



Counted Out: The Persistent Gender Gap in Nigeria's STEM Pipeline



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This article highlights the importance of increasing the representation of girls in technology and other STEM (Science, Technology, Engineering, and Mathematics) careers. In recent times, there has been a high need to inspire more girls to pursue careers in these fields. The under representation of women in the tech sector is a well-documented issue, with significant implications for both individuals and society. To effectively solve the problem of disparity, it is essential to highlight the reasons behind the call for more girls in tech and explore measures to further encourage their involvement.

According to the UNESCO Science Report, women constitute just one-quarter (**28%**) of tertiary graduates in engineering and **40%** in computer sciences, while only **22%** of professionals in Artificial intelligence (AI) are women in the world. Additionally, women remain underrepresented in leadership and technical roles within companies, signifying a substantial gender disparity in STEM fields. This lack of representation has several implications, including limited diversity in perspectives and ideas, which are crucial for innovation and problem-solving in technology-driven industries. Addressing gender imbalance in STEM is vital to ensure equal opportunities for women, fostering innovation, diversity, and creating more dynamic, effective, and equitable workplaces.

In Elaine Montila's (Forbes Councils Member's) article on the necessity of more women in tech highlights that gender equality remains a significant issue in the corporate world, with women significantly underrepresented in the corporate pipeline. While women constitute **46%** of the U.S. labor force, their presence in the technology sector is considerably lower. Despite the challenges, some young women do pursue STEM subjects at university. However, only about 26% of female STEM graduates enter the tech workforce, compared to **40%** of men.

According to data obtained from the Nigerian Joint Admission Matriculation Board (JAMB), significant gender disparities persist in the admission rates across faculties in Nigerian tertiary institutions, particularly in Engineering, Technology, and the Sciences. In 2018, out of 1,653,127 JAMB applicants, 902,176 (**54.7%**) were female. However, the number of female applicants did not translate proportionately into admissions. Only **15%** (247,580) of females were admitted into tertiary institutions overall. Specifically, in the faculty of Engineering, Technology, and Environment, 10,791 females were admitted out of 66,607 total admissions, amounting to just 16.2%. In the faculty of Sciences, out of 174,218 admissions, 77,361 (**44.4%**)

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were female. With these percentage you can get a clearer picture of the gender distribution in both total admissions and admissions within specific faculties in 2018.

Comparatively, in 2020, a total of 74,510 students were admitted into the faculty of Engineering, Technology, and Environment. Among these admissions, only 11,686 students were female, accounting for **15.7%** of the total admissions in this faculty. Simultaneously, in the Faculty of Sciences, out of 176,443 admitted students, 81,672 (**46.3%**) were female, indicating a higher proportion of female admissions compared to the Faculty of Engineering, Technology, and Environment.

However, looking at recent data from JAMB, in 2021, a total number of 64,706 students were admitted into the Faculty of Technology, Engineering and Environment and just **16.1%** were females. While in the Faculty of Sciences out of 145,710 admitted students, **47.9%** (69,710) were females. This clearly indicates that we have more girls interested in the Faculty of Sciences compared to the Faculty of Technology and Engineering.

In the same vein, comparing the 2021 data to the data gotten from JAMB in 2023, of the 83,847 students admitted to the faculty of Technology, Engineering and Environment just **15.8%** were females. While luckily for the Faculty of Sciences, out of 192,686 admitted students, **50.2%** were females. This showed a slight decline in the number of admitted females to the Faculty of Technology and Engineering. While more female students are interested in the Faculty of Sciences.

These statistics highlights a persistent gender gap in the admission rates across different faculties in Nigerian tertiary institutions. Urgent efforts to address these disparities are crucial to ensuring equitable access and opportunities for female students in fields traditionally dominated by males. This report highlights the need for further research and targeted interventions to promote gender balance and inclusion in Nigerian higher education, particularly in STEM-related fields.

The UNESCO Global Education Monitoring Report highlights a significant gender gap in tertiary field choices globally, with an average of **15%** of young female graduates in STEM compared to **35%** of young male graduates. Countries like Finland, Germany, and Sweden have the largest absolute gaps, while Mauritania, Samoa, and Tanzania show no gap.

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Diversity in tech is essential as it brings different perspectives and ideas, driving innovation. Girls can contribute unique skills and creativity to the tech industry. The tech world is often perceived as male-dominated due to factors such as a lack of female mentors, gender inequality in STEM jobs, and insufficient hands-on experience with Science, Technology, Engineering, Mathematics subjects.

Countries are adopting various approaches to address gender divides. However, according to the UNESCO's report while **68%** of countries globally have policies supporting STEM education, only half specifically support girls and women. To truly bridge the gender gap in STEM, it is important for all countries to include women and girls in their policies. Implementing targeted initiatives that encourage and support women and girls in STEM education and careers is essential to ensure equal opportunities and foster a more inclusive and innovative technological landscape.

Encouraging more girls to enter the tech industry is important for several reasons which includes the benefits of diverse teams, which bring varieties of perspectives and problem-solving approaches crucial for innovation and creativity. Diverse teams are more effective at problem-solving, leading to comprehensive solutions and improved company performance. Increasing the number of women in tech can boost economic growth, skill shortages, encourage safe spaces and conducive physical and mental environment and promote social equity by breaking down gender stereotypes and barriers. Also, women often provide unique insights that lead to the development of products and services better suited to a diverse user base. Furthermore, having more women in tech roles provides role models for younger girls, inspiring them to pursue STEM fields and demonstrating their potential for success.

By ensuring inclusive technology development that addresses the needs of all users (e.g when women design technology that are useful to them) fostering a culture of innovation, and actively working to close the gender gap, we can create a more inclusive, innovative, and equitable tech industry for future generations.

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ABOUT THE AUTHOR

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ABOUT WTEC

The Women's Technology Empowerment Centre (W.TEC) is a Nigerian nonprofit organisation committed to building a more inclusive technology ecosystem, with the next generation of women technology creators, entrepreneurs and leaders. More recently, our work has expanded to explore how technology can improve learning outcomes and better integrate students with developmental disabilities and special needs, such as Autism and Down's syndrome.

Our programmes encourage more girls to pursue technology careers and support women (entrepreneurs and in civil society) to use technology confidently to increase their economic power and ability to speak about issues affecting their lives.

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