

Results of Survey on Women in STEM

Gender balance can encourage people to bring novel information and different perspectives, making us more creative, more diligent and harder-working. The development of women in Science, Technology, Engineering, and Mathematics (STEM) worldwide for various regions and organizations can be different. This year, we have 82 WNU fellows from 39 countries, as well as mentors, lecturers, organizers, which provide diversity in gender, countries, organizations, expertise, experience, and work fields. Among them, there are 24 female fellows from 22 countries. They are a good representation of women from different regions of the world.

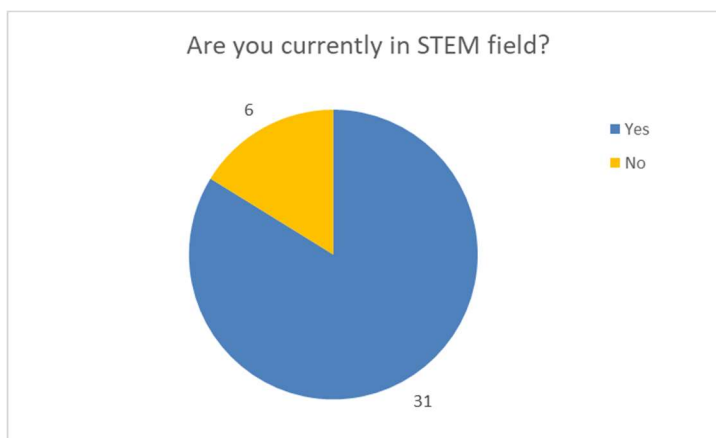
One Canadian WNU fellow from Canadian Nuclear Safety Commission (CNSC) developed a survey on women in STEM to understand the status of women in STEM field, identify the barriers, share good practices, and look for suggestions to promote more women in STEM. The survey questions can be accessed by the link, <https://www.surveymonkey.com/r/SurveyWomenInSTEM>

This survey is developed as part of the CNSC President's Initiative on Women in STEM to reach out the broader nuclear community and seek to advise policy makers on how best to encourage female success in the STEM fields and related disciplines.

The survey results have been compiled and analyzed by Sophie Yao (sophie.yao@canada.ca) from CNSC and can be shared with the wider Canadian public service and international organizations to promote women in STEM. If you have any questions or comments, please feel free to contact Sophie Yao at CNSC.

1. Are you currently working or studying in the STEM field?

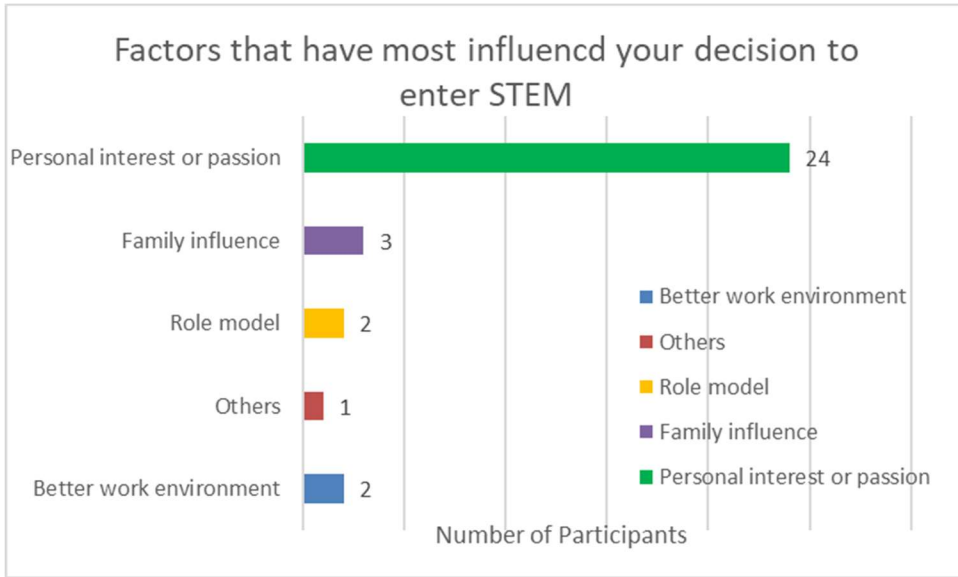
Yes No



The majority of survey participants are in the STEM field.

