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Home / Education / Muslim Women in STEM: A Minority Within a Minority

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## Muslim Women in STEM: A Minority Within a Minority

Three women share the ups and downs of pursuing higher education, from dealing with misogynistic thinking to imposter syndrome











Dr. Nahar, who has been studying the Sun for a long time – her favorite object, made a presentation at NASA.

## By Sabiha Basit

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Being a Muslima in the fields of Science, Technology, Engineering and Mathematics (STEM) is a rare commodity or, as Nida Rehmani, Ph.D. (mentor, Global STEM Alliance and professional member of the New York Academy of Sciences) stated, "You are a minority within a minority."

In the 21st century, women from all over the world are challenging sociocultural norms by breaking out of the traditional stereotypes and pursuing higher education to fulfill their aspirations and even bring in some income for themselves and their families. However, as men dominate the STEM workforce, what's it really like to be a Muslima in STEM? Do they experience imposter syndrome? How has their faith helped them achieve this path? Three women share their journey on what it's like to pursue a STEM field.

According to DataProt, women hold only 24% of computing jobs. Sabiheen Abdul (Lead Associate, Booz Allen Hamilton) is one of them. "I [currently] implement IT processes and to put it simply, I make sure that systems are talking to one another. I chose IT because it is a very stable career [as] technology only grows and those skills are transferable across industries. My dad [also] works in IT, and I felt it was very natural to pursue this path because growing up, this was the world I already knew and was familiar with."

Sabiheen has largely faced support and even encouragement from her colleagues to practice her faith in the corporate environment.

"Before the Covid-19 pandemic, I would use a room to pray and one day [my company] decided to start remodeling the building, which would result in removal of the room I used to pray in. My boss informed me of the change but reassured me that he would figure out a way that I could have a place to pray in. They called up one of our vice presidents and said, 'You can't get rid of this room because Sabiheen uses it to pray!' and they found a way to preserve another space for me. They were able to guard my prayer better than I would have been able to and that's how I knew that Allah placed me here, with these people, who were chosen to help retain the importance of Islamic *deen* in my life."

The path to becoming an assistant engineer at the highly regarded Booz Allen Hamilton, a leading professional services company, wasn't easy.

"Imposter syndrome is very real. We are either immigrants, or in my case, children of immigrants, and we come from societies and cultures that don't always promote women working. However, these are created cultural barriers, but not a reality of our Islamic *deen*," Sabiheen said.

Oftentimes, many non-Muslims and even Muslims believe women are not capable of being educated and joining the workforce. However, many don't realize that Islam promotes women's education and rights.

"As a society, we have to embrace and understand that a Muslim women's role is the same as a [Muslim] man's, which is to, first and foremost, worship Allah. Then, Islam has shown us the tradition of Muslim women working, like Khadijah ('alayhi rahmat), who was a [very successful] businesswoman. Through all those years, [however,] we've had to reteach those practices and traditions."

Another successful woman in STEM, Rehmani, agrees with Sabiheen.

"During the time of the Prophet Muhammad (*salla Allahu 'alayhi wa sallam*), there was no discrimination [against] women acquiring knowledge. When I read the Quran with meaning, it addresses both men and women for modesty. Yes, there are biological differences and responsibilities, but in terms of rights and equality, Islam is very pro-women. Women have the right to property, the right to *mahar* and the right to have our [own] finances. We don't have any responsibility to spend on the family/house. But you don't see this type of thinking reflected in South Asian culture. Instead, you see the opposite."

Rehmani also faced similar struggles of imposter syndrome, as well as prejudice from her Indian hometown's residents for going to the U.S. to pursue higher education.

"I heard [people saying] things from my town [to me] such as: 'Do you really want to go to another country? You are married, what are you going to do there? Will you be able to complete your degree? I think you should have given the position to someone else who is more deserving.' I [also] felt my male professors in India were undermining my determination to complete my degree."

Rehmani, who wears the hijab, described feelings of microaggression from both men and women at Ohio State University, which selected her to be part of the 21st century Obama Singh Knowledge Initiative program

"Definitely it was a culture shock when I came here, as I did observe some microaggression. During the day I would run up and down the biomedical research tower. I used to get looks from scientists, like 'What is she doing here?' I [also] used to perform prayers in the building and do ablution in the bathroom. They would come in and see me, and I would get weird looks.

"For Muslim women, you are a minority within a minority. I can talk to people with great confidence intellectually. But when [you] feel those microaggressions, you can suffer from imposter syndrome sometimes. You do feel a little invisible, like when you have ideas and you are not getting the visibility or acceptance because you are a minority."

However, despite these challenges and more, she would still go back to do her doctorate all over again.

"I would never undo my higher education and degree, because it's not just [about having] a job. It's about training and [being] a leader. You are an inventor of an idea, and I apply my training in my daily life ..." Rehmani said.

Another Muslima excelling in STEM is Dr. Nahar Sultana (president and founder, International Society of Muslim Women in Science). She has a Ph.D. in atomic theory and is a practicing Muslima.

"Being in STEM, I feel I am in the right place. Allah tells us to find the mystery of His creations. I am interested in finding them, and STEM is helping me to understand what and how things are happening in nature [and] in the universe. The amount of knowledge our Creator has put in them is simply enormous and overwhelming, I am studying [just] a tiny part of it," Dr. Nahar said.

"Religion among Academic Scientists: Distinctions, Disciplines, and Demographics," a research study conducted by Elaine Ecklund and Christopher Scheitle, found physics to be the highest academic discipline whose practitioners do not believe in God's existence — 40.8% of scientists stated their non-belief.

"There may be [scientists] who are smart but do not want to believe, but there are also smart people who do believe in God. For example, Isaac Newton was very religious, and even Einstein followed Judaism and supported Israel. If someone doesn't want to believe, then it doesn't matter [because] they won't be able to find the connection [to God] and truth. I find a connection. Allah has created so much, and everything has discipline. As the Quran says, everything is measurable. Even in chaos there is something consistent and a pattern. It's not a random phenomenon. I [personally] see the connection to God [and] to the nature around me through consistency. The universe is so big. Allah did not create it [just] to ignore it. He created it for us to use whatever is in it and understand it," she said.

Despite the challenges each woman faced, from dealing with imposter syndrome to being subjected to backwards thinking, they persevered and kept their faith strong. And now they are leading the way for the young generation of Muslim girls.

"I would advise women to remember what Islam teaches us. First and foremost, your job is to worship Allah, and then pursue what is of interest to you, whether that's a career or not, as long as it is permissible in the realm of Islam. I would also advise women coming into the workforce to work with others – not against people, respect people, do good work and humble yourself. Then, watch how Allah honors you and opens doors for you." Sabiheen said.

Sabiha S. Basit, a biology graduate from George Mason University, was staff writer for the Fourth Estate, the school's official student-run news outlet. She is currently working as a freelance writer and in education. She and her family reverted in 2021.

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