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SUPPLEMENTARY INFORMATION

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The dopaminergic reward system underpins gender differences in social preferences

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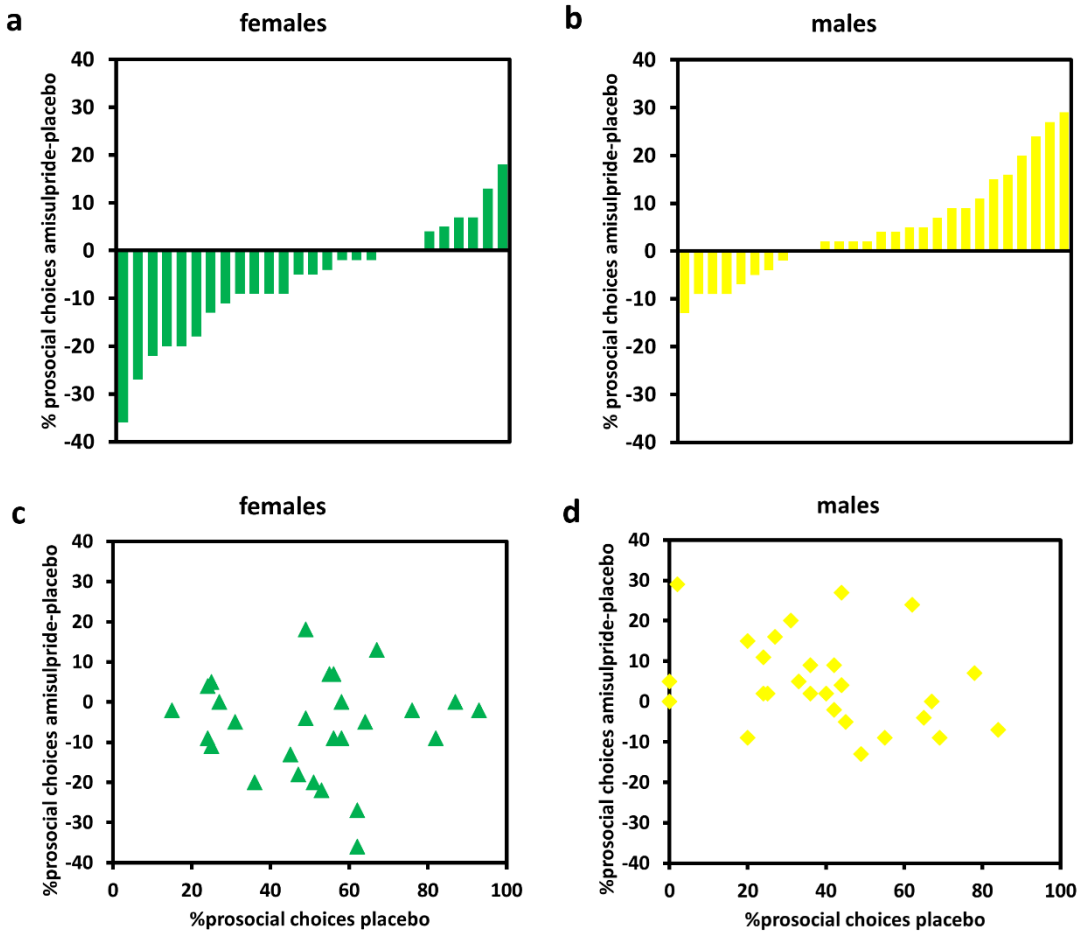
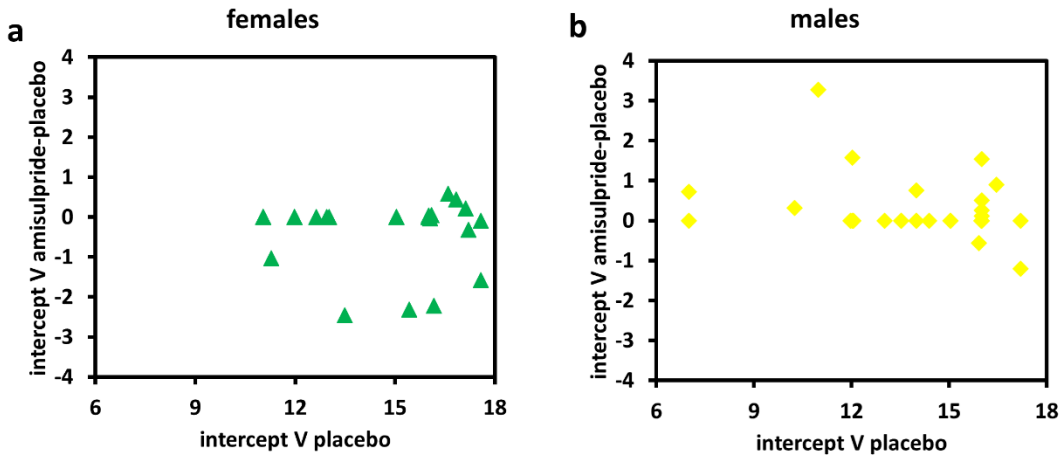
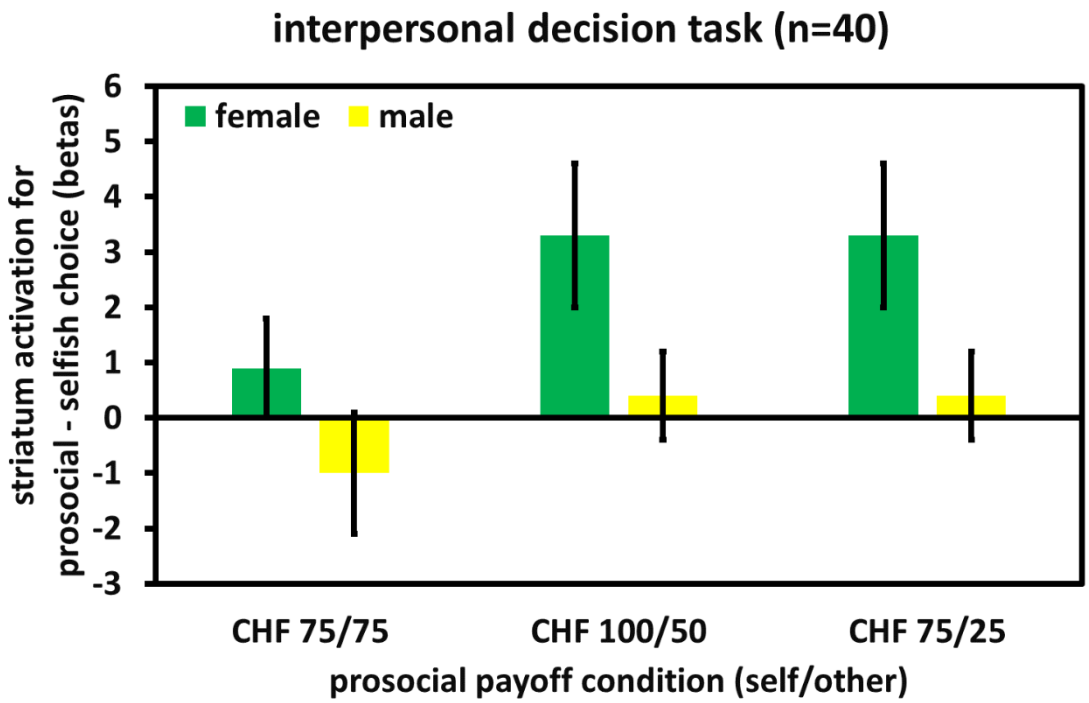