1a. If yes, please indicate what factors that have most influenced your decision to enter STEM.

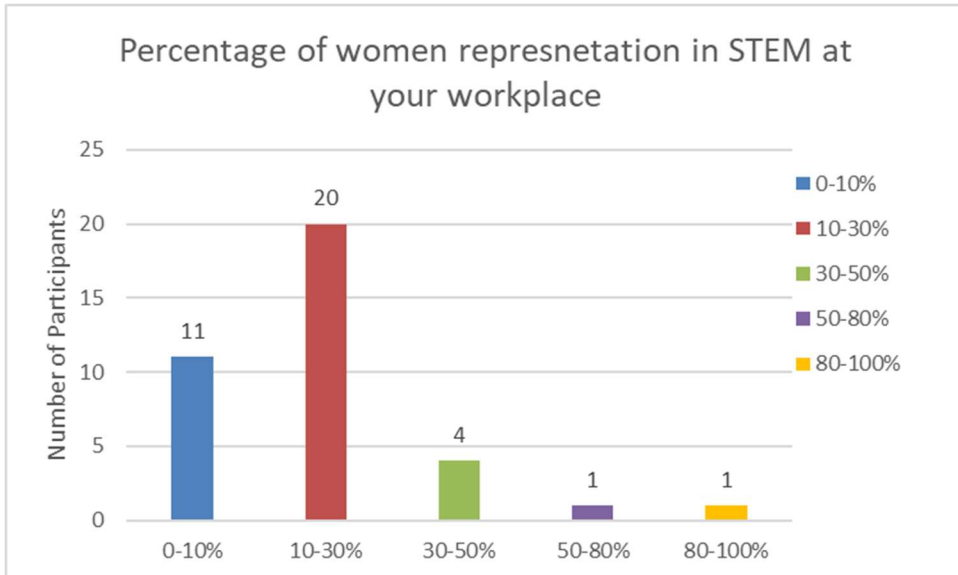
- Family influence
- Role model
- Better work environment
- Personal interest or passion
- Others



The key factors that could influence people to enter STEM are personal interest or passion.

2. At your division or department where you have a direct supervisor, please indicate the percentage of women representation in STEM (including women in management and women in STEM in general).

