

# Parents misled by advocates of single-sex education

August 18 2011

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There is no scientific basis for teaching boys and girls separately, according to Lise Eliot from The Chicago Medical School. Her review reveals fundamental flaws in the arguments put forward by proponents of single-sex schools to justify the need of teaching teach boys and girls separately. Eliot shows that neuroscience has identified few reliable differences between boys' and girls' brains relevant to learning or education. Her work is published online in Springer's journal *Sex Roles*.

The first issue Eliot highlights is that single-sex school advocates often claim differences between boys' and girls' brains based on studies carried out in [adult men](#) and women. But such effects have rarely been found in children. It is also wrong to assume that children's brains operate like adults'. In reality, they are works-in-progress, and much of what influences adult neural processing is due to individuals' social and educational experience over their lifespan. Therefore the assumption that because [gender differences](#) in the brain are biological, they are necessarily fixed or 'hardwired' is incorrect.

Eliot then reviews seven specific claims often used to justify the need for sex-segregated learning: gender differences in the corpus collosum\* and language lateralization\*\*; differences in brain maturation rate and sequence between [boys](#) and [girls](#); gender differences in hearing, in vision and in the [autonomic nervous system](#); [sex hormones](#) and learning; and finally preferred learning styles of boys and girls. For each one, she shows how the science has been misrepresented and its findings exaggerated to build a rationale for sex-segregated education, which

misleads parents into believing there is a scientific basis for teaching boys and girls in separate classrooms.

Although there is no doubt that boys and girls have different interests which shape how they respond to different academic subjects, neuroscientists have had great difficulty identifying meaningful differences between boys' and girls' neural processing - even for learning to read, which has been the most studied to date. And although research shows that men and women - not boys and girls - tend towards different self-professed learning styles, there is no evidence that teaching specifically geared to such differences is actually beneficial.

Eliot concludes: "Beyond the issue of scientific misrepresentation, the very logic of segregating children based on inherent anatomical or physiological traits runs counter to the purpose and principles of education. Instead of separating children in the name of 'hardwired' abilities and learning styles, schools should be doing the opposite: instilling in children the faith in their own malleability and promoting their self-efficacy as learners, regardless of gender, race, or other demographic characteristics."

**More information:** Eliot L (2011). Single-sex education and the brain. *Sex Roles*. [DOI 10.1007/s11199-011-0037-y](https://doi.org/10.1007/s11199-011-0037-y)

Provided by Springer

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