Supplementary Figure 1. Individual differences. Amisulpride effects on percentage of prosocial choices relative to placebo, plotted separately for (a) female and (b) male participants. While most female participants became more selfish under amisulpride relative to placebo, the majority of male participants was biased towards more prosocial choices after drug administration. (c, d) plot this difference as a function of prosocial decisions in the (baseline) placebo condition. There was no evidence for a significant relationship between baseline prosociality and drug effects within the samples of female, r = -0.025, p = 0.902, and male, r = -0.320, p = 0.097, participants. These findings suggest that between-gender differences are more sensitive to dopaminergic intervention than within-gender differences.



Supplementary Figure 2. Individual differences in intercept V (estimated by fitting a hyperbolic function to the individual indifference values) between amisulpride and placebo for (a) female and (b) male participants, plotted against the values of the intercept V in the (baseline) placebo condition. As for the choice data (see Supplementary Figure 1), there was no evidence for a significant relationship between the magnitude of the undiscounted reward value V at baseline and drug effects within the samples of female, r = -0.028, p = 0.890, and male, r = -0.275, p = 0.157, participants.



Supplementary Figure 3. Activation for the prosocial – selfish decision contrast from the striatum region of interest in neuroimaging experiment 2, plotted as a function of gender (female vs. male) and payoff for the prosocial reward option in the interpersonal decision task (CHF 75 for self/CHF 75 for other vs. CHF 100 for self/CHF 50 for other vs. CHF 75 for self/CHF 25 for other). The observed gender difference in striatal activation during social decisions was independent of the payoff structure of the prosocial reward option, as indicated by a non-significant interaction between gender and prosocial payoff, $F(2, 30) < 1$, $p = 0.81$, $\eta_p^2 = 0.014$. Error bars indicate standard error of the mean.