132017_Cuedts_singleNEUROIMAGING.rnw

compiled November 27, 2018

This file summarizes 132017's behavioral performance on the DMCC Cuedts task, NEUROIMAGING version.

Quality Control: expected stimuli and responses?

The first block of code reads in the eprime output files (e-recovery or .csv), and then checks whether the expected number and types of trials was present in each run and block. Unless a run was known to end early, any error messages printed below should be investigated.

```
## [1] "Found an error in the Cuedts trial counting or stimulus matching? FALSE"
```

These plots show the time and type of every trial (blue and green) and response (red and pink); black tick marks indicate correct trials. The trial types and responses should be random (e.g., not an entire block of letter), and errors should be approximately equal across the runs (check if a participant appears to have stopped responding or suddenly increased in errors).
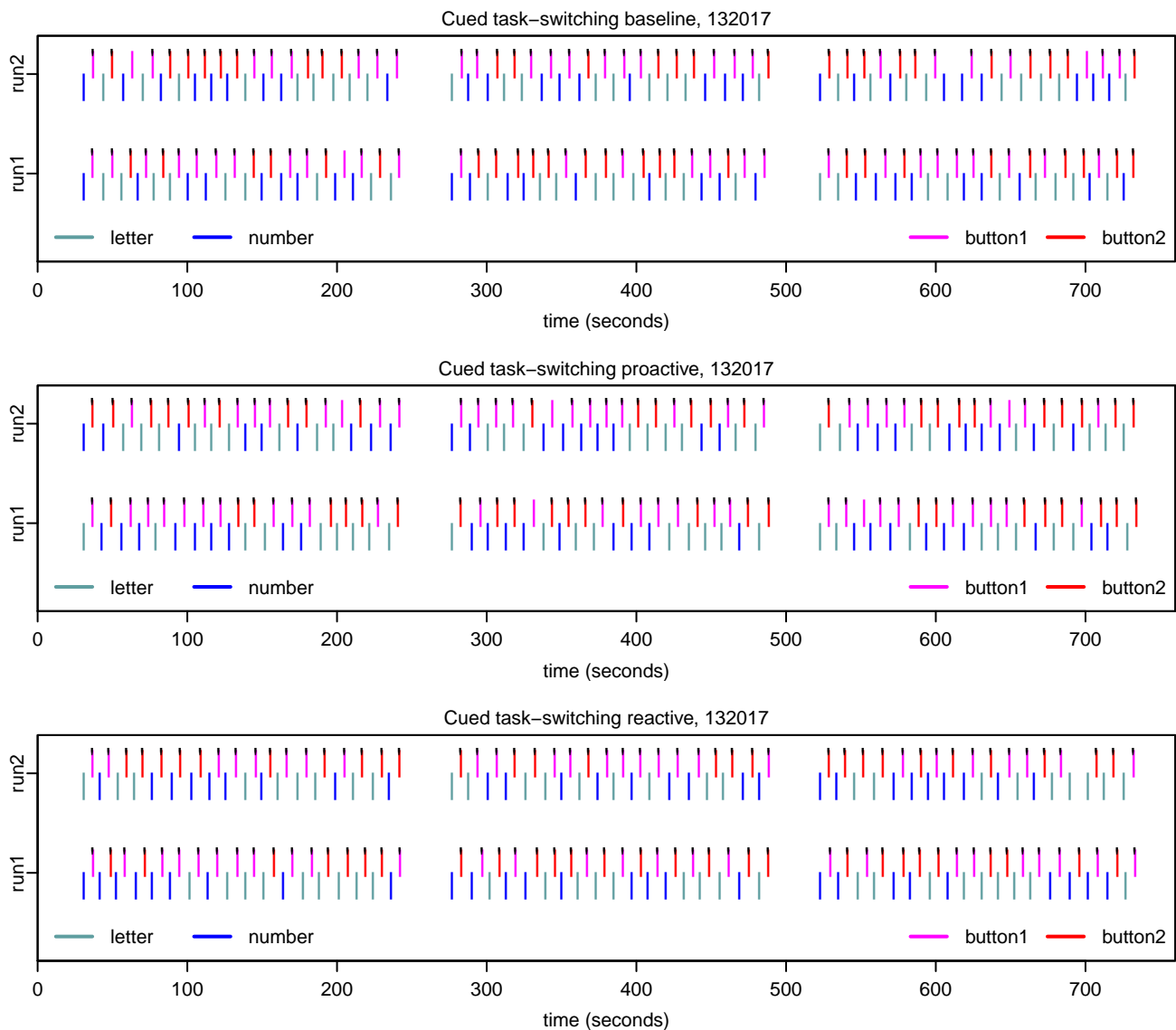
Single-subject statistics for 132017

