

132017_Cuedts_singleNEUROIMAGING.rnw

compiled December 3, 2018

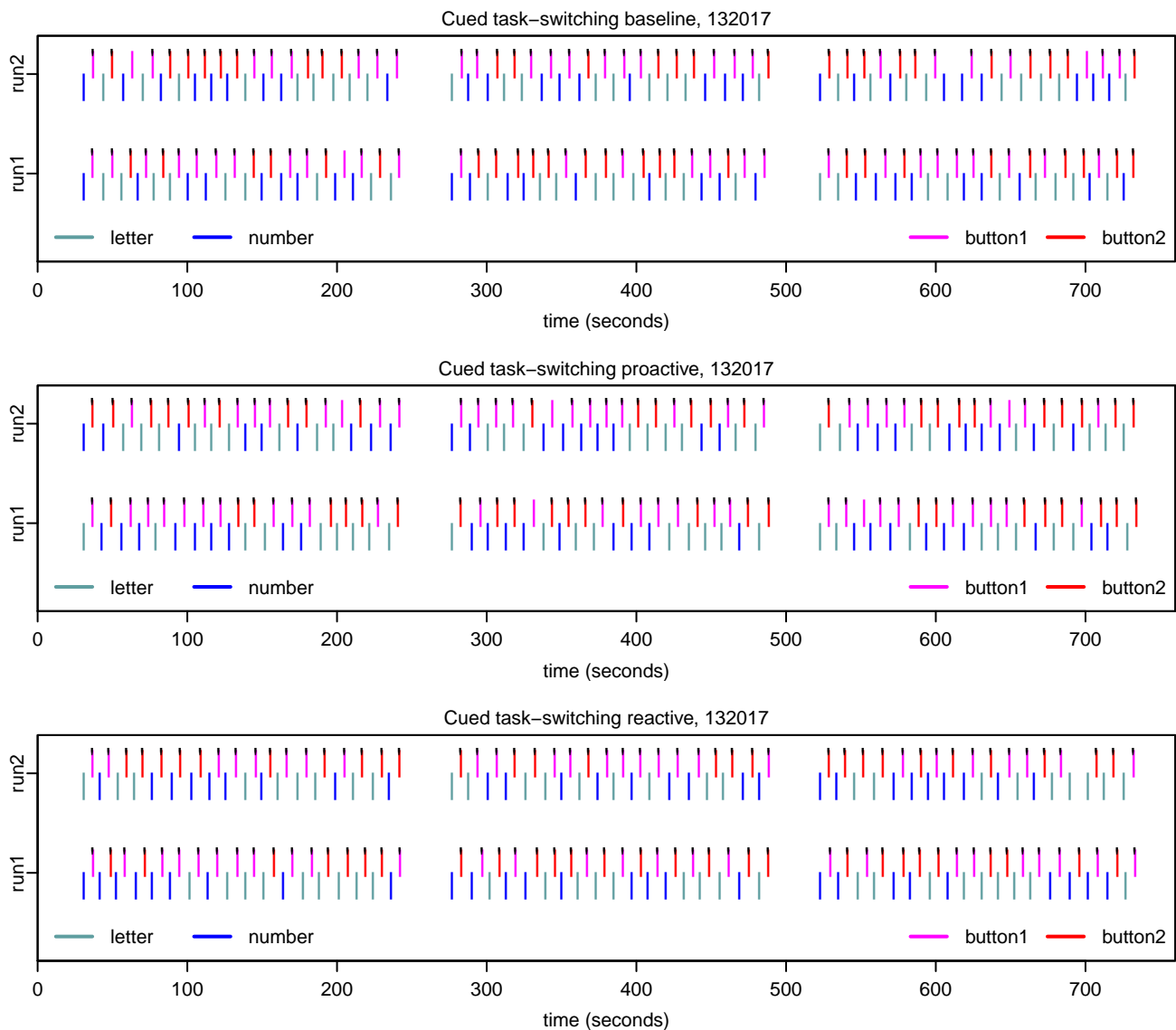
This file summarizes 132017's behavioral performance on the DMCC Cuedts task, NEUROIMAGING version.

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).

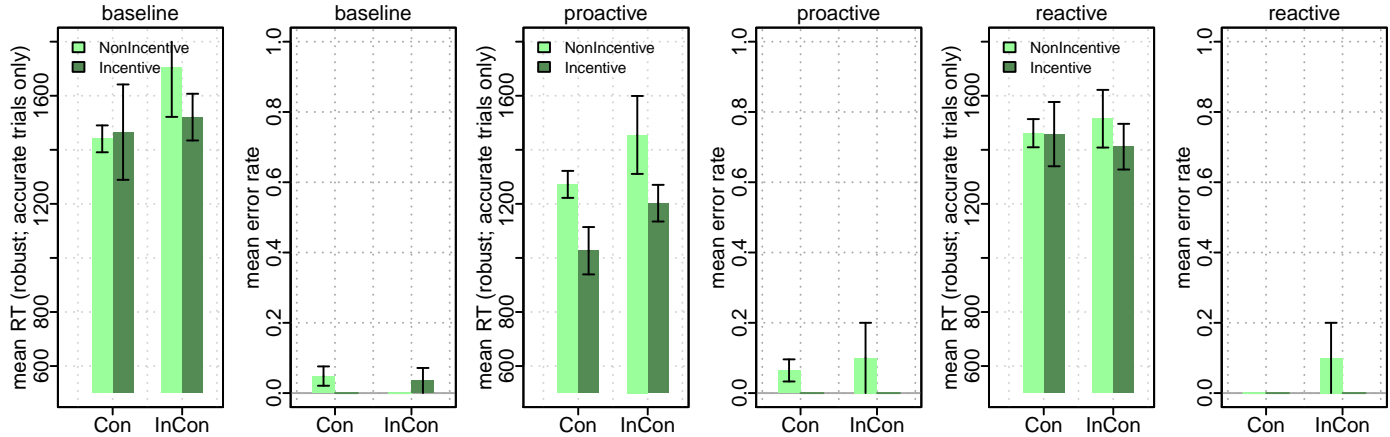


Single-subject statistics for 132017

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"
```

The reward and critical RT (how fast the participant must respond to receive a reward in Proactive and Reactive) are in lines 8 and 3 (respectively) of the **CuedTS Tracking and Results.txt** files written by the eprime scripts during the final session. If this file is present, it is read and values printed below.

```
## [1] critical RT: 1520  
## [1] reward: $9.14
```