**Reducing maths anxiety in exams: why different interventions lead to the same results.**

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**Annotation**

**Description.**

Only a handful of studies in psychology has focused on assessing the effectiveness of methods for reducing maths anxiety before a mathematics exam. The scientific literature presents a number of emotional regulation techniques that might help students cope with anxiety and improve performance. For example, expressive writing - expressing feelings on a piece of paper before an important event (Ramirez & Beilock, 2011); reappraisal - changing attitudes towards anxiety (Jamieson et al., 2010); short physical exercises (Bildanova, Biserova & Shagivaleeva, 2015). However, the effectiveness of most of these methods remains unclear due to methodological limitations of previous research.

**Aim of the study.**

The aim of the study is to evaluate the effectiveness of different emotional regulation methods aimed at reducing anxiety before a maths test and improving academic performance.

**Methods**

The following measures were used in the present experimental study: basic sociodemographic (gender, age), abbreviated maths anxiety scale (Hopko et al., 2003), and a shortened questionnaire of state anxiety (Spielberger, 1983). The abbreviated version was created in the current study by examining factor loadings (a = .86); a mathematics test consisting of 2 parts of 18 items each. More than 3000 students from schools and universities of Russia took part in the study. The data were collected in three studies: study 1 - in-person, study 2 - online, in study 3 another regulation was added: meditation (Nepovinnykh and Solodovnik, 2019).

**Results**

The results showed no significant differences in performance between the regulations. However, some small differences were found in participants with high math anxiety (25% of participants with the highest math anxiety scores). Significant differences were found in study 1 (N = 119; F = 4.02, p<0.05, η2 = 0.03), study 2 (N = 663; maths test: F = 4.97, p<0.05, η2 = 0.00; situational anxiety: F = 5.16, p<0.05, η2 = 0.00) and study 3 (N = 134; maths test: F = 5.82, p<0.05, η2 = 0.04). Expressive writing proved to be the most effective method in the group with higher mathematics anxiety.

**Conclusions**

The findings may be attributed to the absence of a high-stakes situation at the time of data collection, namely that the mathematics test scores in the current study had no effect on final course grades and, as a result, had no effect on students’ emotional state (Beilock, 2008). Presumably this can be explained by the fact that the more the test situation is perceived as a high-pressure situation, the more effective methods for regulating emotions might be.

The results of the present study contribute to the understanding of the mechanisms of emotional regulation methods, which will contribute to the development and search for new methods of individualization of education.

**Reserences**

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