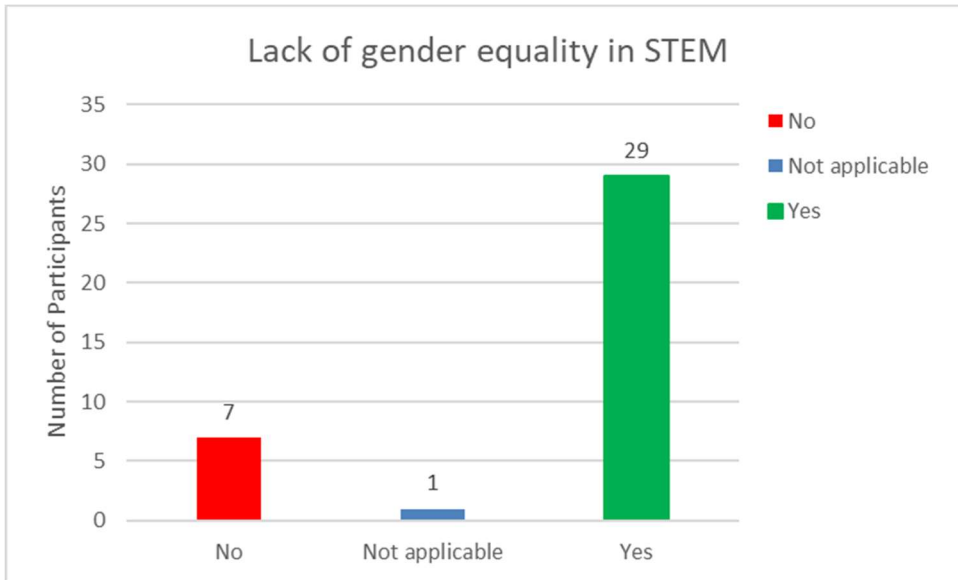
0-10% 10-30% 30-50% 50-80% 80-100%



From the results, women are under represented in STEM.

3. Reports indicate that the gender of people working in STEM fields is much more often male than female. Is there a lack of gender equality in STEM, in your experience?"

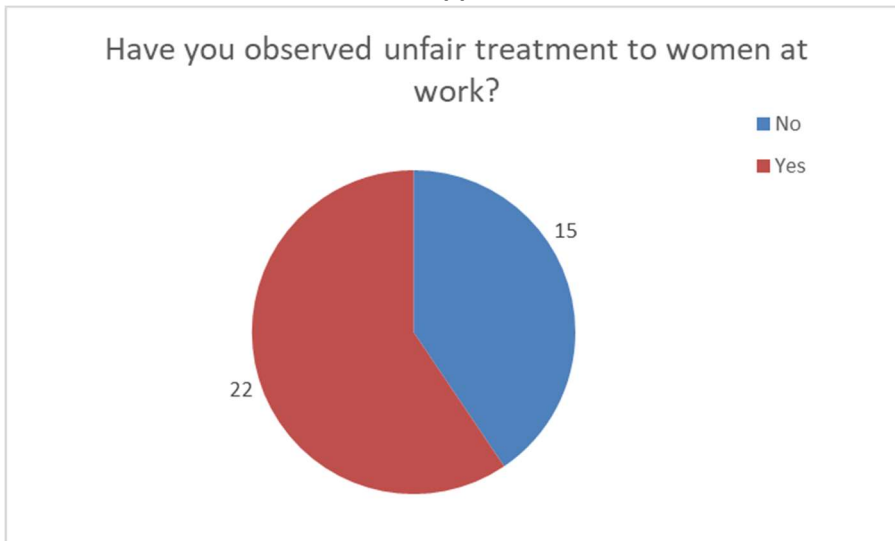
Yes No Not Applicable



The results showed that the majority of participants agree that there is a lack of gender equality in STEM.

4. In your professional work, have you observed any instances of women being the subject of unfair treatment by reason of their gender?

