

Greater working memory capacity benefits analytic, but not creative, problem-solving

August 7 2012

(Medical Xpress) -- Psychological scientists have long known that the amount of information we can actively hold in mind at any given time – known as working memory – is limited. Our working memory capacity reflects our ability to focus and control attention and strongly influences our ability to solve problems.

In a new article in the August issue of *Current Directions in Psychological Science*, a journal of the Association for Psychological Science, Jennifer Wiley and Andrew Jarosz of the University of Illinois at Chicago explore the role of working memory capacity in both mathematical and creative [problem solving](#).

Converging evidence from many psychological science studies suggests that high working memory capacity is associated with better performance at mathematical problem-solving. In fact, decreased working memory capacity may be one reason why math anxiety leads to poor math performance. Overall, working memory capacity seems to help analytical problem-solvers focus their attention and resist distraction.

However, these very features of [working memory](#) capacity seem to impair creative problem-solving. With creative problems, reaching a solution may require an original approach or a novel combination of diverse pieces of information. As a result, too much focus may actually impair creative problem solving.

The authors note that, in the real world, problems are not always distinctly divided into analytic and creative types – successful problem solving depends on the needs of a given situation.

Provided by Association for Psychological Science

Citation: Greater working memory capacity benefits analytic, but not creative, problem-solving (2012, August 7) retrieved 25 April 2024 from <https://medicalxpress.com/news/2012-08-greater-memory-capacity-benefits-analytic.html>

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