THE IMPORTANCE OF THE RAPID EYE MOVEMENT SLEEP STAGE
FOR CREATIVITY AND FOR CREATIVE PROBLEM SOLVING

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Objective: The overall goal is to generate new knowledge of creativity, and creative problem solving, with regard to their relationships with sleep, specifically the Rapid Eye Movement (REM) stage. The project will generate new knowledge of sleep theory and has furthermore implications for our knowledge of optimal conditions for creativity, important for the future innovation level in the society.

Background: Very few systematic studies have been made of the connections between creativity and sleep. REM sleep has been shown to be important for cognition, emotion, and memory, and is considered the sleep stage with the highest degree of associative brain functioning. Since creativity depends on ideas that are generated by unusual and highly original associations, it is conceivable that REM is related to creativity.

In the field’s first laboratory study, the influence of REM for creative problem solving was investigated using a design with a day-time nap (Cai et al., 2009). Before the nap, the participants got implicit information of the correct answers to a creative task to be taken after the nap. The high-REM group solved the creative task significantly better than either a low-REM group or a resting group. It was concluded that REM provides an opportunity for the brain to process new information, which in turn facilitates the activation of this information after the sleep.

Aims: 1) The first aim is to investigate the importance of REM sleep for creative problem solving. In collaboration with the research team of Cai et al., the first aim is achieved by a replication of their study. 2) The second aim is to investigate the relationship between REM and creativity. Creativity as an independent variable was not controlled for in Cai et al., and is in the present project conceived as a possible common nominator both for amount of REM sleep and for creative problem solving.

Project progress: Data collection is still ongoing, so preliminary results are yet to come.