

Social and Environmental Barriers for Women in STEM Careers

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Introduction

A 2010 research report provides detailed, compelling evidence on why there exist few women in science and engineering. In this era, women are becoming increasingly prominent in other fields, such as medicine and law. Therefore, women have not been equally represented over the past approximately one hundred and 150 years. The research presents some in-depth vital findings that point to different environmental and social factors that act as a barrier to women becoming scientists and engineers (Brush 405-406).

Stereotypical Issues And Implicit Bias

There arise some stereotypical problems that threaten to evaluate the performance of female students taking mathematics and science tests. Many people claim that they believe that boys and women are better in science and math than girls and women. These gender beliefs become more powerful, leading to gender bias in the performance of girls in these subjects. Gender stereotyping and gender bias among people across all races and ethnicities have led to few women becoming scientists and engineers. It is because both women and men believe that only men are capable of performing exemplarily in both science and math.

Growth And Fixed Mindset

Over the years, when negative stereotypes persist about girls' abilities, they might tend to have a fixed mindset. A fixed mindset is more likely to make women lose confidence and disentangle themselves from science and technology when they continuously encounter difficulties in math and science. Encountering obstacles and problems is inevitable because that's the nature of science coursework.

Recruitment And Retention Of Women In Science

Researcher Allan Fisher emphasizes that departments pay full attention to girls' experiences. In most cases, faculties do not diversify, which leads to less recruitment and retention of female students.

Competition

Research shows that women are less aggressive than men in different technical fields. This notion makes women disengage from their desires to continue through a carrier in science and engineering at the academic level. Women get more discouraged when constant competition is the sole determinant of a successful scientific career, making men who are more competitive succeed in the sciences.

Marginalization

The few women who find themselves in a faculty position find themselves frequently underpaid in comparison to their male counterparts. In almost all cultures female scientist receives few awards, less financing, and few resources. For example, according to statistics at the American Institute of Physics, women software developers can earn 20% in comparison to 80% that men earn (Fox & Mary 658).

Childcare

According to research, the few women who become scientists leave early in their careers due to a lack of maternity leave to care for the kids. They face childcare obstacles in reaching their career goals. It is true that necessity is the mother of invention since through the essentials they pass through it actually when realize that there are better ways they can solve children's interruption challenges. It is through this that they come up with mechanisms that will enable them to curb children's interruption.

Lack Of Encouragement And Teasing At School

Girls who see opportunities for themselves in science and engineering are often ridiculed in schools. Moreover, they lack motivation from their parents and teachers to pursue their dreams of science careers. Just like a boy student in school, girls can do better in science or even engineering subjects. In fact, it is genuine that some of the girls have shown high-level science interest and they are taking an upper position in lifting up science. Most of the girls who are involved in science subjects are facing some discouragements in school. In fact, I don't understand why Boy students are the ones regarded as suitable for science and engineering subjects, in fact, girls can do better than what a boy student can do in this subject.

Effects Of Social Norms And Legal System

Contemporary society needs technology for livelihood improvement and development in other key areas. According to research statistics exposed by Blasdell, 44% of women in the workforce, only 13 percent are in science and engineering careers. This shows a clearly marked underrepresentation of females in these programs. Recruitment of female students can reduce that gap by availing significant resources in these fields. However, there are barriers that impede this effort to advance women in these careers (Brush 406).

Social norms, culture, and legal systems are the most significant barriers that discourage women from joining male-dominated careers. Different traditions, values, and systems have shaped the stereotypes in science fields. The legal orders and culture become unsuitable for women in the learning environment (Fox & Mary 659). The societal norms indicate that women are the fundamental caretakers of the families and cannot succeed as mothers in such professions. Women who take science and engineering are associated with a lack of feminine ability in their communities. This acts as a barrier factor that prevents their development in the fields due to their gender identity. Societal norms that are set by the male are more competitive than the collaborative approach of the female counterparts.

In some countries, legal systems have made women disadvantaged to be included in science programs. There exist discriminatory laws in university institutions that discourage women from pursuing graduate degrees in science degrees. Some universities offer differential entry points for women making them lag behind in science and technology development (Fox & Mary 660-661).

The Kind Of Science Jobs Women Are Likely To Be Found In

There are other scientific fields that several women dominate, even though few are found in such professions. The type of science jobs that they are likely to be found in the nursing profession. Nursing attracts a sizeable amount of female people. Female nurses have both feminine and professional values to support, care and interact with patients more freely in hospitals. Men do not dominate this field because of the negative attitude toward men joining the profession.

The Overall Academic Performance Of Female Students In Science And Engineering

Over the years, the academic achievement of women in these fields has remained significantly low. According to research, 40 percent of students who joined the university faculty of science in 2010 in the USA, only 11% were women. This shows that female students perform poorly in science than male

students. Their achievement continues to lower even after joining high institutions (Fox & Mary 666). Lack of confidence in their ability to balance studies and family is one of the factors that influence the deteriorating performance of women. Those in undergraduate classes feel isolated and resented by the male students, while those with high levels of confidence gain negative responses from professors and classmates. Sociologists indicate that female students elicit lower self-esteem in science fields than their male counterparts (Basu & Alaska 364-365).

