

Negative emotions have always been essential for the survival of our species; they direct attention to important aspects of the environment and signal the need to modify ongoing behavior accordingly. However, if they are excessively intensive or their duration prolongs, negative emotions may disturb our thinking and immobilize action, leading to numerous adverse consequences that range from the relatively mild ones, such as procrastination, to the serious ones, such as depression. Therefore, it appears crucial to be able to effectively regulate undesirable affective states. To date, cognitive reappraisal strategy has been considered the most effective mean to control one's emotions. However, recent findings have revealed that in some cases employing attentional distraction strategy – other cognitive but less complex form of emotion regulation – may yield at least as good results. These observations indicated that emotion regulation strategies are not unconditionally effective, but depend on various contextual factors. This signaled the need to abandon attempts to determine the advantage of one strategy over another in order to examine conditions that may limit or boost their effectiveness.

Therefore, the primary objective of the proposed project is to identify the influence of basic contextual factors on the effectiveness of two leading emotion regulation strategies - cognitive reappraisal and attentional distraction. While the first one involves changing the meaning of emotionally-evocative situation to diminish its negative impact (e.g. by looking on the bright side of it), the second one involves diverting one's attention from emotionally-evocative situation by producing thoughts unrelated to its content (e.g. by pondering over something we have recently read in a paper).

It is planned to verify whether the effectiveness of each strategy depends on: 1) the amount of available cognitive resources 2) the nature of emotion-eliciting situation and 3) the intensity of emotions when the goal is to achieve long-term or short-term regulatory benefits. Examination of the abovementioned factors is crucial as they characterize every episode of emotion regulation. In addition, many studies indicate their relevance to both strategies.

In order to determine the impact of the above factors, three experiments are planned. In each experiment, participants will be randomly assigned to one of two groups; in one group participants will use cognitive reappraisal strategy, and in the other attentional distraction strategy. Participants' task will be to control emotions (experimental condition) or to respond naturally (control condition) to negative visual stimuli displayed on the computer screen. In each experiment, one of the aforementioned factors will be manipulated.

In all experiments, the brain activity will be measured by means of electroencephalography (EEG) recording. The excellent time resolution of EEG will help to determine how each factor affects the size and temporal characteristics of regulatory effects at the neuronal level. What is more, it will be possible to indicate which stages of emotional processing will be modulated - perception, attention and / or interpretation - and whether this modulation will vary depending on the strategy used.

The expected outcome of the project will be establishing determinants underlying the effectiveness of two leading emotion regulation strategies, which will enable an in-depth understanding of mechanisms through which they operate. The use of the classical method of evoked potentials will allow to refer the results to the extensive literature that exists in the field and shed light on the contradictory findings regarding the (lack of) effectiveness of both strategies. Cognitive forms of emotion regulation are pervasive in our everyday life, and elements of both strategies are an integral part of many types of therapies for affective disorders, such as depression or post-traumatic stress disorder. Therefore, identifying factors that limit or boost their successfulness may contribute to the development of better tailored therapeutic programs, taking into account both the regulatory circumstances and the individual characteristics of those struggling with emotion regulation deficit.