

Q&A

Questions for Yael Niv: How to fight sexism in science

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Men outnumber women 3-to-1 in faculty positions in neuroscience. This statistic comes from **BiasWatchNeuro**, a website co-founded by **Yael Niv**, associate professor of psychology at Princeton University.

Niv says many people assume that inequality in science is a thing of the past. She and about 20 other women scientists wanted to show them otherwise.

They teamed up to track the gender ratios of invited speakers at neuroscience conferences. Men typically dominate speaker lineups at these conferences — even when the field boasts significant

numbers of prominent women scientists.

This imbalance both reflects and reinforces a gender bias that influences hiring and funding decisions, Niv says. We asked Niv about the insidious impact of sexism in science and what every scientist can do to set things right.

***Spectrum:* Why do some people overlook the uneven gender ratio in science?**

Yael Niv: I think that, for some reason, a few women can look like a lot of women. People look around, they see more than zero women, and they say, “Ok, we’re good.” But we’re not good because we’re not at 50 percent.

The population is about half female, so everything would be even if there were no biases. The thing that amazes me is that even people who are aware of this issue say, “Whoa, 50 percent? That’s what you think it should be?” These are my colleagues, smart people who are actively promoting gender equality.

Even if you don’t believe that 50 percent should be the base rate, let’s look at the actual proportion of women in top faculty positions in neuroscience in the United States: 24 percent. If we take that number and apply it across the field — to prizes in neuroscience, invited speakers at conferences, departmental seminars — females are consistently underrepresented relative to that base rate of 24 percent. BiasWatchNeuro gives people numbers to show that the bias is there, that this is not an opinion.

S: How do people respond when you point out the gender disparity?

YN: When I point out to someone that there were no women at a conference, they’ll often say, “Oh, I didn’t notice.” And I don’t think they’re lying. I think they really don’t notice. It doesn’t look unusual.

Women tend to notice the disparity more than men do. And we tend to be more motivated to solve this problem because we are tired of being on the receiving end of comments like, “Oh, you’ll get that award because you’re a woman and they haven’t given it to a woman in a long time.”

S: What does the scientific community lose by limiting female participation?

YN: The goal of neuroscience is to understand how the brain works. Do we want to listen to only half the ideas out there? If we want to move forward as fast as possible, we need all the smart people on board, not half of the smart people.

There is also loss at the individual level. The way to make it in science is to have your ideas heard. For that, you need to go to conferences, stand on a stage and speak to your peers. If a woman is

invited to speak at conferences only half as often as a man who does the same quality research, the woman's career will just not move forward. Manuscripts and grant proposals all get reviewed by peers. If those peers know who a researcher is — they've heard her speak and understand her ideas — it's much more likely that they'll support her work.

S: Are there different standards for women in science?

YN: This is exactly why the problem of gender bias in science is not solved — because people still have two standards.

I think people in general expect women to not be as good as men. Men implicitly expect women to not be good scientists; women implicitly expect women to not be good scientists. So when we are deciding which speakers to invite to a conference, we say things like, "She's still junior," or "Her research is not that rigorous," about women. But we don't say those things about men who hold the exact same positions. We hold women to a higher standard than we do men.

There's an assumption that if a woman gets a job, it must have been because of some affirmative action plan. She couldn't have actually been any good. But of course it's exactly the opposite: As a woman, you have to be better than the men around you to have anyone even look your way. There's no way a mediocre woman can get anywhere in science. Women don't get prizes for mediocre work. Women don't get to be chairs of departments or on the faculties of universities for mediocre work. But even when women succeed, people still expect that their science is not as good.

S: Do you think this double standard extends to women's behavior, too?

YN: Yes. The exact same behavior can be assertive, smart and thoughtful in a man but defensive and unreasonable in a woman. Women and men at conferences get totally different treatment when they ask questions, even when they ask the same question in the same tone.

I had that experience at a conference early in my career. During the talk, I thought about how to phrase my question so it wouldn't come across as aggressive or pushy. I even wrote down the words. "I may have misunderstood your point," I wrote. "But there's evidence to support exactly the opposite of what you're presenting here, so how do you reconcile these two findings?" Later, I asked a few colleagues whether they thought my question was aggressive. Some of them said, "Well, yes, but that's your usual approach!"

This difference results from our implicit social expectations. Men are expected to be aggressive, women to be demure. Asian women seem to have the hardest time because they're expected to sit quietly in a corner. Many Asian women scientists are considered super aggressive, but I'm sure they're no more aggressive than anyone else.

S: Where do these gender biases come from?

YN: We're all biased. It's part of our natural psychology and culture and how we've been raised.

My husband and I try hard to co-parent 50-50. We have the same kind of career and we don't see any reason for different gender roles in the family. We've tried hard with our sons to be gender-neutral. But my kids still have strong gender biases, which are evident when they play. When one kid wanted to pretend to be Wonder Woman, the other kid said, "You can't, because you're a boy!" They can pretend to be animals or imaginary superheroes who fly, but somehow they find it unthinkable to pretend to be a woman!

I've noticed that cartoons today try to be balanced with female and male protagonists. There's "Dora the Explorer" and "Doc McStuffins" — both girls. But when you look at the adults in the cartoons, the women are all moms. The men are the ones doing all the jobs — the fireman, the bus driver. We get these implicit messages all the time.

S: How can BiasWatchNeuro help right the gender imbalance at conferences?

YN: The team behind BiasWatchNeuro is just asking for the base rate of female scientists to be reflected in the composition of male and female speakers. The bias against women is unintentional — and that is something the scientific community can counteract with intention. That is, I know that my decisions will be biased if I don't make an explicit effort otherwise. So I explicitly think, "How many people did I invite to this conference? Because it looks like I haven't reflected the ratio of female scientists in that particular field, so let's add a few women, remove a few men." I have to think about it.

We should take deliberate steps to fight bias. That has to be the action plan, because it will be much harder and slower to change the implicit biases. But hopefully, those implicit biases will change, too.