In this case, female students recede to gender roles and end up not pursuing alternative options to improve their careers. This affects their academic achievement due to an uncomfortable learning environment. This explains the high dropout cases in science and engineering programs.

Comparing Women In Science To Men Regarding Salary And Compensation

Although there has been a continuous fight for women's equality in all careers, there exists a vast disparity between the salaries and allowances that women employees earn. There still exists a high variation in salaries in science and engineering (Ashet al, 210). Gender differences regarding compensation for jobs in these fields leave women to leave the profession. Different economists have come up with different reasons to offer competing explanations for the difference in salaries.

Childcare is seen to be directly related to salaries and compensation for women when they decide to take off duty period to care for their kids. According to statistics, in 1999, women scientists and engineers earned a 22 percent salary than men in the same field. However, over the years it is clear that this salary gap is tremendously closing (Ashet al, 211). This is because of factors such as campaigns for equality between men and women in the workforce. Also, stereotypical threats and work discrimination against women are slowly decreasing, making these fields to become more cross-gender.

Status Of Women In Science From Culture To Culture

In all dimensions' science is part of the culture. Research indicates that there exists a vast disparity in how women in science are upheld from culture to culture. These disparities are more visible to those communities that have stuck to their traditions and values over the years. Among the black communities, gender roles are seriously upheld (Basu & Alaka 370). This shows that women are given the responsibility to take care of the family, especially kids, while men are expected to provide the basic needs of the family. This is done for the female species to maintain their feminist values in society. This cultural stereotyping has led to the liberation of a few women, and as a result, a few black women managed to become scientists and engineers. This is because, in these societies,

women who take upon these causes are viewed with a negative attitude by all other people.

However, in Western cultures, there are lower strict cultural norms, making women be allowed to take up courses and careers that are male-dominated (Basu & Alaka371). The government has come up with strategies and amended a constitution that enables gender equity and discourages anti-discriminatory laws in those courses. According to research done by the United Nations, some Asian people record the highest number of female students who go into science and engineering professions. This is a significant improvement because they have the ability and capability to succeed in these fields.

Strategies Recommended

Women going for science and technology professions have a wide range of opportunities in various countries regardless of the difficulties they face in these fields. For example, the United States government has ensured to put more effort into having women accepted in these fields. The entry points for female students to enter higher learning institutions are now lower than the entry standards for their male counterparts. This affirmative action has led to the increment of a sizeable number of women taking up math and science courses. Also, governmental and non-governmental organizations participate in campaigns and training centers to improve the number of girls pursuing science and engineering programs. The following strategies are recommended to advance women in these fields.

Plan A Favorable And Flexible Family Care Spending

The government should ensure gender grantees are allowed so that women can use part of these funds for childcare and family miscellaneous expenses. This approach will make them focus on career development and participate in developmental issues in the country (Hill et al., 139).

Focus On Education

Higher learning institutions should educate students on the problems women face in science and engineering. For instance, this can be done through gender awareness, training, and carry out workshop programs. They should hold science contests that will enable different students to have a competition in science and engineering projects.

Involve Implicit Bias Statements

Statements that show the idea of inherent bias to reviewers should be included to ensure high

commitment levels, equality, and diversity in those careers. The competition will uplift the spirit of girls to show more concern for science subjects. In fact, teachers should focus on the interests of female students and have them motivated to pursue these subjects just as a boy student can do in science; a female child can do better.

Provide Extra Awards In Schools

Girls who excel diligently in math and science coursework should be awarded by the school so that they can be motivated and encouraged to have passion about becoming scientists and engineers. Women and girls who do well in this subject should be highly recommended to act as a motivation to other ladies who have the same dream or capability but lack the motivation. Rewards will motivate so many girls, and women to get involved in engineering and science subjects.

Expansion Of Searchable Databases

Existing databases need to be made so that women in these fields can be identified for positions that are important for professional development.

A college environment that supports female students in these fields should be created for them to be actively included in science and engineering majors. Also, culture, societal norms, and some oppressive legal systems should be redefined for them to favor a higher number of women to get into these fields. This will reduce competitiveness and decrease intimidation of women.

Conclusion

The inclusion of women joining science and engineering programs should be promoted. This initiative will lead to the high growth of creativity and innovation. Through engineering, technology will develop the world, making it a better place (Hill et al., 141-142). Girls who see opportunities for themselves in science and engineering are often ridiculed in schools. Moreover, they lack encouragement from their parents and teachers to pursue their dreams of science careers. Just like a boy student in school, girls can do better in science or even engineering subjects. In fact, it is authentic that some of the girls have shown high-level science interest and they are taking an upper position in lifting up science. Most of the girls who are involved in science subjects are facing some discouragements in school. In fact, I don't understand why Boy students are the ones regarded as suitable for science and engineering subjects, in fact, girls can do better than what a boy student can do in this subject. This can only be done by encouraging women. Therefore, in spite of the challenges that exist in these fields, there is a variety of opportunities for women in the science and engineering professions.

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