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NEURAL, COGNITIVE AND BEHAVIORAL CORRELATES OF CBASP- EFFECTS

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To test the validity of two different social cognitive mechanisms as mediators of CBASP-treatment effects, we conducted fMRI-studies in

i) healthy and

ii) healthy compared to chronically depressed subjects.

The first fMRI experiment included in these studies explored the neural representations and behavioral correlates of causal contingencies between action and response in social interaction and the regulatory effect of successful/erroneous affective response prediction on the limbic system. In the second experiment we examined the ability to infer on the affective states of another person and the correlated activation of the neural "Theory of Mind" (ToM)-Network comprising superior temporal and dorsomedial prefrontal cortices.

In the first experiment we demonstrated for the first time, that the probability of an interaction partner's contingent response to an action is inversely correlated with the activation of a network of medial, ventrolateral prefrontal and inferior-parietal cortices in healthy controls. The congruence of predicted and actual responses modulated activations of amygdala (aversive responses) and ventral striatum (positive responses). The Second experiment actually replicated previous observations, that mentalizing of affective states predominantly activates anterior parts of the ToM-network.

Preliminary results of the comparison between healthy and chronically depressed individuals indicate dysfunctional differentiation of social partners' predictability in chronic depression as well as altered neural representations of contingencies. For the second experiment we found altered activation within the Theory of Mind network in the patient group.

Finally we will demonstrate pre-post measurements of neural and behavioral changes in both systems of social cognition after 12 CBASP sessions.