

Math version of dyslexia demands attention, U of M prof says

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Dyscalculia, the math version of dyslexia, demands more attention now that imaging scans have uncovered unique brain abnormalities in people who suffer from it, according to Sashank Varma, an educational psychology professor at the University of Minnesota.

Varma, along with two British colleagues, wrote a review article about dyscalculia in the latest edition of *Science*, a top-flight scientific journal. (The article was released at 1 p.m. CT today.) The brain disorder prevents even smart, learned individuals from performing basic arithmetic. While dyscalculia is lesser known than dyslexia, it afflicts just as many children and adults as the more widely known reading disorder, the report states.

"Numbers do not seem to be meaningful for dyscalculics—at least, not meaningful in the way that they are for typically developing learners. They do not intuitively grasp the size of a number and its value relative to other numbers. This basic understanding underpins all work with numbers and their relationships to one another."

The article notes there are people with the disorder who excel at geometry, statistics packages and degree-level computer programming. However, the authors believe this largely untreated disorder is causing a drain on student and worker achievement and on economic productivity overall -- in a way that dyslexia does not.

"A large UK cohort study found that low numeracy was more of a handicap for an individual's life chances than low literacy: They earn less, spend less, are more likely to be sick, are more likely to be in trouble with the law, and need more help in school."

The authors lament that the U.S. National Institutes of Health has only spent \$2.3 million on research of this disorder since 2000, but has spent \$107 million on dyslexia research. They hope funding and research will accelerate now that MRI scans have mapped out the parts of the brain responsible for arithmetic -- and discovered unique abnormalities in the brains of people with dyscalculia.

Research has suggested that tailored education programs -- perhaps with the use of hand-held computers or other electronic devices -- can help people overcome the disorder.

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