

## **Science is for Girls Too**

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“Science is difficult.” Science is boring.” Science is for boys.” These are some of the common stereotypes that deter intelligent young girls from opting to study science by choice. For many years, questions such as, “Are girls inherently as good at science as boys?” “Are girls as interested in science as boys?” have been asked by and of science teachers, and educators in general. Within recent times, however, the performance of girls in science, at the local, regional, and international levels, has suggested that there is little doubt that girls can achieve at as high a level, or even higher levels, of scientific excellence as boys.

For a long time, it was believed that the perceived male-female differences in mathematics and science were biologically determined. The myth was that girls' and boys' brains are “wired” differently, so that each gender was better suited for different things. The notion was that boys have superior spatial abilities, making them better suited for mathematical and scientific manipulations, while girls were believed to be better at language, literature, and composition.

These stereotypes often implicitly dictate a disparity in the kind of support and encouragement that parents and teachers render to boys and girls. Parents who believe that their boys are better at mathematics and science are quite comfortable accepting substandard performance from their girls when they are challenged in these areas, but are convinced that persistence and “extra effort” would yield academic merit with their boys. In the science classrooms, too, teachers, often unaware of their own biases, call on boys more, praise boys more for correct answers, and are more likely to ask boys for help in science demonstrations and laboratory work. It follows, therefore, that the message sent to girls is that they are not as good as boys in science—however unintentional teachers claim these may be.

There are several things that teachers can do to minimise bias and help both girls and boys to achieve in science. One of the first things is to give equal treatment to everyone. Teachers can check their treatment of students by having their classrooms observed or videotaped, and subsequently noting the students called upon and the types of questions that are asked of girls and boys. Teachers also need to be consistent in the way they praise and criticise girls and boys, that is, the behavioural outcomes should be the same for both genders. In other words, not because you are a boy you are able to wire the circuit correctly; girls can wire the circuit just as well.

Researchers have suggested that parents too can adopt certain practices that can easily help to narrow this perception gap. For example, parents should think carefully when purchasing toys for their children; they should remember that girls also like and can appreciate telescopes and chemistry and astronomy sets. Girls, like boys, should be encouraged to fix a leaky faucet or to connect a DVD player

to a television set. Visits to the science museum and science programmes for the long vacation can be equally entertaining, interesting, and rewarding for girls and boys. Such experiences should be facilitated very early in children's life.

It is not only boys who should be encouraged to take science subjects at secondary schools; girls should also be supported and encouraged if they are interested in science. As a general rule, parents (of either sexes) should never, ever say to their girls "I was never good in science either." And finally, but very importantly, parents should let their children know that both boys and girls can become anything they want to be—even a mathematician or scientist!

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