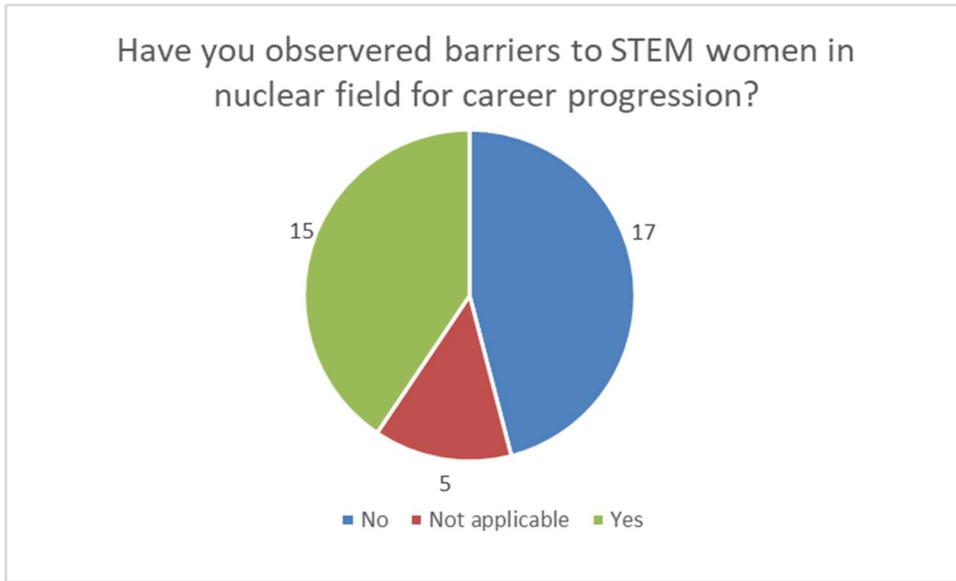
Yes No Not Applicable



More than 50% of the participants observed unfair treatment to women at work.

5. Have you observed or experienced any barriers to STEM women gaining opportunities that support career progression in the nuclear field? (For example, how individuals are selected for involvement in international activities, team leader, committees, etc.).

Yes No Not Applicable



Around 40% of participants observed or experienced barriers to STEM women in nuclear field for career progression.

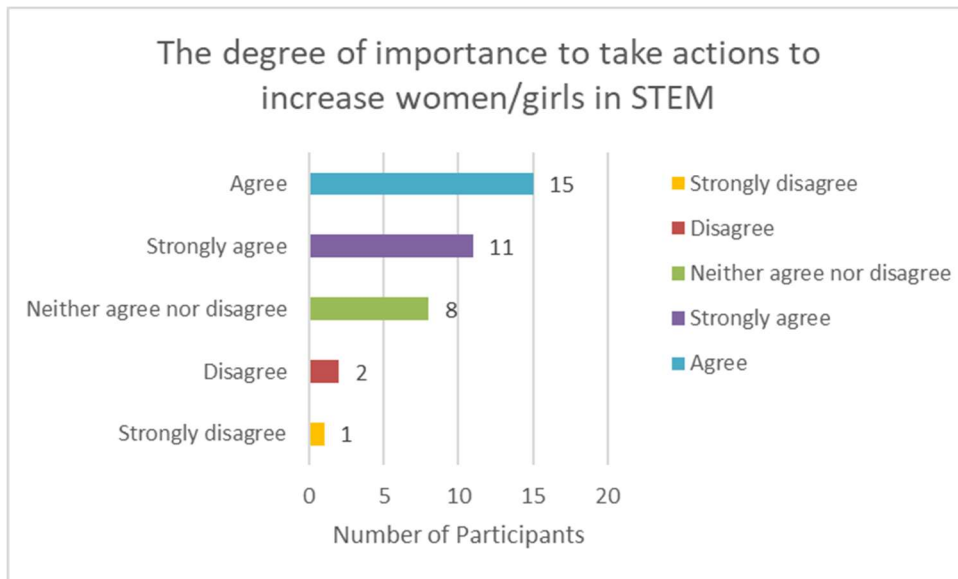
5a. If yes, please describe the barrier(s) that you experienced or observed and any solutions to overcome them

If yes, the barriers you found	solutions to overcome barriers
A manager telling that he would not hire a young women because he would « lose » her for several month because of pregnancy	
Give birth to babies	no solution for this.
Quick assumptions are made about women’s family responsibilities	there should be training offered about unconscious bias
Refused by supervisor for master thesis because of gender	

No wash room for women at work.	If woman is a leader, some person look down on her.
IAEA Criteria for selecting participants for programs.	
Women in my field are often expected to speak and project like men, and if they do not, they are considered to not be commanding enough to be given additional responsibility	
Choosing to have children or being perceived as such in the near future.	better involvement of the fathers in children care (mandatory paternity leave etc)
I have asked to attend international forums in my field, but managers gave opportunities to other male staff.	The possible solution is to raise the issue to senior management.

6. Please indicate the degree to which you would agree with the following statement: It is important to take action to increase the involvement of women and girls in STEM fields.

