

Appendix A – methodology

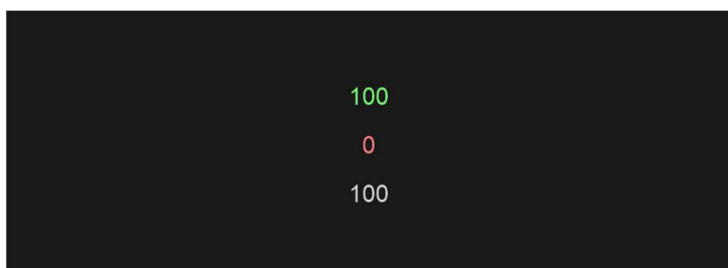
Appendix A contains additional information on the methodology.

Participants and Procedure

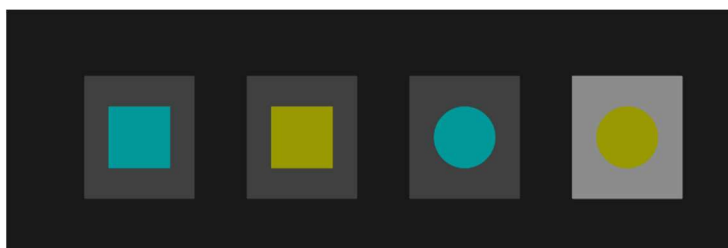
Six people participated in the study, (four women and two men) with a mean age of 23.67 (SD = 0.52). All six participated as a part of a workshop of the Advanced Cognitive Neuroscience course at Aarhus University. To ensure that participants did not have any concerning abnormalities in their brain, an MR pre-scan was conducted prior to the conducting of the experiments. Each participant gave informed written consent to be part of the study, and were informed that participation was voluntary and that the consent could be retracted at any point during the experiment (they were instructed in how to use the emergency button to get in contact if needed). Participants were not excluded on the basis of handedness, visual impairments (as long as they were able to participate), or any specifically defined boundaries of 'health'. After participants were informed about the experiment and gave consent, they were placed in the scanner. To minimize head movements and increase comfort their heads were stabilized. The experiment was projected on a screen in the back of the scanner, and the participants viewed it through a mirror placed on the headcoil. They were instructed in how to use the response box, which had two buttons; the middle finger was placed on the yellow button and used to move between the four decks and the index finger was placed on the blue button and used to select a deck.

Study Design

Between each of the four runs, the experimenters checked in with participants, to make sure that they were doing okay. The 'money' gained during each run, rolled over into the next run. The advantageous and disadvantageous decks also remained the same during the four runs. The deck initially marked at the beginning of each trial was selected at random. The script used for the experiment is available upon request. Examples of stimuli can be seen in the figure below.



The top figure shows an example of the stimuli presented when the participant is selecting a deck. The right-most deck is highlighted indicating that the participant is 'hovering over that one', when a deck is selected the square turns lighter.



The bottom figure shows an example of the stimuli when the participant is presented with the outcome. In this instances the participant has been rewarded 100 (in green), penalized 0 (in red) and the total amount owned by the participant is 100 (white).

The stimuli is much simpler than other examples of the IGT, to allow for better interpretation using fMRI.

Data Acquisition and Preprocessing

The full fMRIPrep preprocessing information can be found in the appendix, specifically in the file ‘fmriprep.md’.

Analysis

The distribution of outcomes for each run, for each participant:

