these uncertainties will greatly advance our understanding of the environmental impact of increasing anthropogenic mercury emissions.

The factors controlling the rate and efficiency of mercury oxidation in the lower reaches of the mid-latitude atmosphere await determination. Furthermore, it remains to be seen whether bromine radicals are the sole and main oxidant of elemental mercury at these latitudes. Although the importance of heterogeneous chemistry is well recognized in stratospheric and tropospheric chemistry, including in halogen chemistry, little is known about the involvement of surfaces in atmospheric mercury cycling. Reactions at various environmental surfaces, including aerosols and clouds, may also be involved.

Obrist and colleagues[5] further our understanding of mercury cycling in the mid-latitudes and confirm that bromine-induced oxidation of elemental mercury is not limited to polar regions. According to their findings, bromine also plays an important role in reactive mercury formation over the Dead Sea, generating some of the highest reactive mercury concentrations observed in the atmosphere so far. ❐

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PSYCHOLOGY

Physics boost for women

The reasons behind the underrepresentation of women in the physical sciences are varied and complex. Efforts to increase female participation in the sciences have been aimed at students from school to university, with varying degrees of success. At the younger levels, programmes try to engage girls in science subjects and to encourage them to pursue science and maths throughout their schooling. At university, peer mentoring and small group tutorials have been introduced to help female students succeed in science and maths disciplines.

But despite such measures, female students in introductory-level physics at the University of Colorado at Boulder were earning lower median scores than their male classmates. Differences between male and female students in their science education before university could explain some, but not all, of the achievement gap. Akira Miyake and colleagues found that the women students' performance could be improved significantly through a simple psychological exercise of personal reflection (*Science* **330,** 1234–1237; 2010).

All students in the physics class were given two writing assignments in the early weeks of the course. One group was asked to select their most important values from a list, and write about why these values were important to them. Meanwhile, a control group

was given an assignment to pick out their least important value, and why it might be important to others. Thus only the students in the first group were forced to reflect their own personal views.

Interestingly, the female students who wrote about what mattered to them scored higher on physics tests in the following weeks than the women in the control group. The effect was greatest among those female students who strongly or moderately identified with the stereotype that men performed better in physics than women. The exercise had little effect on women who did not endorse the gender stereotype, or on men on the course. Even though the assignments were given and completed the beginning of the term, the effects were still evident in the final test marks.

That such a simple self-reflection task can help women overcome their inhibitions in performing to their full potential in a male-dominated subject may be cause for some reflection in education authorities worldwide.

ALICIA NEWTON