Strongly agree agree neutral disagree strongly disagree



The majority of the participants either strong agree or agree that it is important to take action to increate female in STEM.

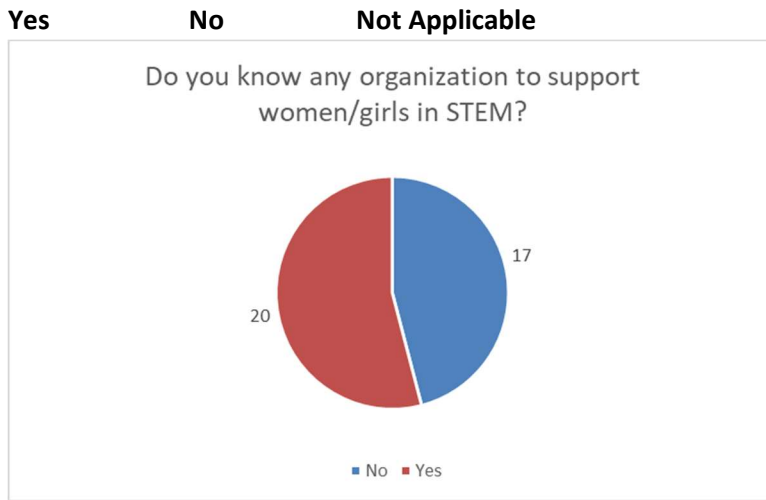
6a. If disagree / strongly disagree, please share more with us.

- I personally believe that men and women (in the average, both all the time !!!) are interested in different things. What I believe is that we should strive for equity, meaning erasing biological

differences (e.g. mandatory father parental leave usual to mother's one) and then letting people chose what they want: maybe the "equilibrium state" is not 50:50 males vs women. I personally don't know what peoples naturally want

- There is already a National program for encouraging females to pursue STEM.
- To balance the demand of human power in the industry.

7. Do you know any organization to support women and girls in STEM domestically and internationally?



Although people realize the importance of supporting female in STEM, almost half of the participants do not know any organization to support female in STEM.

If yes, please list them.

- Women in Nuclear (WiN)
- programs for supporting women in science/engineering from WNU, IAEA, American Nuclear Society, American Institutes for Research, US Department of Education, Lockheed Martin, Technical University of Vienna, Makerere University, etc.
- girls outreach programs by Carleton University
- International Centre for Theoretical Physics (ICTP) supporting gender equity in science
- women leaders in steam by US-Mexico leaders network

8. Does your CEO or the head of your organization put emphasis on diversity and inclusion and promote the concept of woman in leadership?

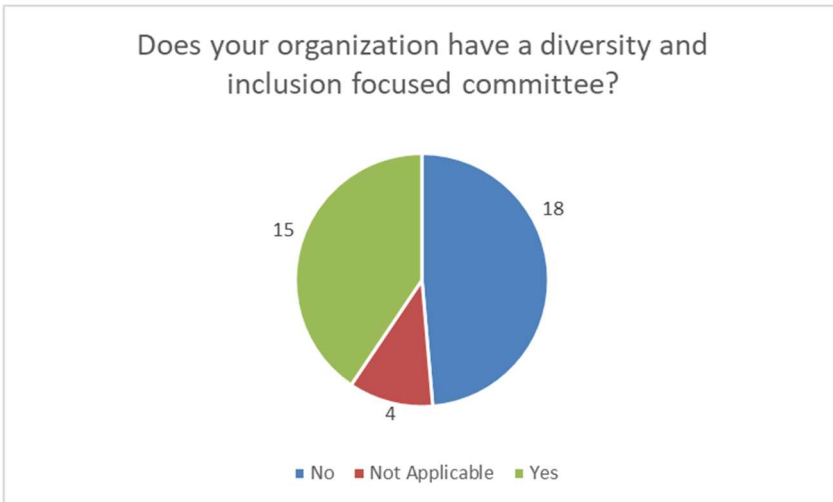
Yes No Not Applicable



About 50% of participants' organizational heads promote women in leadership.

