

# DEBUNKING THE PSEUDOSCIENCE BEHIND ‘BOY BRAINS’ AND ‘GIRL BRAINS’



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Associate Professor Cordelia Fine has been described as a ‘cognitive neuroscientist with a sharp sense of humour and an intelligent sense of reality’ (*The Times*), ‘a brilliant feminist critic of the neurosciences’ (*Times HES*) and a ‘Myth-Busting Hero’ (CARE).

Cordelia’s latest book, *Delusions of gender: The real science behind sex differences*, has been described as ‘a welcome corrective’ (*Nature*), ‘carefully researched and reasoned’ (*Science*) and suggested as ‘required reading for every neurobiology student, if not every human being’ (*PLOS Biology*). It was short-listed for the Victorian Premier’s Literary Award for Non-Fiction, the Best Book of Ideas Prize (UK) and the John Llewellyn Rhys Prize for Literature (UK). Cordelia is also the author of *A mind of its own: How your brain distorts and deceives*. Cordelia is a regular contributor to the popular media, including the *New York Times*, *Wall Street Journal*, *The Monthly* and *New Statesman*.

Cordelia studied experimental psychology at Oxford University, followed by an MPhil. in criminology at Cambridge University. She was awarded a PhD in psychology (at the Institute of Cognitive Neuroscience) from University College London. She is currently an Australian Research Council Future Fellow in psychological sciences and Associate Professor at the Melbourne Business School, University of Melbourne.

## ABSTRACT

A common message being sold to educators and parents these days is that brain-imaging research tells us that there are profound differences between male and female brains. Supposedly, these brain differences mean that boys and girls learn differently, and should therefore be taught in different ways or even in different classrooms and schools. But a look at the complete scientific evidence reveals that research has identified very few reliable differences between boys’ and girls’ brains – and none that is relevant to learning or education. Scientifically, there are three major problems with these kinds of claims made by those who propose sex-specific teaching on the basis of different brains. The first problem is that the supposed sex difference in the brain often doesn’t exist. The second problem is that, even if it did exist, we would have no idea of the implications in terms of thinking, feeling or behaviour – and certainly not educational implications. The third problem is that a colourful brain-scan image showing a supposed difference between a male brain and a female brain can dazzle us so much that we overlook a very important point: boys and girls are far more similar than they are different. Psychologists have been studying gender differences for decades and decades – from maths and verbal skills to self-esteem and leadership style – and in the majority of cases differences between the sexes are either nonexistent, or so small as to be of no practical importance in an educational setting. This presentation travels through the science and pseudoscience of sex differences in the brain.