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Women in STEM

"I used to not like being called a 'woman architect.' I'm an architect, not just a woman architect. The guys used to tap me on the head and say 'you're OK for a girl." said Zaha Hadid, the first woman to receive the Pritzker Architecture Prize, in 2004 (Anderson). This was only 12 years ago and becoming the first woman to a achieve something still occurs. Being told that your skill level is OK based on your gender is unjust. STEM includes the curriculum and careers in the subjects of science, technology, engineering and mathematics. Being in the 21st century, STEM jobs are becoming in more demand than ever. Once a female decides to pursue a career in STEM, obstacles and stereotyping will be included on the path to success. Women should be motivated to go into the STEM fields by being encouraged at a young age, being provided with necessary resources and mentors as well as continue to give support throughout their career.

Starting in elementary school, STEM education is already not implemented on young students as much as it should be. Men have dominated the field and continue to thrive which is often caused because of the encouragement their experience in elementary school. Most school projects in your earlier school life is centered more around learning how to read, writing and articulate more difficult words. "And, just as with language and literacy, STEM education should start earlier in order to maximize its benefits and effectiveness" (McClure). The balance of these

subjects is greatly uneven. By implementing both of these subjects, the child would be able to develop their knowledge and understanding at an even rate. To do so, “Teachers in early childhood environments need more robust training and professional development to effectively engage young children in developmentally appropriate STEM learning” (McClure). To give the proper training, the teacher must know the material in order to give correct information since children will understand anything you try to explain to them, they have not developed the critical thinking portion of their brain. The benefit of incorporating this curriculum in elementary school is because it allows the students to “tap into their natural and innate curiosity about the living world by simply allowing them to investigate and encouraging them to ask questions about the real world” (Sneideman). Another benefit would include how STEM is centered around knowledge level of the individual student and learning skills and can easily be taught in numerous ways (Shelly, et al). It can be adapted to the point of which the student is understanding and encourages them to ask questions and be curious, both is very important to develop. As the child turns into an adolescent, they may take the Advanced Placement exam in high school. “During the 2016-2017 school year in the United States, 27% of all students taking the AP exam for computer science were female” (Khazan). To put this more in perspective, the average high school size in the United States ranges from 700-2000. If we were looking at a 2000 student high school, and 1000 of those students were seniors and juniors and all happened to take the AP computer science exam, 27% of those students that are female would be 540. Females do place just as well or higher than their male counterparts but they are still not as encourage to continue the path towards STEM. To increase the number of women taking these

STEM type of tests, we must start to encourage them by supply them with the correct type of curriculum.

Encouraging young women to pursue these careers is great, but providing resources is another huge factor. Mentors could provide resources that help women in the field with giving them strength to follow a career path. Strong and successful female advocates would influence girls that they can become just as successful. “Having women STEM mentors and role-models who are also prominent in the media give young girls figure to look up tp and careers to aspire to so they do not short charge themselves with short-term views” (Hughes). Yet, another point that comes up is the lack of women in the field. By encouraging more women to become successful, those women could become mentors for others who aspire to achieve similar career interests. “Mentors also need to offer young women and even mid-career and senior women networks to help them advance at every stage of their career” (Hughes). They may become stuck after college with the question “so what is next” in mind. “Match these individuals with coaches who understand and have expertise in different areas of business — leadership, management, gender, organizational behavior, and even politics — so she can influence gender equity across the organization” (Vongalis-Macrow). To go through something on your own is tough as it is, so by having a mentor you can talk to someone who already has experience of where you are stuck at. The term “Tug-of-war” refers to “women who have encountered discrimination early in their careers and how they often distance themselves from other women” (Williams). Friendly competition is great but competition where you take advantage of unfair opportunities to better yourself and leave colleagues behind is not the best. This positivity aspect is very important

because an over competitive advocate would send the wrong message and may create a ripple effect with a potential women in STEM, that women may take on the same persona and so on. Now, the women that come out successful and accomplish great things should become a leader figures for little girls. “So we need to ensure that we do not just create more people who are interested in STEM, but we sustain that in the early career phase also” (Marcus). It would not be called a success if we get more women in the STEM field, then later in their career they leave and chose a different occupation.

More recently, women are joining the STEM fields, now we need them to stay. Often, when women decide to have a family and want both that and a successful career, society makes them chose one or the other. You can not be a successful surgeon unless you devote most of your time to science therefore family is a no-no. Yet, by creating an environment where women are encouraged to be a leader and a mother/wife would balance out the fairness in males and females. To move towards advancements, policies that might push out women should be reduced as much as possible. Create policies that allow a women to build a career, financially support her family, and still have a family, if she chooses, are ones that will increase the women in STEM by enabling them to be both women and STEM leaders (Hughes). Males are husbands and fathers at the same time as being CEOs to big bio or engineering companies, so why can women not do the same? Does society push it against them that since they were born with female parts they are not the more dominating gender therefore they cannot be a leader? Then, we need it to become accepted and to be okay that women can be seen as strong and lovingly. Women experience a sense of isolation due to intentionally keeping their personal lives hidden in order to maintain

their authority. (Williams) Signs of weakness is a big no-no, being a woman you have a pressure to continually prove your worth in the field. Steering away from this will build up self-esteem in these women helping them stay in the successful career they have obtained. Wanting to have a family should not be looked at as a sign of weakness and being unfit to be in a leadership position. The decision should belong to the women for staying or leaving the career due to personal reasons. Some companies has been studying this issue themselves. "The EU Research and Innovation program has allocated 80 billion euros of funding to focus on gender analysis in the research process, to increase the representation of women in scientific roles, and to strengthen gender-sensitive research and innovation" (Vongalis-Macrow). By encouraging women with their desired life choices will make the workspace more positive and women would want to stay in the field.

Women in STEM is a great start towards equality between females and males, but is there a such thing as too much equality? "Countries that empower women also empower them, indirectly, to pick whatever career they would enjoy most and be best at." (Khazan) Studies have shown that empowering women in more gender-equality like countries give them options to be more inclined to picking career choices they enjoy more. Gender equality does not only mean the leadership in STEM fields, so this affects much more. Girls in those countries (less gender-equal) might be more inclined to choose STEM professions, since they offer a more certain financial future than, say, painting or writing (Khazan). A common pattern has been females with a STEM job as well as doing their passionate work on the side, such as creating art. What comes mind with the equality in the workforce is even though they may choose careers that does not fall

under STEM, it is the fact that it is open that women who do choose the career will become as successful as men who do. “At least one study has shown that, given nothing but the physical appearance of the candidate, male and female hirers are *both* more likely to hire men to do mathematical tasks” (Baird) You can argue that if both men and women want more women in the STEm related workplaces, why are they mostly likely to hire men for the mathematical skills. They should hire someone based on what they have to offer not because they are a male and the stereotypes around men is that they are suppose to be “smarter” and better at math.

Taking steps to move towards more women in STEM consists of encouraging them at a young age by improving the curriculum in elementary school, gathering more mentors to help women stay in the field and continue to motivate by promoting the idea of having a family and become successful is not too out of the norm. All of this can be reached if everyone is on board to move towards gender equality in the workplace.

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