

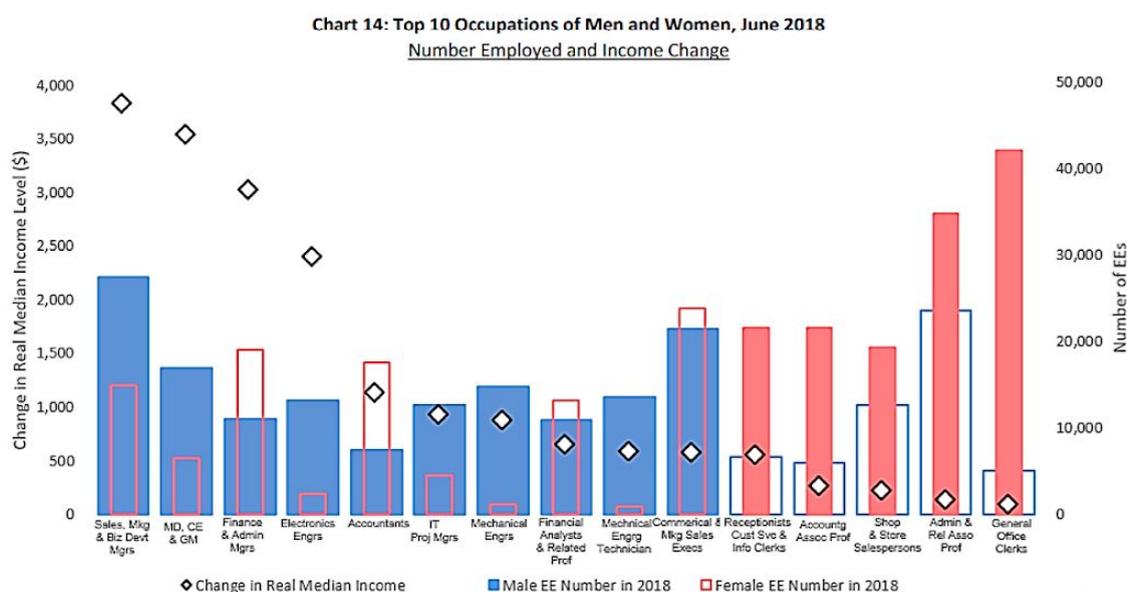
Why do we need more girls in STEM?

The way forward is clear - if we have to achieve gender equality and empower women, we have to get more of our girls in the STEM (science, technology, engineering and mathematics) fields. And we have to do it fast.

According to World Economic Forum's latest report¹, the world still suffers from a 31.4% average gender gap that remains to be bridged. And the world is left poorer by this gender inequality - by a staggering \$12 trillion in annual GDP growth to be exact!²

One of the reasons for this gaping gender gap is the fact that even in countries where educational attainment is relatively high - like Singapore - women's skills are not in line with those required to succeed in the in-demand professions of the future. The Science, Technology, Engineering and Mathematics, frequently called the STEM fields, have the fastest growing and highest paying career opportunities, but they unfortunately also have the worst gender disparity and are mostly male-dominated. Conversely, a majority of occupations that have a high female participation are also those where the income growth has stagnated.

This problem is universal - and Singapore is no exception. This chart below shows how the jobs that have a higher proportion of women working in them are also those in which the income growth have been the lowest over the years³.



¹ WEF, Global Gender Gap Report 2020

² MGI Report on global gender inequality, The power of parity: How advancing women's equality can add \$12 trillion to global growth

³ 'Singapore's Adjusted Gender Pay Gap'- A paper by NUS and Ministry of Manpower, Singapore

And here's the double whammy – not only do these female-dominated jobs have a low growth in median income, but most of them are also among the top 10 declining roles⁴ going into the future, the future being as early as 2022.

So what are the in-demand professions and declining roles of the future? Take a look at the table below:



- | | |
|---|---|
| ❖ Data Analysts and Scientists | ❖ Data Entry Clerk |
| ❖ AI and Machine Learning Specialists | ❖ Accounting, Bookkeeping, and Payroll Clerks |
| ❖ General and Operations Managers | ❖ Administrative and Executive Secretaries |
| ❖ Software and Applications Developers and Analysts | ❖ Assembly and Factory Workers |
| ❖ Sales and Marketing Professionals | ❖ Client Information and Customer Service Workers |
| ❖ Big Data Specialists | ❖ Business Services and Administration Managers |
| ❖ Digital Transformation Specialists | ❖ Accountants and Auditors |
| ❖ New Technology Specialists | ❖ Material-Recording and Stock-Keeping Clerks |
| ❖ Organizational Development Specialists | ❖ General and Operations Managers |
| ❖ Information Technology Services | ❖ Postal Service Clerks |

It is obvious now that most of the jobs of the future will be created in the technology sector - and hence the urgency to move quickly to equip our girls today to have the right skills to leverage the high-growth, high-pay jobs in the still-male-dominated STEM areas.

So what is stopping girls from considering STEM subjects in school and eventually careers in these fields? What could be the possible reasons for this gender inequality in STEM jobs?

The reasons are manifold - societal norms, gender stereotyping, unconscious bias at various levels, lack of female role models, a lack of interest in the subjects to name a few - be sure to read our [primary research](#) on this topic that sheds more light on these factors.⁵

Though we cannot pinpoint one single reason for the under-representation of girls in STEM fields, we can do a lot to get them interested in STEM subjects at a young age, sustain this interest and encourage them to pursue STEM majors in their higher education by positively influencing their perception of the subjects and related careers.

⁴ WEF, Future of Jobs report, 2018.

⁵ We explore these in detail in our next article which discusses the insights from our primary research on 'STEM Career prospects among girls in Singapore'

[Girls2Pioneers Programme](#)

If the young women of today are to take advantage of the opportunities that come their way in a technology-driven world of tomorrow, the foundation for their STEM careers needs to be laid today.

So how do we encourage today's girls to have a positive disposition towards STEM?

Some possible ideas would be:

- Expose them to positive role models, i.e. women working in STEM fields
- Equip them to break the glass ceiling by giving them the confidence and the skills needed to succeed in a STEM environment
- Expose them to the real-world tech companies, and let them see for themselves that being in a STEM-related job would help them solve real-world problems and make a difference to the world

Hopefully, if enough girls can be influenced thus, it will eventually go towards creating a more gender-equal society.

Our [Girls2Pioneers](#) program aims to do this starting from the grassroots level - by inspiring and encouraging girls and young women to explore studies and careers in STEM fields. The program targets girls aged 10-16 years, from local and international schools, homeschoolers, madrasahs, Family Centers and from lower income households. Each year, we reach over 3500 girls through our camps, talks, workshops and field trips/corporate visits where they get to engage and interact with women in STEM roles.

With this sort of STEM exposure, the girls learn to appreciate the relevance of STEM in their everyday lives, and more importantly, they realise that STEM can be fun, and that they can excel in STEM subjects.

This is our way of moving Singapore towards being a more gender-equal society - one STEM loving girl at a time!

[United Women Singapore](#) is a self-funded charity. If you feel as passionate about our cause as we do, and would like to get involved, click [here](#) to find out how!

Have something to say about this article? Contact Anupama at comms@uws.org.sg