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Sep 2001

Regulars



Opinion



Topic of the month

- [Fear of maths](#) – a self-fulfilling prophecy
-

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Fear of maths

Mention to someone at a party that you have a maths degree and people will respond in different ways, but one is so common that any mathematician will sooner or later develop some strategy for dealing with it. It is to say, "Oh, I was never any good at maths at school."

Are some people just constitutionally bad at maths? That would certainly explain why some people acquire a fear of maths while at school, which, unfortunately, often lasts the rest of their life. If they find they can't do it at school, they might come to dread the weekly maths lessons and tests.

In fact, though, the truth is nearer the exact opposite. People's fear of maths is inhibiting learning and leading them to underperform. Various psychologists have studied so-called "maths anxiety". Unsurprisingly, they found it correlated with poor performance in maths tests. More interestingly, they have found it can be treated and that people's scores in maths tests improved as a result. Clearly the fear of maths itself is undermining people's ability to learn.

In a [recent paper](#), two psychologists at Cleveland State University in the US were able to show how, at least in part. Mark Ashcraft and Elizabeth Kirk showed that maths anxiety reduced the amount of working memory available for handling data necessary to complete a maths task. Besides this, of course, fear of maths

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depresses performance in more obvious ways, such as causing people to avoid the subject whenever they can. In short, it is a classical example of a self-fulfilling prophecy.

Maths anxiety could arise in numerous ways. Someone might have been taught the subject badly at some time in the past, and come away with the idea that they couldn't do it, or changed class to one where everyone else had covered different background topics. Once the anxiety is implanted, it will cause the student to fall further behind.

Frequent testing is probably another cause. Sitting a test is a source of anxiety in itself, especially if the outcome of the test is important. The government's insistence on an ever-increasing battery of tests for school pupils may be creating new generations of maths-dropouts.

There's a valuable lesson for teachers too, since another possible source of maths anxiety is the need to keep up with the class. If teaching methods can be used that allow each pupil to progress at their own rate, this problem disappears. Of course, plenty of teachers know that in theory. In practice, it's difficult to do that and at the same time be certain to cover a tight syllabus, as teachers are obliged to do by the national curriculum.

Whatever the root cause, the lesson for everyone who thinks they can't learn maths is: yes you can! But only if you believe that you can, and only if you try it in a spirit of calm attentiveness – a desperate frenzy won't do. Who knows? You might even find, after all, that you enjoy it.



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