0.048), whereas the defector group showed an increase in activation ($t_{21} = -2.18, P < 0.041$) in the PCC across stages (Fig. 2c).

Furthermore, using a GLM analysis we contrasted decisions to trust with decisions to reciprocate to identify those brain regions that were differently activated for first movers in the nondefector and defector group in maintaining their trust partnership. Decisions to trust contrasted with decisions to reciprocate revealed a higher activation in the SA (peak voxel: 1, 2, -4) in the nondefector group compared with the defector group. Pairs who showed the highest trust-reciprocate history (frequency) in their decisions also showed the highest activation (parameter estimates) in the SA ($r = 0.59, P < 0.004$) (Fig. 4a and SI Table 2). In contrast, decisions to trust contrasted with decisions to reciprocate revealed a higher activation in the ventral tegmental area (VTA) (peak voxel: 2, -20, -13) in the defector group compared with the nondefector group. Pairs who showed the lowest trust-reciprocate history (frequency) in their decisions also showed the highest activation (parameter estimates) in the VTA ($r = -0.63, P < 0.002$) (Fig. 4b and SI Table 2).

Finally, for the SA and VTA regions, brain-to-brain correlation between partners’ BOLD amplitude responses were computed to measure partners’ intrapair synchronization when they were first movers in adjacent trials of trust games (SI Fig. 9). For each region, brain-to-brain correlations were computed for each pair from the nondefector and defector groups in the building and maintenance stages of the experiment. Permutation steps were repeated until all combinations had been examined and the population distributions (D1–D4) for the SA and VTA regions.