

What promotes creativity?

SELECTED RESEARCH RESULTS

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Polls show that the majority of people in Germany believe it is desirable and important to develop one's own creativity. Accordingly, there is a wide range of books, seminars and coaching offering advice for all forms of "creativity enhancement". Academic research is divided on the question of whether creativity as such can be learned, however the studies available strongly suggest that creativity is a competence that can be developed and stimulated (e.g. Preiser, 2006, p. 51 ff.). The following specifies some factors that are highlighted in empirical studies as promoting creative performance.

Preiser, Siegfried (2006). *Kreativität*. In Karl Schweizer (ed.), *Leistung und Leistungsdiagnostik* (p. 51-67). Berlin: Springer.

COLOURS

Results from colour psychology indicate that particular colours can have a positive influence on the generation of creative ideas. In 4 experiments Lichtenfeld et al. (2012) studied the creativity of different subjects who had previously been divided into 2 groups. One group was given a green colour to look at, the other a blue, grey or red. Then all the participants had to list as many original ideas as possible for anything you could do with a tin can. Subsequently, 2 independent people evaluated the ideas in terms of their creative potential. The result of the evaluation was that in all 4 tests the group who had been stimulated with green was the more creative. The authors explain this by the associations that green has for people: it stands

for life, hope and nature. The openness of the "green meadow" extends the mental horizon, which could be biologically determined (ibid., 2012, p. 793). Mehta and Zhu (2009), on the contrary, conclude that a blue display screen background leads to better creative performance.

Lichtenfeld, Stephanie, Elliot, Andrew, Maier, Markus & Pekrun, Reinhard (2012). *Fertile green: Green facilitates creative performance*. *Personality and Social Psychology Bulletin*, 38(6), 784-797.

Mehta, Ravi & Zhu, Rui Juliet (2009). *Blue or Red? Exploring the effect of color on cognitive task performances*. *Science*, 323(5918), 1226-1229.

INTERCULTURAL EXPERIENCES

Contact with different cultures can promote personal creativity. Maddux and Galinsky have investigated the relation between international experience and creativity in detail in several studies (summarised in Maddux & Galinsky, 2009). The subjects' first task was to solve Karl Duncker's candle problem. To do this they were given a box of pins, a couple of matches and a candle. The task was to fix the candle to the wall. The creative solution was to realise that the pin box cardboard could be a candle holder, and fix it to the wall. The result was that the problem

tended to be solved if the respective participant had lived abroad for a longer period of time. Yet it was only a longer stay, not a holiday trip, that revealed anything about potential for creativity. A further experiment was able to show that even the mere idea of a stay abroad (priming) can lead to better creative performance. The explanation for the relation between intercultural experiences and higher creativity lies, in the authors' opinion, in the individual's adaptation to the host country, which leads to new and more flexible ways of thinking and acting.

Maddux, William & Galinsky, Adam (2009). *Cultural borders and mental barriers: The relationship between living abroad and creativity*. *Journal of Personality and Social Psychology*, 96(5), 1047-1061.

DISTRACTION AND DAYDREAMS

People who frequently daydream turn out to have higher than average originality in creativity tests, as Baird et al. (2012) discovered. The researchers

were able to prove, by way of experiment, that situations that encourage a mental drifting away can stimulate creativity. In an experiment they first asked the participants to list as many possible ways of using a brick as they could within 2 minutes. After that they divided them into different groups: one group was allowed to relax for 12 minutes; the others had to immediately complete a new task which was either very demanding or very simplistic and was therefore meant to induce them to daydream.

The group that had been “seduced” into daydreaming by the very simple task experienced in the second round of the creativity test a vigorous boost in performance. In contrast to the other groups, whose performance stagnated, this group found possible uses for bricks that were by far more innovative than in the first round. The authors explain the fact that the same stimulating effect was not perceived in those who had not done anything at all during the break by arguing that a simple task ensures that on the one hand you remain alert while on the other hand you can also let your mind wander freely.

Baird, Benjamin, Smallwood, Jonathan, Mrazek, Michael, Franklin, Michael & Schooler, Jonathan (2012). Inspired by distraction: Mind-wandering facilitates creative incubation. Psychological Science, 23(10), 1117-1122.

UNTIDINESS IN THE OFFICE

Vohs et al. (2013) asked test subjects to fill out an extensive questionnaire, half of them had to do this in a tidy office, the other half in a chaotic office. Afterwards, all of them were allowed to take either an apple or a piece of chocolate as a reward, and they were invited to make a donation to a charity. The result: the subjects who had worked under structured external conditions tended to choose the apple and also tended to dip into their wallet to make a donation. That corresponded to the authors’ expectations: tidy people not

only live more healthily but are also more generous because they have their things under control, so they can give things away more readily than people who live in chaos and constantly feel they are lacking something. In another experiment 48 participants in tidy or chaotic offices had to consider how many different ways table tennis balls could be used. There were no major differences between the 2 groups with respect to the number of ideas, but very much so with respect to originality. The originality of the ideas was much greater among the subjects from the chaotic office (Ill. 1). The authors’ explanation for this is that an untidy environment stimulates people to come up with unusual approaches to solving problems.

Vohs, Kathleen, Redden, Joseph & Rahinel, Ryan (2013). Physical order produces healthy choices, generosity, and conventionality, whereas disorder produces creativity. Psychological Science 24(9), 1860-1867.

PHYSICAL MOVEMENT AND EXPERIENCE OF NATURE

In several experiments Oppezzo and Schwartz (2014) investigated whether physical movement can help to promote creativity and the capacity for association. The researchers asked students to complete 2 different creative word games. In the first test they were given an object (e.g. a tyre) and had to come up with as many innovative uses for this as possible. The second test was a classic word association test: the students had to come up with 1 word for groups of 3 words (e.g. cottage – Swiss – cake) that would complete each of them (e.g. cheese). In different rounds they completed this task once while sitting down, once while walking on a treadmill, and finally, once while walking outdoors.

For the second test, in which it was not so much innovation that was important, but combination and concentration, walking seemed to yield no advantages. In fact in this test the participants who

were moving actually performed a little worse. It was very different in the first test, though, in which creativity and new ideas were required: the test subjects were significantly more creative while they were physically active. At the same time, movement outdoors proved to be particularly effective in promoting creativity.

Oppezzo, Marily & Schwartz, Daniel (2014). Give your ideas some legs: The positive effect of walking on creative thinking. Journal of Experimental Psychology: Learning, Memory and Cognition, 40(4), 1142-1152.

MODERATE ALCOHOL CONSUMPTION

Jarosz et al. (2012) investigated in their study a considerably more unhealthy way of jumpstarting inspiration. The researchers tested creative thinking and problem solving under the influence of alcohol in 40 male students. The result was that the subjects who had had alcohol in the form of vodka measured as a blood alcohol concentration of 0.75 per mille performed considerably better than the sober control group. They were able to complete almost 40% more tasks, and almost 3 seconds faster than the non-drinkers. The authors assume that people under the influence of alcohol can relax better and follow their intuition. They say the brain reacts more quickly to visual stimuli, which in turn has an effect on creative thinking. However, people are nonetheless advised against excessive consumption of alcohol for the sake of promoting creativity, for the brain does indeed work more quickly, but the alcohol negatively influences one’s reaction time.

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Jarosz, Andrew, Colflesh, Gregory & Wiley, Jennifer (2012). Uncorking the muse: Alcohol intoxication facilitates creative problem solving. Consciousness and Cognition, 21(1), 487-493.

NOTE

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