



Pre-registration for the research question:

Does the mental state influence a quantum generator? Gambling

The starting point of micro-psychokinesis is the assumption that unconscious mental processes of the human mind can modify physical reality. It is therefore possible for supposedly random event outcomes and probability systems to be influenced by mental states.

Deviations from random probabilities can be measured using a quantum-based random number generator.

Hypothesis

Based on the basic assumptions of micro-psychokinesis, in our study we would like to investigate the influence of a gain-oriented mental state of test subjects on images randomly generated by the quantum generator.

H1: A profit-oriented mental attitude influences a quantum generator. A high motivation to win a lottery leads to a higher than random probability (50%) of pictures showing a winning situation.

Research design

We expect that the percentage of visual stimuli (images) shown will not be subject to random probability, but will increase to over 50% due to the profit orientation of the test subjects.

H0: $p(\text{profit}) \leq 0.5$ H1:
 $p(\text{profit}) > 0.5$

The dependent variable describes the mean proportion of winning pictures. The sample consists of 2000 runs.

Experimental approach

Forty subjects aged between 18 and 75 years voluntarily took part in the study. They look at 20 consecutive pictures in 10 blocks.

The experiment follows a lottery paradigm. There are 2 categories of images that are randomly selected and displayed by a quantum generator. The first category consists of images showing a winning situation on a gambling machine, while the second category shows a losing situation. The subjects' need to see lots of winning pictures is stimulated at the beginning by the announcement of a subsequent prize payout in the form of Smarties.

At the beginning of each trial, a cross is displayed for 300ms, then the images are presented for 400ms, they appear in the center of the screen in an image size of 500 x 400 pixels. Between two trials, the screen is displayed in black for 600ms. Figure 1 shows the sequence of the experiment.

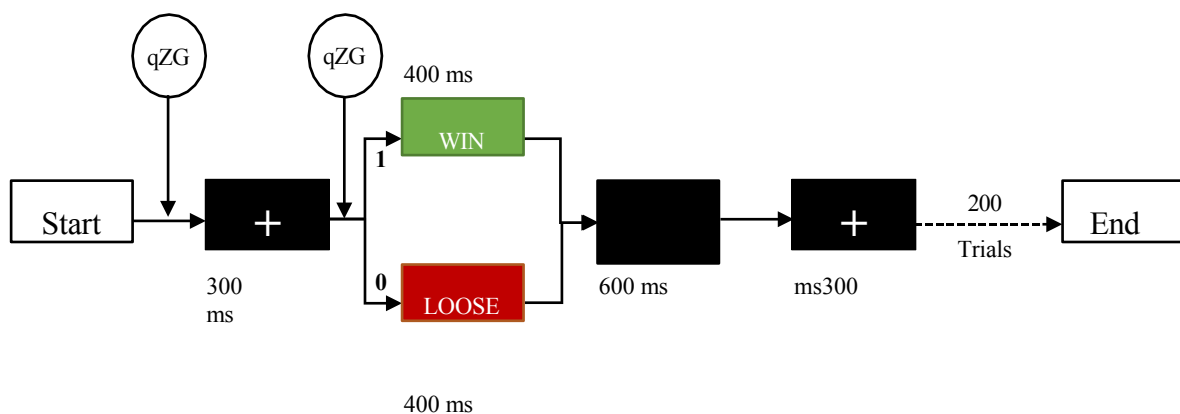


Fig. 1: The quantum-based random number generator (qZG) is used twice during each trial: the first time to select one of the images in each of the categories, the second time to decide whether the image is selected from the winning category or from the loser category.

The experiment consists of 10 blocks. The test subjects look at 20 consecutive pictures in each block. They are instructed to count and note the number of profitable pictures. If more than 10 profitable pictures appear in a block, the test subjects receive a prize for

a Smartie for each additional winning picture. The subjects' attention to the pictures is ensured by means of one-minute breaks and monitoring by the experimenters. The presentation of all 200 trials will last approx. 8 minutes. After the 200 trials have been presented in 10 blocks, each test subject is given their prize. The test subjects then complete a questionnaire designed to quantify the level of motivation to take part in the prize game and their profit orientation.

If the mental state influences the quantum generator, the proportion of positive stimuli shown predominates.

Data analysis and statistical evaluation

Our study is a within-subject design. The statistical significance of the data is determined using a Bayesian one-sample t-test. In line with our hypothesis, the test will be one-sided. The questionnaire will also be analyzed and, if necessary, correlation analyses will be carried out to investigate possible correlations between the degree of motivation to play and the proportion of winning pictures.