

Content

This repository contain raw data and analysis scripts for the experiments described in the manuscript Tirado, Gerdfeldter, and Nilsson (2021) “Individual differences in the ability to access spatial information in lag-clicks.” accepted for publication in *J. Acoust. Soc. Am.*

All material is collected in a single .zip-file called `a120.zip` (a120 was the working name of the project). This file contains a main folder and three subfolders:

```
./a120
|---- /rawdata
|---- /analysis
|---- /manus
```

To run the R-scripts, set R’s working directory to `./a120`. R will import rawdata from the `rawdata` folder, collect pre-processed data from the `analysis` folder, and store figures in the `manus` folder.

The subfolders and their content is described below:

rawdata

This folder contains all the raw data from the experiments, in separate files. The data is stored as comma separated text files. The codebook for each file explaining the meaning of the columns is given at the top of the files (lines starting with #). R will ignore these files when importing the data using `read.table()`, (the default for the comment argument is `comment.char = "#"`).

Files:

<code>rawdata_a120_main.txt</code>	Main experiment (Figs. 2, 3, 5)
<code>rawdata_a120_control.txt</code>	Control experiment (Table 1)
<code>rawdata_a120_train.txt</code>	Training experiment (Fig. 4)
<code>rawdata_a120_post.txt</code>	Post training experiment (Fig. 5)
<code>rawdata_a120_itdild.txt</code>	ITD-ILD matching experiment (mentioned in the method section)
<code>E1.wav</code>	Click signal used to create the lead-lag click pairs, imported to draw Figure 1.

analysis

This folder contain three types of files. `*R` scripts for analyzing and drawing figures, `*RData` files, with preprocessed, `*stan` files with model syntax needed to run the mcmc scripts. *WARNING: Running the mcmc scripts (0_a120_*R) takes a long time!* Therefore, you may want to work directly with the pre-processed data (`*RData` files). The pre-processed files contain draws from the estimated posterior distribution. Function `th()` in `1_a120_functions.R` may be used to go from preprocessed data to threshold estimates.

Files:

0_a120_main_mcmc.R	Script running mcmc on raw data, creates preprocessed data mcmc_main.RData.
0_a120_control_mcmc.R	Script running mcmc on raw data, creates preprocessed data mcmc_control.RData
0_a120_train_mcmc.R	Script running mcmc on raw data, creates preprocessed data mcmc_train.RData
0_a120_post_mcmc.R	Script running mcmc on raw data, creates preprocessed data mcmc_post.RData
1_a120_functions.R	User made functions used in various scripts
2_a120_set_variables.R	Sets some general variables used in various scripts
draw_all_figs.R	This script draws all figures and generates table data. Please first set variable figsave in 2_a120_set_variables.R (to decide how to save figures)
fig_stimulus_revised.R	Script for Fig. 1
fig_indplots.R	Script for Fig. 2
fig_grouped.R	Script for Fig. 3
fig_training_revised.R	Script for Fig. 4
fig_prepost.R	Script for Fig. 5
table_control.R	Script for Fig Table 1
main.stan	Stan model main experiment (also used for post-training data)
control.stan	Stan model control experiment
train.stan	Stan model training experiment
itdild.stan	Stan model training ITD-ILD matching experiment
mcmc_main.RData	Preprocessed data main experiment
mcmc_control.RData	Preprocessed data control experiment
mcmc_train.RData	Preprocessed data training experiment
mcmc_post.RData	Preprocessed data post-training experiment

manus

Contains pdf-versions of the figure and a text file with data for Table 1. Scripts generating figures will save them in this folder (as .pdf if figsave = 1, and as .png if figsave = 2; set figsave in 2_a120_set_variables.R).

R versions

Analysis were conducted using the following versions of R and R packages.

R program	R version 3.6.1
R package	Rstan, package version 2.21.2
R package	HDInterval, package version 0.2.0