hinds says. "This lack of encouragement and support can result in self-doubt, reinforcement of negative stereotypes, and discouragement among girls and women who may have a genuine interest in STEM fields."

School and societal structures can also perpetuate gender stereotypes. For instance, with very few women role models or presenting them in supportive or passive roles, girls may feel excluded from STEM. In the Philippines, only 11 of the 41 recognized National Scientists of the Philippines are women.

A UNESCO report discussed how girls gradually lose interest in STEM while still in school. This can happen as early as fourth grade because they are seeing that STEM-related careers are primarily male-dominated, dissuading them from pursuing careers in these fields.

A study on Filipino youths' insights on STEM, reported that girls make up only 43% of STEM enrolments. It also reported that girls themselves perceived males to be better in the fields of technology, engineering and mathematics.

The 2022 Gender Gap Report of the World Economic Forum, meanwhile, reported that women only make up a quarter of the female graduates of engineering, manufacturing and construction in the Philippines. PBCWE noted that this is the field with "the most glaring difference among the educational attainment of male and female graduates in the country."

In contrast, information and communication technology is the STEM-related field with the smallest gap, with 48% of the graduates women. The PBCWE also points out that 72% of the technical vocational graduates employed in S&T occupations are men while only 28% are women.

Workplace discrimination

Gender bias does not end in the classroom. A 2019 report cited respondents saying that they felt discrimination and sexual harassment in the workplace. "There's always a bias of what women can or cannot do," one respondent was reported saying.

Another respondent of the study raised the issue of workplace harassment, saying that there is a clear bias against women, and those who could not deal with that end up quitting.

Gender pay gap, family-related concerns, under-utilization of women, and unmet achievement needs were also some of the issues that hinder women's entry, continuation and retention of women in STEM, according to the report.

Automation is also projected to have a heavier impact on women than men. According to a report by the International Labor Organization, women in STEM-related industries tend to hold low-skilled professions and are more than twice likely to lose their job due to automation compared to men.

"Beyond families, it is important for companies and employers to ensure an enabling and safe environment for women and girls if and when they go into STEM," Sarah Knibbs, regional director ad interim for UN Women Asia and the Pacific, tells SciDev.Net. "It is critical for women to feel a sense of belonging, be given the space to thrive, and be supported especially during changes in their life stages from the time they enter the workforce, have children, prepare for leadership roles, and retire."

But Knibbs believes encouraging more women to engage in STEM starts at home.

"There is no one solution to this but it is critical we start with the families of women and girls," she says, pointing out that families tend to invest in providing tech gadgets and access to tools and trainings for boys than girls. "Parents need to be supportive and appreciate that they play an important role in ensuring that their daughters are able to achieve their fullest potential free from stereotypes and barriers."

Provided by SciDev.Net

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