9. Does your organization currently have a diversity and inclusion focused committee?

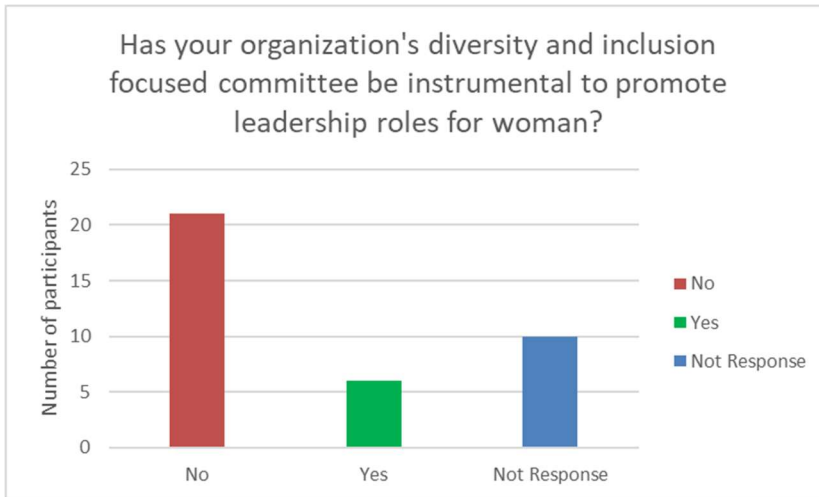
Yes No Not Applicable



More than 50% of participants do not have a diversity and inclusion focused committee at their workplace.

9a. If yes, has it been instrumental to promote leadership roles for woman?

Yes No Not Applicable



Even though there is a diversity and inclusion focused committee, more than 50% of participants think it is not instrumental to promote leadership roles for woman. Maybe there is something else we should try.

9b. If yes, how? Please give some details.

- My institution practices equal opportunity for all depending on your ability and interest
- Give small conferences at schools or social institutions to inspire people
- We started talking about some barriers and solutions as well as supporting each other.

10. Do you know any cross company or organization teaming to leverage best practices for women in leadership roles?

Yes No Not Applicable



The majority of participants do not know any cross company or organization teaming to leverage best practices for women in leadership roles. Maybe this is the time to create one.

10a. If yes, please list them.

- Women in Nuclear
- American Nuclear Society
- ICTP
- WNU
- Women leaders in STEAM US-Mexico

11. In your opinion, what can we do to increase female participation in STEM fields?

- By law, making it mandatory for men to take as much as women parental leaves then let people sort themselves out based on their preference
- Promote STEM study opportunities in elementary and high school. There is a preconception that STEM is not for girls which is of course wrong
- forums to promote women's leadership and career expertise.
- Science education for children
- Continue encouraging them
- Try to get more girls interested in STEM early on in school, before they get to college, and show the many various/exciting fields that they can become a part of.
- Effort should be made to increase and enhance the role of women in all fields- for STEM, having women leaders, role models to young girls in schools is important, as well as active encouragement of diversity by teachers, recruiters, universities and companies.
- Encourage them
- Put emphasis on very young girls (7/8 year olds) learning coding and STEM subjects. I used to teach teenage girls Python and at that age they already have imposter syndrome because of years of reinforcement from family and authorities that women are bad at STEM. Those girls will not pick a STEM subject in university because of this belief.
- I think that no efforts must be done because the enrollment in STEM is relying on personal desire regardless of their genders. The world wide work environment is increasingly encouraging mixing by creating opportunities regardless of gender
- To invite female leaders
- Mentoring, making women in STEM more visible so it becomes a normal sight and young girls consider STEM fields for their future.
- Giving them the best opportunities always. Taking consideration of women's difficulties and find out the way of removing.
- To make woman who are students interested to engineering field. To make male to understand women's situation.
- Educate young girls on STEM opportunities
- I may have a strange and inappropriate comment: I have seen in western countries more and more men going to highly paid job (business), leaving to STEM fields a lot of opportunities to expats (mainly males) from emerging countries. So the main issue may be ladies to get "better" jobs in the business sector
- Do not think about gender