RT: We hope that RT will be faster (shorter bars) on Inc than noInc in proactive, but faster on noInc in reactive.
Error Rate: We hope that the error rate will be worse (higher bars) on InCongruent than Congruent trials, with this difference smaller in reactive than proactive.
Robust statistics for RT? TRUE (Robust statistics never used for ERR, since typically very few errors.)
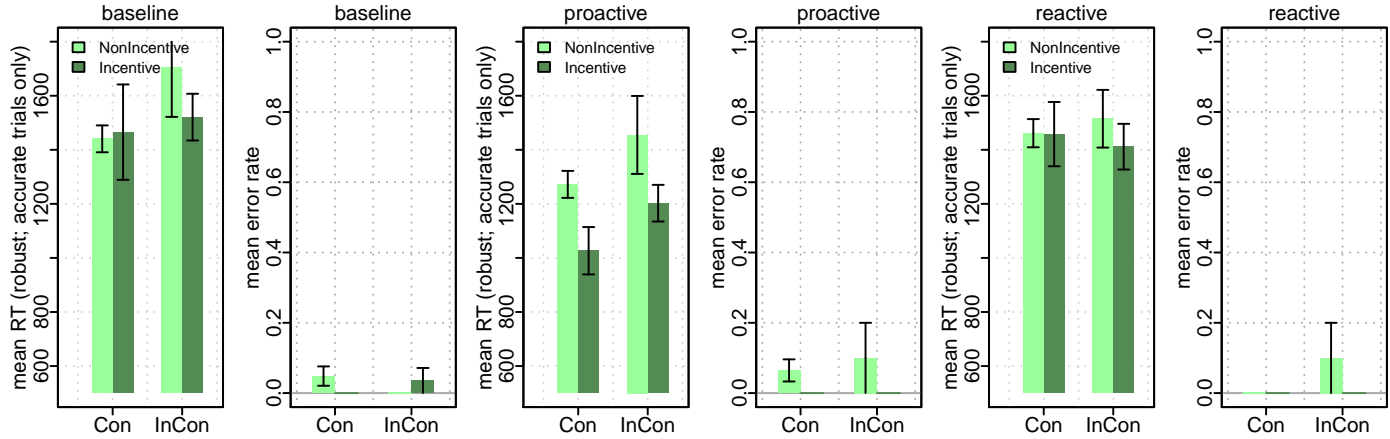

```
## [1] divided by Incentive/NoIncentive and Congruent/Incongruent:
##      session inc.id con.id num.trials ERR.mean ACC.mean ACC.sem  RT.mean  RT.sem
## 1   baseline  noInc    Con         62    0.048    0.952   0.027 1440.612  49.708
## 2   baseline    inc    Con          8    0.000    1.000   0.000 1465.375 176.414
## 3   baseline  noInc  InCon         10    0.000    1.000   0.000 1703.625 181.796
## 4   baseline    inc  InCon         28    0.036    0.964   0.036 1520.913  86.436
## 5  proactive  noInc    Con         62    0.065    0.935   0.031 1272.062  49.891
## 6  proactive    inc    Con          8    0.000    1.000   0.000 1026.625  87.560
## 7  proactive  noInc  InCon         10    0.100    0.900   0.100 1455.000 144.232
## 8  proactive    inc  InCon         28    0.000    1.000   0.000 1202.542  67.759
## 9   reactive  noInc    Con         62    0.000    1.000   0.000 1461.440  52.131
## 10  reactive    inc    Con          8    0.000    1.000   0.000 1458.000 118.866
## 11  reactive  noInc  InCon         10    0.100    0.900   0.100 1515.000 106.670
## 12  reactive    inc  InCon         28    0.000    1.000   0.000 1411.542  84.519
```

```
## [1] divided by Incentive/NoIncentive and Switch/Repeat:
##      session inc.id switch.id num.trials ERR.mean ACC.mean ACC.sem  RT.mean  RT.sem
## 1   baseline  noInc    switch         38    0.079    0.921   0.044 1524.379  81.730
## 2   baseline    inc    switch         17    0.059    0.941   0.059 1444.214 108.260
## 3   baseline  noInc    repeat         31    0.000    1.000   0.000 1412.760  71.150
## 4   baseline    inc    repeat         16    0.000    1.000   0.000 1643.786 102.769
## 5  proactive  noInc    switch         30    0.067    0.933   0.046 1364.667  84.649
## 6  proactive    inc    switch         13    0.000    1.000   0.000 1292.545 112.830
## 7  proactive  noInc    repeat         38    0.079    0.921   0.044 1287.241  59.658
## 8  proactive    inc    repeat         21    0.000    1.000   0.000 1076.118  56.306
## 9   reactive  noInc    switch         30    0.000    1.000   0.000 1530.708  67.234
## 10  reactive    inc    switch         19    0.000    1.000   0.000 1416.824  83.091
## 11  reactive  noInc    repeat         37    0.027    0.973   0.027 1433.567  62.962
## 12  reactive    inc    repeat         16    0.000    1.000   0.000 1439.071 125.156
## [1] (note: fewer trials in each session since first trial of each block ommited)
```

```
## [1] "Reward rate: proactive NonIncentive 0.931 (67 correct of 72 trials)."
## [1] "Reward rate: proactive Incentive 1 (36 correct of 36 trials)."
## [1] "Reward rate: reactive NonIncentive 0.986 (71 correct of 72 trials)."
## [1] "Reward rate: reactive Incentive 1 (36 correct of 36 trials)."
```

Cuedts derived measures for 132017

Calculated from the mean RT and error rates in the above table, InCongruent - Congruent, Incentive and noIncentive trials separately.

```
## [1] "Incentive TRCE baseline RT: 55.538 ERR: 0.036"
## [1] "Incentive TRCE proactive RT: 175.917 ERR: 0"
## [1] "Incentive TRCE reactive RT: -46.458 ERR: 0"
## [1]
## [1] "Nonincentive TRCE baseline RT: 263.013 ERR: -0.048"
## [1] "Nonincentive TRCE proactive RT: 182.938 ERR: 0.035"
## [1] "Nonincentive TRCE reactive RT: 53.56 ERR: 0.1"
```