

This form documents the artifacts associated with the article (i.e., the data and code supporting the computational findings) and describes how to reproduce the findings.

## Part 1: Data

- ☐ This paper does not involve analysis of external data (i.e., no data are used or the only data are generated by the authors via simulation in their code).
- ☒ I certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.

## Abstract

The dataset for the RRR is attsnarc.csv. The file contains seven columns respectively indicating the LabID, SubjectID, handedness of the subject (Hand), and the response variable (value, a reaction time in seconds) for each dependent measure (ISI) and experimental condition (Location and Magnitude).

## Availability

- ☒ Data **are** publicly available.
- ☐ Data **cannot be made** publicly available.

If the data are publicly available, see the *Publicly available data* section. Otherwise, see the *Non-publicly available data* section, below.

### Publicly available data

- ☐ Data are available online at:
- ☒ Data are available as part of the paper's supplementary material.
- ☐ Data are publicly available by request, following the process described here:
- ☐ Data are or will be made available through some other mechanism, described here:

### Non-publicly available data

## Description

### File format(s)

- ☒ CSV or other plain text.
- ☐ Software-specific binary format (.Rda, Python pickle, etc.):
- ☐ Standardized binary format (e.g., netCDF, HDF5, etc.):
- ☐ Other (please specify):

### Data dictionary

- ☒ Provided by authors in the following file(s): See Abstract above for full description.
- ☐ Data file(s) is(are) self-describing (e.g., netCDF files)
- ☐ Available at the following URL:

## Additional Information (optional)

## Part 2: Code

### Abstract

The R scripts run.model1.R and run.model2.R fit the models and create the plots corresponding to the principal results and ocular dominance results respectively for the RRR. They rely on the stan scripts model1.stan and model2.stan respectively.

### Description

#### Code format(s)

- ☐ Script files
  - ☒ R
  - ☐ Python
  - ☐ Matlab
  - ☒ Other: Stan
- ☐ Package
  - ☐ R
  - ☐ Python
  - ☐ MATLAB toolbox
  - ☐ Other:
- ☐ Reproducible report
  - ☐ R Markdown
  - ☐ Jupyter notebook
  - ☐ Other:
- ☐ Shell script
- ☐ Other (please specify):

#### Supporting software requirements

#### Version of primary software used

R version 4.0.2

#### Libraries and dependencies used by the code

ggplot2 version 3.3.2  
reshape2 version 1.4.4  
nlme version 3.1-148  
rstan version 2.21.2

#### Supporting system/hardware requirements (optional)

MacOS 10.15.7

## Parallelization used

- ☐ No parallel code used
- ☒ Multi-core parallelization on a single machine/node
  - Number of cores used: 4
- ☐ Multi-machine/multi-node parallelization
  - Number of nodes and cores used:

## License

- ☒ MIT License (default)
- ☐ BSD
- ☐ GPL v3.0
- ☐ Creative Commons
- ☐ Other: (please specify below)

## Additional information (optional)

Simply run `run.model1.R` and `run.model2.R` either as a shell script or by cutting and pasting into the R console or RStudio console.

## Scope

The provided workflow reproduces:

- ☐ Any numbers provided in text in the paper
- ☐ All tables and figures in the paper
- ☒ Selected tables and figures in the paper, as explained and justified below:

The file reproduces all results figures for the RRR (i.e., Figures 1-5); there are no results tables.

## Workflow

### Format(s)

- ☒ Single master code file
- ☐ Wrapper (shell) script(s)
- ☐ Self-contained R Markdown file, Jupyter notebook, or other literate programming approach
- ☐ Text file (e.g., a readme-style file) that documents workflow
- ☐ Makefile
- ☐ Other (more detail in *Instructions* below)

## Instructions

The R scripts `run.model1.R` and `run.model2.R` fit the models and create the plots corresponding to the principal results and ocular dominance results respectively for the RRR. They rely on the stan scripts `model1.stan` and `model2.stan` respectively.

**Expected run-time**

Approximate time needed to reproduce the analyses on a standard desktop machine:

- ☐ < 1 minute
- ☐ 1-10 minutes
- ☐ 10-60 minutes
- ☒ 1-8 hours
- ☐ > 8 hours
- ☐ Not feasible to run on a desktop machine, as described here:

**Additional information (optional)**

**Notes (optional)**