

Experiment checklist and instructions

July 11, 2018: second pilot with 2 subjects.

Put in MRI PC directory ./cnn_pilot_2

Things to do:

- Edit translated instructions in line 80 and 198 to ITALIAN.
- If you make any changes to the script, add the comment %CHANGED X to Y.
- Scott wanted us to start it on second trigger. If for some reason you want to start on 1st trigger, comment 87 to 102.
- Take pendrive or external hardrive for data.

Our main script is global_run.m

- It runs **experimentSLF_Speedy.m** which is the experiment six times, one for each run.
- Line 4 of global_run.m : subject ID. **Change this for each subject.**
- **fMRI experiment details**
 1. Shows instructions.
To simulate scanner trigger, press “5” during instructions.
Experiment starts on second trigger, so after First trigger, nothing happens
 2. After second trigger (press 5 again), shows fixation cross for 2 seconds, then shows first sentence.
 3. Each trial is 6 seconds. 64 trials per run = 384 seconds. Last trial lasts 10 seconds to get full HDR.
 4. Instructions for recognition task: 12 seconds
 5. Show fixation cross 2 seconds
 6. Runs 8 sentences for 6 seconds each: 48 seconds and ends
 $(2+384+10+12+2+48) = 458$ seconds.
I timed this: 478 seconds.
So:
 $478/2 = 239$ **volumes** (we won't be analyzing the last 39 volumes which belong to the task but I'm not sure we want to stop the scanner).
total experiment: ~45min + 5 min MRI scan.
- Line 9 runs a short version of run with 6 trials and the full recognition task (8 more trials).
- Run real experiment run starting line 13. **Copy and paste in command line** because if you run the block, then you or the the subject might print things in the script during the experiment?
- **REMEMBER TO CHANGE SUBJECT NUMBER AT THE BEGGINING AND RUN THE FIRST BOX FOR EACH SUBJECT:**

```

%% Place the subject number here:
clear all
sub = 01;
recogTask = true; %true=perform task after every run in the fMRI.

```

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Steps:

0. Informed consent, etc.

Instructions for participants (in Italian):

“Today you're going to read sentences inside the scanner. It's going to be split in 6 equal parts. In each part you will read isolated sentences for about 6 minutes then I will ask you if you saw certain sentences, so you have to pay attention and remember the sentences during those first 6 minutes to do the task correctly at the end. Then we have a small break and we repeat. This happens 6 times. So about 45 min total. Let's practice.

1. Practice on PC outside scanner.

Go to ./practice/**practice.m**

Run this in command line (12 trials plus recog task):

myTrials=practice(01, 1, false, true)

This doesn't save any outputs cause it's just a practice.

REMEMBER TO PRESS 5 twice during first instructions to simulate trigger.

Outside scanner. 12 trials. Sentences not used in experiment.

Explain that they will have to respond with RIGHT response box if they SAW the sentence and LEFT response box if they did NOT see the sentence in the last section. On the computer they can press 5 for if they saw it and 1 if they did not. Remind them that the sentences are shown for 6 minutes and then the task comes where they must respond.

REMINDE SUBJECT HE/SHE HAS TO RESPOND AFTER THE FIRST PART IS OVER FOLLOWING THE INSTRUCTIONS. RIGHT=SEEN, LEFT=UNSEEN. REMIND IT's only regarding the run (not previous runs).

2. MRI scan:

5 minutes. MRI scan could also be done at the end (when they're tired)

3. fMRI experiment

TR 2

Runs=6

Trials per run = 64

Volumes: **239 volumes** (we won't be analyzing the last 39 volumes which belong to the task but I'm not sure we want to stop the scanner).

To run, type in the command line:

myTrials=experimentSLF_Speedy(01, 1, false, true)

The second parameter should be 1,2,3,4,5 or 6, not 01, 02, ...

The parameters are myTrials=experimentSLF_Speedy(sub, run, test, recogTask), where:

% sub = subject ID (01,02,etc)

% run = run number (there are 6 runs so: 1,2,3,4,5, or 6) NOT 01, 02.

% test = set to false to run actual experiment, true to run a couple of

% trials.

% recogTask = true to run recognition task after every run (that lasts less than a minute).

4. Last steps

- Backup fmri data. They backup but they told us it may get lost.
- Copy/backup all files from our directory, outputs, etc. that's on the fmri and behavioral PCs.
- Send them to us. The most important thing is to remember to change the subject number to 02 when second subject starts.

Things that you may need to adjust (but were already adjusted in the first pilot):

1. The first parameter should be fine to adjust before she gets in the scanner. It is the position of the red letter in the center of the screen which we can adjust with the variable **centerRed**. centerRed is where on the xaxis the red letter will be. From PC to PC it might shift a tiny bit and you may see this:



When you should see this (the red letter is perfectly positioned):



Even if it is well adjusted, it will happen every so often which is fine. I adjusted it to 2 and it is perfect 95% of time (rough estimate), which is fine for tomorrow, but for Scott the value was 0, for me it was 2 (I left 2 in the script you have). The scanner just mirrors the PC. So whatever you see in the PC should be fine regarding centerRed variable. Try it out with the

Script: `/cnn/fmri/run4.m` change directory, open it and run **`myTrials=run4(88, 1, true, false)`** in the command line.

If it is off a little most of the time, then you can try adjusting it (left: higher values like 3,4,5 and to the right, lower values like 1,0,-1,-2. If you can't fix this, let me know or leave it the best you can and that's how we'll do the experiment.

So parameters to adjust (maybe leave as is): centerRed (line 13), text_size(line 12), yCent (line 75, 320 is higher, 200 is even higher); If you make any changes, change in:

`/cnn/fmri/experimentSLF_Speedy.m`