

## The impact of emotion regulation on subsequent memory control

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### **Background and Research Question:**

Controlling the intrusion of unwanted emotional memories can have important clinical benefits among psychopathology such as PTSD. In an independent line of research, emotion regulation studies examine how people can employ different strategies (e.g., reappraisal, distraction) to regulate emotional reactivities in response to exogenous emotional stimuli. Currently, it remains unknown whether emotion regulation can benefit subsequent control of unwanted emotional memories. In the present study, we aimed to investigate how emotion regulation, and specifically reappraisal, may influence retrieval suppression of negative emotional memories in a Think/No-Think (TNT) paradigm.

### **Methods**

The materials were 48 object-scene picture pairs selected from the International Affective Picture System and online sources. These pairs were equally divided into 6 conditions based on valence (negative vs. neutral), emotion regulation strategies (reappraisal vs. watch) and memory control (think vs. no-think), with neutral pictures only in the watch condition. During the experiment, participants first remembered the object-scene pairs to a high accuracy, followed by a classical emotion regulation (ER) task in which they were asked to either watch or reappraise the target scenes. Then they completed a TNT task in which only object cues were presented, and they were instructed to either think of the associated target scenes in detail (Think condition) or suppress the associated scenes from entering awareness (No-Think). Participants were required to indicate on the extent to which they have experienced intrusions of the target scenes at the end of each trial during the TNT phase. Afterwards, they completed a recall test in which the cues were presented, and they were required to verbally describe about the associated scenes.

### **Results**

Preliminary results of the data from 21 participants showed that compared with passive viewing, reappraisal significantly reduced participants' emotional response to negative pictures. Moreover, compared with passively viewed targets, participants experienced less intrusions of the reappraised targets during the TNT phase, and this effect was already shown in the first block. Besides, participants recalled less accurately for picture pairs in the reappraisal than watch condition, regardless of the TNT instructions. Thus, reappraisal led to higher forgetting of the negative materials.

### **Conclusion**

The present results preliminarily supported our hypothesis that emotion regulation can benefit the subsequent control of unwanted negative memories.