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"Delusions of Gender": The bad science of brain sexism

Some studies claim that women are innately bad at math, and men are bad at empathy. Here's why they're wrong

BY THOMAS ROGERS



Salon

Women's brains are wired differently from men's. It's why so few women do well in math. It's why women gravitate toward dolls and tea sets as young children, and why they're so much better at understanding other people's emotions. It's why they're so good at housework! (Men are more wired to focus on one task — like arithmetic.) At least that's what a host of recent studies in the field of neuroscience have argued. Too bad they're wrong.

In her new book, "**Delusions of Gender: How Our Minds, Society, and Neurosexism Create Difference**," Cordelia Fine, a research associate and the author of "A Mind of Its Own" (also about brain science),

discovers that, far from supporting the existence of vastly different male and female brains, much of the research on the topic is not only deeply flawed, but dangerously misleading. Women aren't worse at math (as Fine proves in the book, bad neurological research is one of the reasons women are still struggling to catch up in the field), and girls' preference for girlish toys probably has more to do with social expectations than what's in their skulls. Fine's book is a remarkably researched and dense work that, even while tackling highly complex subject matter, retains a light, breezy touch.

Salon spoke to Fine over the phone from Australia about the science of single-sex schooling, the message of "Revenge of the Nerds," and why women aren't really better than men at interpreting people's feelings.

Why did you write this book?

It began when I read a parenting book that claimed that hard-wired sex differences meant that girls and boys should be parented and taught differently. When I looked at the actual studies being used as evidence, I was really shocked by how badly the neuroscientific findings were being misrepresented. I saw the same thing going on in other popular books about gender, and when I looked, I was surprised to discover how little convincing evidence there was that, for example, the male brain is hard-wired to be good at understanding the world and the female brain is hard-wired to understand people.

Why are people so intent on misrepresenting the differences between the male and female brain?

We look around in our society, and we want to explain whatever state of sex inequality we have. It's more comfortable to attribute it to some internal difference between men and women than the idea that there must be something very unjust about our society. As long as there has been brain science there have been misguided explanations and justification for sex and inequality — that women's skulls are the wrong shape, that their brain is too small, that their head is too unspecialized. It was once very cutting-edge to put a brain on a scale, and now we have cutting-edge research that is genuinely sophisticated and exciting, but we're still very much at the beginning of our journey of understanding of how our brain creates the mind.

So women aren't really more receptive than men to other people's emotions?

There is a very common social perception that women are better at understanding other people's thoughts and feelings. When you look at one of the most realistic tests of mind reading, you find that men and women are just as good at getting what their interaction partners were thinking and feeling. It even surprised the researchers. They went on to discover that once you make gender salient when you test these abilities [like having subjects check a box with their sex before a test], you have this self-fulfilling effect.

The idea that women are better at mind reading might be true in the sense that our environments often remind women they should be good at it and remind men they should be bad at it. But that doesn't mean that men are worse at this kind of ability.

You write that one of the obstacles that women face in the field of math is something called "stereotype threat." What is that?

It refers to the difficulty for people who belong to a group stereotypically seen as being not very good at a particular thing they're trying to do. For a woman doing a math test, she has an acquired stereotype threat that if you do badly, people are going to judge you because you're a woman and that you're going to confirm what everyone already "knew," that women are bad at math. It creates a whole host of harmful psychological effects in people's minds. And psychologists have discovered if you make gender seem not relevant to a task, then men and women perform equally well. Right now, when it comes to women in traditional male domains, it's like a track star running into a headwind — their performance is impeded.

But it seems like a Catch-22: Women who pursue careers in math are being handicapped by the fact that there are so few women pursuing careers in math.

Gender equality is increasing in pretty much all domains, and the psychological effects of that can only be beneficial. The real issue is when people in the popular media say things like, "Male brains are just better at this kind of stuff, and women's brains are better at that kind of stuff." When we say to women, "Look, men are better at math, but it's because they work harder," you don't see the same harmful effects. But if you say, "Men are better at math genetically," then you do. These stem from the implicit assumption that the gender stereotypes are based on hard-wired truths.

Some people use neuroscience to argue that girls and boys learn differently and to advocate for single-sex education. Are you opposed to single-sex schooling?

I'm not against single-sex schooling, but I'm very concerned about neuroscientific data being used to make the case for it. The findings are not yet fully understood. We don't, for example, really know what it means for the right prefrontal cortex to fire a bit more in a test. Brain scientists understand that, but there's nothing to prevent popular writers from seizing on this as evidence that males and females are hard-wired to feel and think differently, so they should be taught math in this way and English in that way.

In the book you track the evolution of the computer nerd in popular culture. Ever since movies like "Revenge of the Nerds," we have this idea that computer scientists are geeky men, which as you point out in the book, can be alienating to some people.

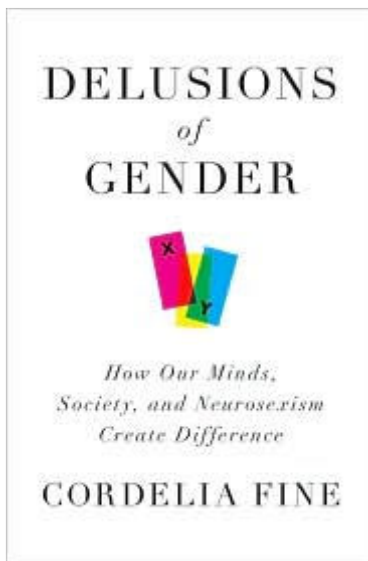
Initially computer science was dominated by women, and cross-culturally there are places in the world where, until recently, computer science was dominated by women. But now, in the U.S., the stereotype of the male computer science nerd can be off-putting to women. It's very easy to assume that the characteristics you see [in the portrayal of] your profession are necessary for you to participate in it, but that might not necessarily be the case.

Parents who try to raise children in gender-neutral environments are often horrified when, despite their best intentions, their daughters are drawn to Barbies and their sons are drawn to violent toys. If there are no hard-wired differences between the sexes, why does this happen?

I spend a lot of time with parents, and you see egalitarian-minded parents try hard to rear their children in a non-gendered way. Then you see their children defy them. The fact is, babies are born into a world in which sex is the most important and obvious social division. It's constantly emphasized through segregation, through dress and so forth. Babies are born to parents who have a host of assumptions and expectations about gender, whether or not they consciously endorse those expectations. Studies have shown that parents have a tendency to see boys as more boyish and girls as more girlish than they actually are.

Once the children reach the age of 3, which is the age they discover which side of this gender divide they're on, all bets are off. Parents may prefer that girls not play with Barbies and boys not play with guns, but by that age children know what tribe they belong to, and will want to be part of it.

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by Cordelia Fine

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