SUPPLEMENTARY MATERIAL

BART experiment: rational and description

Before scanning, we gave these instructions:

"*You will be presented with 30 blue balloons, one at a time in the center of the screen. In order to earn money, you must inflate the balloon. For each time you inflate the balloon you win 1 cent. If the balloon explodes, you lose the money you earned for that balloon. To save the money, you must decide to stop pumping the balloon before balloon explosion. To make your decisions, you will use a button-press response box to click to inflate (press right button) or to stop inflate and save the money for that balloon (press left button). During the task, at the left inferior corner of the screen, the accumulated money is presented. At the end of functional magnetic resonance imaging (fMRI) task, the money accumulated throughout the entire experiment will be paid in cash*."

A maximum of 32 inflations were possible per balloon and the number of inflations for each trial was randomized (Pumps were distributed with a Skewness=0.05). Participants did not know in advance the exact probability of explosion nor the maximum number of inflations. So, the larger the balloon (increasing balloon size), the greater the risk of explosion. The participants decided on inflation on a voluntary way. Risk attitude is obtained through the objective calculation of the average number of inflations made without explosion. A baseline period was defined between trials (balloons).

'Explode outcome condition' is given by the time the participant pumped and the balloon exploded. 'Cash out decision' is given by the time the participant decided to save the money earned for a given balloon. Both pumping, cashing out and the balloon explosion had a different associated sound.

fMRI data acquisition

Structural and fMRI scans were acquired in a 3T Magnetom Prisma Fit MRI scanner (Siemens, Erlangen, Germany), using a 12-channel head coil. The scanning session included a high resolution T1-weighted magnetization-prepared rapid gradient-echo sequence that was measured with repetition time of 2,530 msec, echo time of 3.42 msec, flip angle of 7 degrees, voxel size of 1×1×1 mm and field of view of 256 mm. Functional images were acquired using blood oxygen level dependent (BOLD) contrast echo planar imaging (EPI), with repetition time of 2,000 ms, echo time of 30 ms, flip angle of 90 degrees, field of view of 256 mm, matrix size of 256×256, voxel size 3×3×3 mm, and 35 slices with no gap, covering the entire brain. The number of volumes was participant dependent. The task was presented to the participant in an LCD monitor (NordicNeuroLab, Bergen, Norway) mounted 56 cm away from the participants' head. The monitor could be seen through a mirror mounted above the coil. The monitor has a frequency rate of 60 Hz and dimensions of 698.40×392.85 mm. The subject could select his response using a MR-compatible response box (Hybridmojo, San Mateo, CA, USA): right hand was used to press the right button to inflate and left hand was used to press the left button to stop inflate and save money.