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Math anxiety saps working memory needed to do math

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By Julie Steenhuysen

SAN FRANCISCO (Reuters) - Worrying about how you'll perform on a math test may actually contribute to a lower test score, U.S. researchers said on Saturday.

Math anxiety -- feelings of dread and fear and avoiding math -- can sap the brain's limited amount of working capacity, a resource needed to compute difficult math problems, said Mark Ashcraft, a psychologist at the University of Nevada Las Vegas who studies the problem.

"It turns out that math anxiety occupies a person's working memory," said Ashcraft, who spoke on a panel at the annual meeting of the American Association for the Advancement of Science in San Francisco.

Ashcraft said while easy math tasks such as addition require only a small fraction of a person's working memory, harder computations require much more.

Worrying about math takes up a large chunk of a person's working memory stores as well, spelling disaster for the anxious student who is taking a high-stakes test.

Stress about how one does on tests like college entrance exams can make even good math students choke. "All of a sudden they start looking for the short cuts," said University of Chicago researcher Sian Beilock.

Although test preparation classes can help students overcome this anxiety, they are limited to students whose families can afford them.

Ultimately, she said, "It may not be wise to rely completely on scores to predict who will succeed."

While the causes of math anxiety are unknown, Ashcraft said people who manage to overcome math anxiety have completely normal math proficiency.

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