

Supplementary Information on Psychophysiological Interaction (PPI) analysis procedure:

Step 1: Extraction of time-series data

In a general linear model (GLM), three separate regressors were defined to estimate the neural activation associated with the monetary cue types: No-win, Small-win, and Big-win. Six movement parameters for each participant were also included in the individual models.

Two contrasts were estimated using this GLM: A T-contrast between two conditions (Big-win minus No-win), and an F-contrast to identify the sources of signal of interest and remove noise.

Step 2: Ventral Striatum data extraction

Two spherical Regions of Interest (ROIs) with 3mm radius were defined in the left and right ventral striatum, centred at MNI coordinates [-12, 10, -10] and [12, 10, -10]. The mean BOLD signal from these ROIs was extracted using the Volume of Interest (VOI) time series, and then adjusted by the F contrast (i.e. the effect of interest).

Step 3: PPI

For the right and left ventral striatum (separately), the extracted signal time series was defined as the physiological regressor, and the main effect of conditions (Big-win minus No-win) was defined as the psychological regressor. The PPI variable representing the regressors of interest was built using PPI toolbox of the SPM software. After computing the PPI variable, a variable indicating the PPI interaction term and a variable indicating the original ROI time series were generated for each subject. Subsequently, the interaction term and the original ROI time series together with estimated movement parameters were specified in a GLM model. These were estimated to model the task-dependent interaction (changes of connectivity) between the ventral striatum and other voxels. Data from this PPI were extracted from predetermined Regions of Interest and used in the machine learning analysis.