

Women, science and leadership, a conversation with Ilaria Capua

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It's a question that has concerned Western society since the women's liberation movement: is it really possible to be successful both at work and at home? When applied to women in the field of science, the question takes on various dimensions. We talked with Ilaria Capua, the Director of the Division of Comparative Biomedical Sciences at the Istituto Zooprofilattico delle Venezie, and Member of the Italian Parliament, about this challenge, the importance teaching women leadership skills and what the world learned from the Ebola outbreak.

Ms. Capua, you have received some great honors including the Scientific American 50 Award and Seed magazine named you among its Revolutionary Minds. You were also the first female recipient of the Penn Vet World Leadership Award. You have clearly broken the glass ceiling in the field of science. This is not easy as the number of women in the lab is low in the world's leading economies. Based on your own experience, where is the missing link between women and science?

Governments, the European Commission, lots of universities and academic institutions are trying to convince girls to take on Science, Technology, Engineering and Mathematics (STEM) because it is proven that diversity is enriching. So on one hand we have this driver, and on the other we have rather unfortunate statements and the evidence that women are never in the higher levels of decision-making virtually anywhere, especially in science. So, the perspective I would like to give is that if the majority of students enrolled in biomedical sciences are girls and these girls are going to do well at university, and they are going to do their master's degree and their Ph.D., then they are a cost. They are a cost to their families, to societies and to their countries. I think the results we are obtaining with reference to the return on that investment is really bad. If girls are the top students, we need to make sure they have a successful career in front of them, therefore my proposal to move this forward is that we should rethink STEM. We need girls in science, but we also need to train them in leadership. This is what is I think is missing. And we need to take into account both the economics and motherhood. What happens is when young graduates get to a certain age and their biological clock starts ticking, they start asking, "What will I do if I go for a high position and I won't be able to give to my family?" We need to show them that it is possible to be a career woman and have a normal family. I think it is something that society should really take on as a challenge. This might sound provocative, but what is the point of making girls study if then they are going to end up being lab technicians?

You talked about the importance of teaching women leadership skills at [The Aspen Forum at Expo](#) during a conference on "The role of nutrition in future health: the gender challenge". It is clearly an issue that is dear to your heart.

One thing I really want to do in the next segment of my life is make sure there are places where women can get appropriate leadership training in global health. I don't see why of all the women that come out of medical schools or veterinarian schools, very few or none have the ambition of becoming chancellor or dean, or the director general of FAO, or brain surgeons, or heart surgeons. I think the talent is there, the academic performance is there. There is another aspect that is key: being able to develop the leadership that is in you and being able to fight your shyness. The ideas that you have about your own life count here. A young woman might think, "I want to grow up and be a doctor, because I want to help women have babies", rather than thinking outside the box, and being able to say, "I want to I want to help women have babies, but if I become the chief executive of Oxfam I can actually help women in great difficulty to have more babies." Giving the insight and the opportunity to think that there is a world outside that needs to be conquered and women should have a space in that world is crucial. I think it is the responsibility of women to do this, as they need to do a lot of work on themselves, but it is also the responsibility of women who have had positions of leadership to show them the way.

Let's bring motherhood back into the discussion. You are a mother and you are a leader. What is the key to balance?

Women don't think with enough depth that, "I have the baby, that is what nature entitled us to do. But, if I don't have the baby, you, the father, will not have a baby either." And women need to be convinced that it is a shared responsibility and they need to fight for that - and it can be done. I have never met a woman who has had a successful career who says managing the kids was the most difficult thing she's ever done. You manage kids. It can be done and it has to come from you, not from outside. If you are the main obstacle to your own success and your professional fulfillment, then it's not going to work.

How can we move young women into this line of thinking? You mentioned earlier that women have held leadership positions, like yourself, should lead the way.

I give leadership talks and motivational talks, and I really try to help - even on a one-to-one basis - girls who have potential, to feel more confident and to pull out and massage their leadership skills. In my lab, 70% of the staff I have are female and I try to help them and be by their side. I help them in moments of difficulty and they know that my door is open and that they can come and speak to me whenever they want. If they have family problems, even with their family of origin. In Italy parents have expectations in reference to their daughters: you go to school, you study, but then you should have kids before you are 30 possibly. So, there are conflicts at times and I really try and give a personal effort.

Another challenge for girls in science is stereotypes.

Absolutely. A scientist is accepted if she is not very good looking, not very charming and rather dull. And if you are a scientist like that, it's ok. A scientist who is a good communicator, who wants to challenge things that are beyond science itself, who is beyond stereotypes, finds a lot of difficulties and a lot of hardships.

You clearly overcame those stereotypes as you are especially well-known for your work in virology. You must have followed the 2014 Ebola outbreak very closely. In the aftermath, we realized that the effects were especially devastating for women. Could you talk to us about what the world learned from this experience?

Ebola told the world that we're on one small planet. In a nutshell, that we can't continue disregarding what happens on the other side of the planet. This is the history of diseases. We, white Europeans, infected the Americas with measles, for example. More contact with people causes disease outbreaks. The measles epidemic was really devastating for some populations, but it took quite a long while to develop because we traveled by boat. That has changed. As for the impact on women, one of the first cases developed when a pregnant woman in a remote village butchered an animal that her husband had hunted in the forest. She came in contact with the blood and contracted Ebola, without knowing it, and she died. In her community, you cannot bury women that are pregnant. So, she had a postmortem caesarian section and they infected all the people working in the ward, all of the obstetricians, who are all mobile because they travel to all of the different villages. Had that woman known that there was the risk of Ebola by butchering that animal and that she should have washed her hands, and that she should have taken precautions, then probably all of this would not have happened. So, women have a crucial role because they take care of children and they prepare food. In reference to emerging diseases, the household and the kitchen are crucial to how these diseases explode.

So, educating women in the developing world can be a lifesaver. You also stressed this at The Aspen Forum at Expo.

Investing in women in rural communities could have enormous benefits with very high returns on investments in health. For example, rabies is a disease that kills approximately 55,000 people a year (mainly children), much more than Ebola, and it's a preventable disease. Since it's linked to the bite of dogs, which is a problem in developing countries, we need to teach women that a wound of a dog needs immediate attention and that facilitating the vaccination of dogs can actually zero the mortality caused by rabies. It's not going to be the men who move this forward, but the women who are in the village and who look after the well-being of the community. Similarly, teaching women to wash their hands, and women teaching children to wash their hands, can dramatically reduce the incident of gastrointestinal diseases and other infections - which, when not managed in certain parts of the world, can kill.