

## **Abstract**

This thesis is focused on the effects of computerized executive functions training on emotion regulation and affective functioning. The theoretical part summarizes cognition-emotion integration and is based on cognitive neuroscience models suggesting that there are bidirectional links between cortical executive functions centers and cortical centers that regulate emotions. Based on process model of emotion regulation (Gross, 1998) it's supposed that it is possible to make interventions of emotion dysregulation also through cognitive, antecedent-focused strategies. These assumptions are linked with computerized executive functions training. Such training might have positive consequences for emotion regulation and emotion functioning, as it generate frontal activation (Klinberg et al., 2005).

The study measures the potential effect of executive functions training on regulation of negative emotions. The main intervention is a personalized, computer-based cognitive training program BrainTwister. This program is widely used for clinical and diagnostics praxis and rehabilitation. To ascertain the everyday ecological validity of the cognitive training intervention and the emotion regulatory and affective consequences, emotion regulatory experiment (IAPS) together with mood and emotion regulation self-report questionnaires (POMS, DERS) are used. The study involves 25 participants (14 experimental, 11 control). Both groups undergo training – experimental group just trains with higher intensity and difficulty.

There was significant improvement found out in both groups of participants within DERS scale and regulatory condition on IAPS experiment. This can be referred to the training effectivity of both groups, as well as to data insensitivity. The second option was actually confirmed by Bayes analyses. One segment of the empirical part also displays the results regarding the influence of other, primary non-measured factors.

This work provides preliminary evidence that a training of executive functions could have positive consequences on regulation of negative emotions. However, these conclusions require testing in a large-scale randomized study with inclusion of all other factors.

**Key words:** emotion regulation, executive functions, computerized training