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Lately I have been reading a lot about the gender gap in mathematics, and more broadly STEM. Many sociological studies cite the importance of a role model. They find that the overwhelming majority of women working in a STEM field, had someone close to them, like a mother, an aunt, a sister, when they were a child who was already working in or studying a STEM discipline. They affirm that one of the important aspects of a role model is the ability of the young girl to identify with her role model, and to be able to recognise herself in them. Such role models are in particular a lot more effective than the more "abstract" role models, like the Marie Curies, the Emmy Noethers and yes, the Maryam Mirzakhanis of the world.

This was once nicely summarised by one of my colleagues, who once told me that she would like to see a lot more women who are just average, or even mediocre, mathematicians, to look up to.

Nevertheless, when there is a lack of role models in the close environment, that is when the Maryam Mirzakhanis of the world work their magic and can lead to inspire many girls to pursue STEM, and such role models are absolutely vital.

Another important aspect that prevents girls from pursuing mathematics, is a lack of encouragement or support of mathematics teachers. For example, even Maryam Mirzakhani herself, initially seemed not to be particularly good at mathematics, until she had a different teacher who saw her potential and helped her excel. She also benefited greatly from the support of her school principal, who when Maryam Mirakhani came to her to ask if she and her friend could partake in classes for the mathematics olympiad, was a strong driving force to make this happen, since before then girls had never participated in the mathematics olympiad in Iran. Mirzakhani went on to win a gold medal in the International Mathematics Olympiad in 1995 and 1996, becoming the first Iranian to get a full score.

I mention this to highlight that Maryam Mirzakhani did not come out of nowhere: her early life was not easy, she grew up during the Iran-Iraq war in Tehran, and as a result had to overcome a lot of adversity, but she had the help in her early life she needed to then be able go on to reach the incredible heights that she did, and her story is a reminder that excellence can and does come from every corner of the world.

Her story makes me think of all the talent and brilliant minds that we are losing today to war crimes and human rights violations. Using the example of Iran, a report published by Amnesty International last month, affirms that severe human rights violations continue to take place in Iran. From April 2024 onwards, the report states that the authorities implemented the Noor Plan, to intensify their crackdown on women and girls who defy the compulsory veiling laws, using among other methods increased harassment and violence in public spaces, imprisonment and flogging, and barring female university

students from education. There are several explicitly mentioned incidents of lethal violence, torture and the death penalty perpetuated onto female human rights defenders in Iran.

Maryam Mirzakhani did not always wear a veil, and on one of the posters in the exhibition you will find the front pages of many Iranian newspapers following her death. Some of them chose a picture of her with a veil, some edited the photo to hide her hair as much as possible, and some defied protocol to show her picture with her head uncovered. It is unclear what this poster would have looked like had she died today, but it is more important to focus on the Iranian women today who are forced to choose between compulsory veiling or severe danger to their lives and a lack of access to education.

All this to say that there are most likely many brilliant, or even just average or mediocre, potential future mathematicians we are losing every day in not only Iran, but many places in the world, whose contributions to our field we will never get to know. Stories like Maryam Mirzakhani's serve as a reminder that it is our duty as educators, academics, and as an institute that strives for excellence, to do our utmost to actively pursue inclusion of those who need more support and help to find their way to mathematics, and to refuse collaboration with institutions implicated in human rights violations.

I hope through the glimpse the exhibition offers into the life and story of Maryam Mirzakhani, you will find as much inspiration and food for thought as I did, as well as being reminded of the profound beauty there is to be found in our discipline. In any case, I hope you enjoy the exhibition.

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