This readme file is for the data and scripts posted in MATLAB format for the manuscript entitled: ***Medial orbitofrontal inactivation does not affect economic choice***.

The dataset is provided 'as is' with a full description of the specific format of the data below. The authors of this paper offer no guaranteed further support of this dataset, the use of which requires some MATLAB experience. Any other questions regarding the dataset or scripts should be directed to Matt Gardner (mphgardner@gmail.com)

Economic Choice Data File:

TS: structure array. This structure contains the choice data and reaction times for all sessions included in the paper. Indices in the structure correspond to each of the animals used in the study. The indices of the cell array fields within the TS structure correspond to session data for each rat.

Fields in the structure:

Rat

Date

Session_Count

Comments

Experiment: The experiment identifier. All fields contain 'HAL50' followed by 'D*X* P*Y* R*Z*'. The *Z* refers to the run of the experiment, there are 3 runs for each rat which occur in chronological order. *Y* refers to the pair of pellets for a single run, there are 3 pairs for each run: pellet A vs pellet B, B vs C, and A vs C. *X* refers to the day of each pair. Each pair is experienced for 3 days. The first day on a pair is not included in the analysis, the following 2 days the rats have either the blocked or patent cable on, counterbalanced across the experiment.

Inact: Cable type used for each session 'SHAM': blocked cable, 'OPTO': patent cable

Data: Contains the choice data for each session within the subfields. Choice data is stored in logical format with rows of each field corresponding to trials. Trials are considered to be all times the animal could initiate a trial.

subfields in the Data field:

Pellets: pellets used in the session (pellet A vs pellet B)

Offers: The offers used during the session. Each column is an offer with pellet A top row and B on the bottom row

offer: Trials in which pellet A was chosen (note not all trials terminate in a choice, there are many trials in which the animal does not initiate the nosepoke)

offtype: The offer which occurred on each trial. This is a logical array with the columns corresponding to the 'Offers' field to indicate which offer occurred. Each row can only have a single logical true since there is only one offer for each trial

side: true if pellet A appeared on the right screen.

lasert: true if the laser was turned on for that trial

reward: true if pellets were delivered (note that for this experiment this is always true on trials in which a choice was made)

skipped: true if the animal unpoked during the white noise on that trial before the screens turned on (no trial was initiated)

aborted: true if the animal poked and the screens turned on, but the animal did not maintain the full poke to initiate the choice period

omitted: true if the animal completed the poke with the screens on, but no choice was made

rts: reaction times for each trial. The reaction time is the time from white noise off (when the nosepoke hold is complete) to choice by screen press.

Example of using the TS structure:

This gets the choice data for the first session for the first rat. To get the number of trials in which the animals chose offer A for each offer-type:

```
sum(TS(1).Data(1).offtype(TS(1).Data(1).offer,:))
```

returns: [15 15 13 14 7 8 1 0 0 0 2]

To get the total number of trials for each offer:

```
sum(TS(1).Data(1).offtype)
```

returns: [15 15 15 14 13 16 14 13 16 14 15]

To get the proportion of trials that A was chosen for each offer:

sum(TS(1).Data(1).offtype(TS(1).Data(1).offer,:))./sum(TS(1).Data(1).offtype)

returns: [1.0 1.0 0.87 1.0 0.54 0.50 0.07 0.00 0.00 0.00 0.13]

To get the offers:

TS(1).Data(1).Offers

Returns: [1 6 4 3 2 1 1 1 1 1 0

0 1 1 1 1 1 2 3 4 6 1]

In this session, the rat chose pellet A on 100% of trials for offers 1A:0B, 6A:1B, 3A:1B, 87% for offer 4A:1B, etc.

Progressive Ratio Data:

PR_Trials: This is a 4 x 2 x 2 matrix with the number of trials completed in each of the 16 sessions. Each rat is in the first dimension, experimental runs are in the second dimension, and blocked/patent cable, respectively, are in the third dimension.

LPs: 1 x 2 cell array with lever press it is for the blocked and patent cables, respectively.

Scripts:

The **TS_PY_Inact_Trans** function runs the probit analysis for each session and outputs the estimated indifference points and estimated sigmas in matrix format in two separate structures.
Inputs: **TS** structure (described above)
Outputs:
Inact structure: Results for the comparison of inactivation of medial OFC.

All data fields contain data in the following format (with the exception of the ID field): 3D matrix with each experimental unit in the first dimension (consists of pairs of sessions with the blocked and patent cables used on an animal with the same pellet-pair), blocked and patent cable results, respectively, in the second dimension, and laser off/on trials in the third dimensions, respectively

Fields:
IP: estimate of the indifference point in log scale

Sigma: estimate of sigma in log scale

RT: average reaction times

Omissions: omitted trials

Aborted: aborted trials

Trials: trial number

Trans structure: Results for the effects of medial OFC inactivation on transitivity.

Both data fields contain transitivity data in a 4D matrix with each experimental unit in the first dimension, this consists of a set of 6 sessions with each of three pairings of three pellets as well as blocked and patent fibers for each pair; each pellet pair in the second dimension; blocked and patent cable results, respectively, in the third dimension; and laser off/on trials results, respectively, in the fourth dimension

Fields:

IP: estimate of the indifference point in log scale

Sigma: estimate of sigma in log scale