Figure S 1: *First-level DCM model space.* **First row.** Based on *a priori* knowledge we assumed a bidirectional functional connection between the OFC and the amygdala. We allowed for all combinations of connectivity setups of the DLPFC and with the OFC and the amygdala (green dotted lines). In total, this yielded a model space of 16 distinct models that were used for subsequent group BMA. **Second row.** BMA yielded two averaged models for healthy controls and SAD patients. **Third row.** The only connection that was not significant in both models was the connection from DLPFC to amygdala and, thus, removed from the second-level DCM model space. The connections between amygdala and OFC were slightly above significance threshold in SAD in this reduced model. Based on the strong *a priori* knowledge of amygdala and OFC connectivity, this result did not justify a premature exclusion from the second-level model space at this point of our analysis.
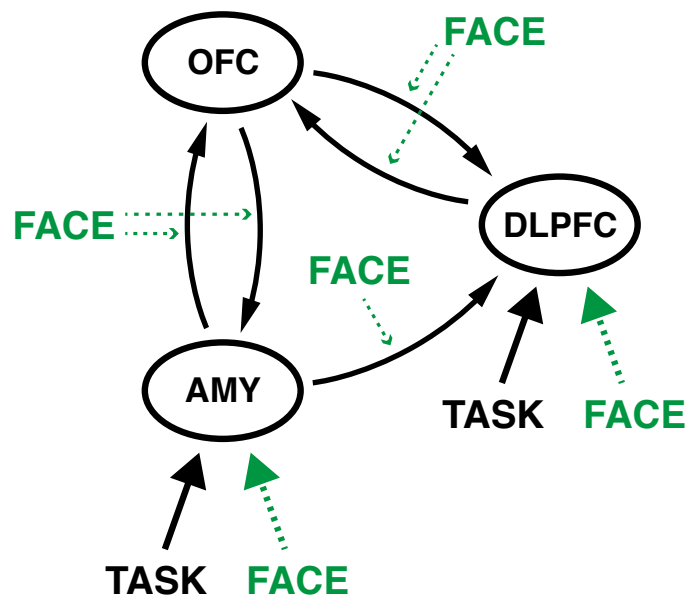
Figure S 2: *Second-level DCM model space.* First-level DCM provided sufficient confidence in the assumed model structure, which was further used as a template for a second-level DCM, in which modulatory influences of the emotional face discrimination task (FACE) were modeled. All possible interaction effects of the FACE condition (green) were considered, resulting in $2^7 = 128$ distinct models. Again, group BMA was employed as a summary statistics on the model structure and parameters.
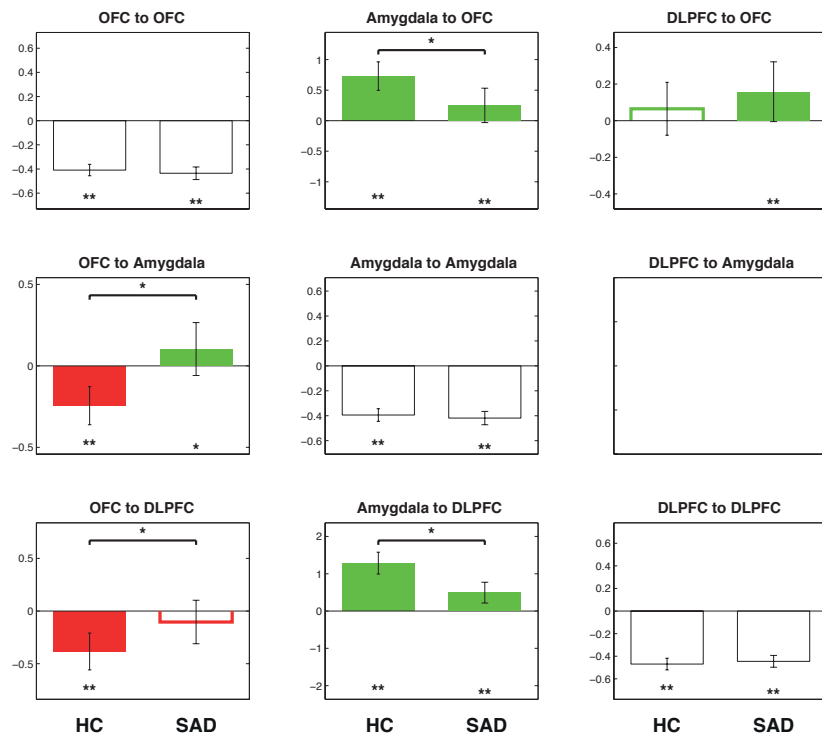
Figure S 3: **Connectivity parameters.** BMA results and their SD. Significance level for group comparison was set to $p < 0.05$, Bonferroni corrected for multiple comparisons.
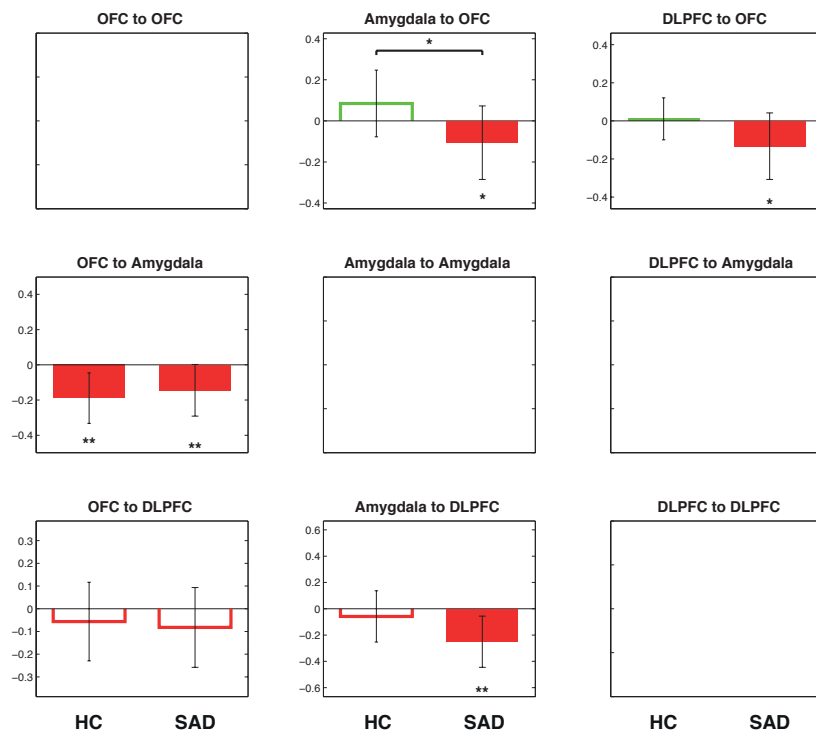
Figure S 4: ***Modulatory influence of the emotion discrimination task condition.*** BMA results and their SD. Significance level for group comparison was set to $p < 0.05$, Bonferroni corrected for multiple comparisons.