- Gender quota system initiating
- Educating woman
- Encourage girls to do it
- Get involve as a mentor or lecturer at university level for young ladies.
- Oftentimes in my area of work, the women working to promote women in STEM or nuclear industries are not actually women with STEM backgrounds. Companies need to treat this initiative seriously, and not just as a check in the box
- Provide opportunities,
- Remove barriers related with having children. Equal conditions for mothers and fathers to share children care.
- Wrong image of fields "for men" or "for women" has to be debunked very early before higher education. Role models can help.
- Create women organizations to ask for gender equality
- Create awareness about practices that are usually regular and accepted, but that attempt against gender equality / Train staff on gender issues on a regular basis
- Promote stem to women in high and primary school.
- Woman organization
- Make them aware that they can follow whatever path they want, and if they are interested in STEM, they should pursue with it.
- Encourage girls to choose STEM at a young age, step up to take leadership roles to promote more women, share good practice.

12. Do you have any other comments?

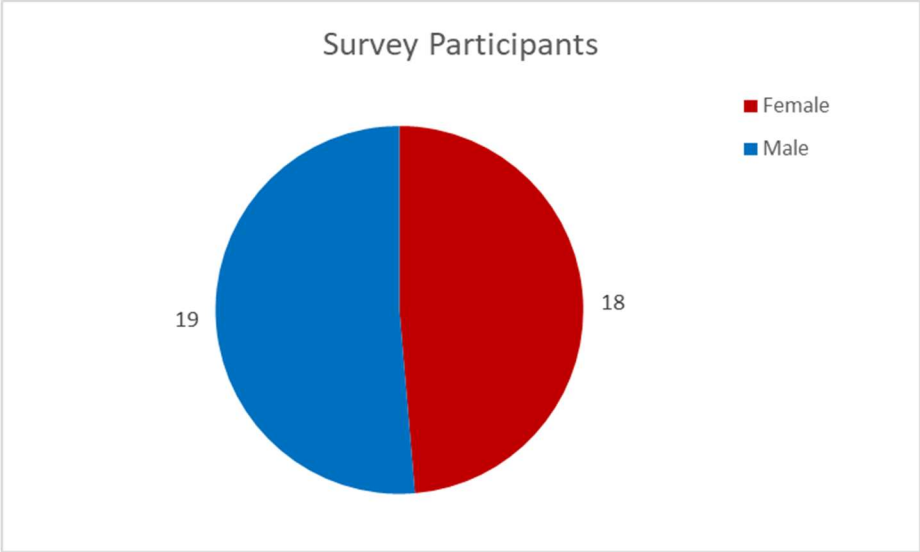
- People are not attracted by the same topics of interest but, in the aggregate, there is no reason to see less women in leadership position than men
- This is an important topic so I appreciate your initiative and the survey!
- Networking among women in STEM is important so these issues get discussed
- The perception of unfair reality
- Currently in my society, around 80% of young generation involve in the STEM are woman/girls. It doesn't need to provide any special effort to increase woman participation
- Opportunities should be equal for women and men in the Nuclear Industry.
- Thank for sharing results
- Quota policies or "positive discrimination" have negative effects on perception of women in management positions, create frustrations, and should be avoided.
- Thank you for bringing this issue to the discussion
- We need diversity and women can bring a lot to the table.

13. What's your gender?

Male

Female

Undisclosed



We have a total of 37 participants. The participants consist of fellows, mentors, and lecturers. The majority are from WNU 2019 fellows. Around 50% of the participants are women.