

MEDIA RELEASE

Close the gender gap; build the future STEM workforce

14 April 2016: Understanding how gender affects participation and achievement in mathematics can help educators close Australia's gender gap in maths education, according to a report released today by the Australian Council for Educational Research (ACER).

The ACER report, *Gender and sex differences in student participation, achievement and engagement in mathematics*, by ACER Research Fellow Dr Sarah Buckley, reveals that Australian girls are less engaged with maths and more fearful of the subject than boys. Girls are also less likely to pursue maths courses and are more likely to be outperformed by boys.

This results in fewer women choosing careers in science, technology, engineering and maths (STEM).

“Given the current emphasis on increasing our STEM workforce to facilitate innovation, educators and policymakers need to understand how gender affects participation and achievement in maths if we are to increase the number of girls who choose to pursue maths, and go on to careers that involve STEM,” Dr Buckley said.

Boys' higher performance in maths has, in the past, been attributed to biological factors, but according to Dr Buckley, research evidence does not support the idea that differences in male and female brain structures explain differences in boys' and girls' achievement.

“Research suggests there are no gender differences in children's cognitive abilities, and therefore no difference in their potential to achieve in maths. Speculative claims about girls' biological unsuitability for maths are more a part of the problem than an explanation of it,” Dr Buckley said.

“Since students' motivation and confidence are linked to achievement in maths, approaches to teaching and learning need to focus on increasing students' interest and confidence, and promoting the value of maths.”

The report identifies multifaceted approaches to target the gender gap, including:

- programs that allow girls who are struggling with maths to practise their maths skills
- initiatives that challenge negative gender stereotypes
- efforts to increase student interest, enjoyment or intrinsic value, and
- efforts to promote the value of maths for future educational and career aspirations.

“Such approaches challenge beliefs about fixed ability and address feelings of anxiety about maths that girls could be more likely to experience,” Dr Buckley said.

“The more maths is perceived in our society as a subject that is useful, enjoyable and attainable by all, irrespective of gender, the more likely the gender gap will close.”

The report, *Gender and sex differences in student participation, achievement and engagement in mathematics* by Dr Sarah Buckley, is the first in the ACER series, *Changing Minds: Discussion in neuroscience, psychology and education*. It is available at http://research.acer.edu.au/cgi/viewcontent.cgi?article=1018&context=learning_processes

Dr Buckley is available for further comment.

*****ENDS*****

Media enquiries: Steve Holden, 03 9277 5582 or 0419 340 058 communications@acer.edu.au