PhysicsKIT 4STEM

GENDER GAP IN STEM EDUCATION

Article 1

Emphasys Centre

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The Gender Gap

If you were asked to draw a picture of a scientist on a piece of paper would the character be male or female? The truth is that majority of people would draw a male scientist as social norms and stereotypes tend to describe science-related subjects and occupations as masculine.

Although actions have been taken during the last decade to eliminate the under-representation of women in **science, technology, engineering and mathematics (STEM) education**, a big gap is still present today and especially in the participation of women in STEM-related jobs.

Even though the percentage of female researchers has increased worldwide, they are less likely to collaborate internationally and have a lot less academic publications than male researchers. Additionally, findings retrieved from Eurostat show that in Europe, **out of the total number of scientists and engineers only 40% are women.** There is an existent gender imbalance in the fields of mathematics and manufacturing employment sectors globally. Overall, the number of employed female scientists is still significantly low all over the world compared to men.

Image 1: https://www.aauw.org/resources/research/the-stem-gap/

The Impact of the Gender Gap on Girls and Women

Women and girls in STEM are still being excluded from fully participating in this field. The quality of their education and the subjects they study are influenced by **biases, stereotypes** and **sexism.** Most women lack motivation in pursuing STEM careers because they fear that they would not be taken seriously in such positions and that they would not get the same opportunities as their male colleagues. Other reasons that have been reported for the low participation of women in STEM job positions include **hostile and sexist work environments**, **the assignment of boring tasks, pay gaps** and **absence of career development and recognition**. Moreover, findings from other studies indicate that gender-science stereotypes negatively influence women's ambitions to enrol in STEM-related courses at university.

Gender Equality in STEM education & Economic Growth

According to the European Institute for Gender Equality, the need for STEM professionals is expected to increase up to 8% by 2025 and employment in STEM-related positions about 6.5%. Thus, the continuous under-representation of women in STEM will result in loss of talent and will go against the EU's development potential. Reducing the gender gap in STEM education areas could help foster economic growth via both higher productivity and increased labour market activity.

"By advancing women's equality, $12 trillion could be added to global GDP by 2025"

- Dharmendra Kanani, Director of Insights at Friends of Europe

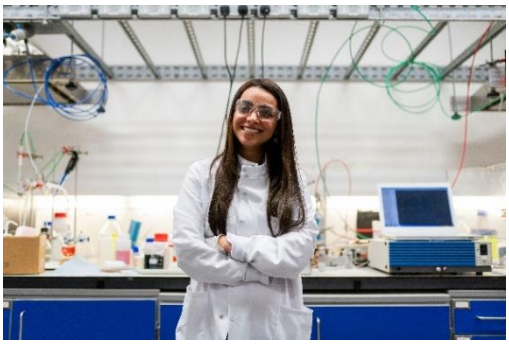

Image 2: https://www.pexels.com/photo/portrait-of-female-chemical-engineer-in-laboratory-3861463/

Increasing the participation of women in STEM subjects will have a strong positive GDP impact at EU level. More specifically it would contribute to an increase in EU GDP per capita by 2.2 to 3.0% in 2050.

On the **11th of February,** the United Nations celebrated the **International Day of Women and Girls in Science**. The United Nations advocate that *"science and gender equality are both vital for the achievement of the internationally agreed development goals, including the 2030 Agenda for Sustainable Development."*

PhysicsKIT4STEM to the rescue

The Erasmus+ project **PhysicsKIT4STEM** aims to foster the interest of children aged 11-15 in science. **PhysicsKIT4STEM** specifically addresses the issue of gender imbalance in STEM classrooms and aims to encourage young girls to get involved in science and engineering subjects. The project provides teachers with a hands-on approach to teach physics through DIY kits, electronics and programming, powered by a Raspberry Pi computer.

PhysicsKIT 4STEM

Visit the **PhysicsKIT4STEM** website and Facebook page for more information and news related to the project:

Website: https://physicskit4stem.eu/
Facebook page: https://www.facebook.com/physicskit4stem

References

- How gender equality in STEM education leads to economic growth - https://eige.europa.eu/gender-mainstreaming/policy-areas/economic-and-financial-affairs/economic-benefits-gender-equality/stem
- International Day of Women and Girls in Science: How can we promote gender equality in STEM - https://gearingroles.eu/international-day-of-women-and-girls-in-science-how-can-we-promote-gender-equality-in-stem/
- Quote - https://www.friendsofeurope.org/events/women-in-stem/
- Image 1 & Information - The STEM Gap: Women and Girls in Science, Technology, Engineering and Math: https://www.aauw.org/resources/research/the-stem-gap/
- Image 2 - https://www.pexels.com/photo/portrait-of-female-chemical-engineer-in-laboratory-3861463/