

Thank you for being a participant in this project! The guidelines below give you an indication of what to expect during the experiment. There is no need to remember it all. The experimenter will always remind you of necessary points. When you are done reading this document, please feel free to ask for clarifications, also at any point throughout the experiment.

1. The screen

In Figure 1, we show a snapshot of the screen during the experiment. There are two circles presented at each side of a fixation cross. Each circle contains a colored shape. During the experiment, the background of the circles will alternate between black and white, while also various other colored shapes will be presented.

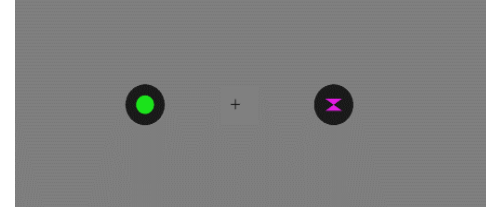


Figure 1

2. Your task

During the experiment, you will be asked to attend one of the two sides and ignore the other side. In the meantime, the circles background and shapes will be changing (see all alternatives in Figure 2). Your task is to mentally count the number of magenta hourglasses presented at the attended side (either of the last two images of Figure 2).

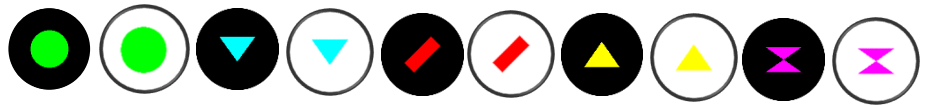


Figure 2

2. The experiment

During the experiment we record brain activity with EEG and perform eye tracking. The experiment starts with a resting state block, in which you fixate on a fixation cross and relax with eyes open for 2 minutes, and then eyes closed for 2 minutes. Then we will perform a practice block for the main experiment, in which you perform the counting task 5 times as explained before. Subsequently, in 5 blocks, you perform the task 20 times.

Each one task starts with a cue that indicates the attended side: if < is displayed then you attend to the left circle, while if > is displayed then you attend to the right circle. After this cue, both circles will start alternating the background and changing the shapes for 20 seconds, during which you count the number of magenta hourglasses on the cued circle. Afterward, a question mark will appear for 5 seconds, during which you can type the number of counted targets on the keyboard and press enter. You will receive feedback on correct (+++) or incorrect (---) responses, after which the next trial starts after a short break.

2a. Indirectly look at the cued circle: during the practice block, and the first 4 blocks, you will indirectly attend to the cued circle. You do so by maintaining fixation on the fixation cross throughout the entire block, while spatially attending to the cued circle. This means you are not allowed to make any eye movements during these blocks!

2b. Directly look at the cued circle: during the last block, you will directly look at the cued circle. You do so by moving your eyes from the fixation point onto the center of the cued circle. This means that in this final block, you are allowed to make eye movements to fixate on the cued circle.

Finally, to finish the experiment, you will perform a second resting state block with 2 minutes eyes open and 2 minutes eyes closed.

Summary:

- During a task, you **mentally count** the number of **magenta hourglass** shapes presented on the cued circle.
- The first 4 blocks are indirectly attending the cued circle **without any eye movement**.
- The 5th block is directly attending the cued circle **with eye movements**.
- The order of elements in a single task is: 1s cue, 20s counting, 5s question, 1s break.
- During a block, please **do not make any large movements**.
- During a block, please **minimize eye blinks**.
- You can take breaks in between the blocks to make larger movements.

