CFS, 2AFC, Short Study Lists

pss

February 10, 2016

summary of results for cfs study

Version: presentation in lists of 16. Items studied x3 times Note that second/third presentation was in the same order as first presentations all items studied for total of .5 seconds (including ramping up and down)

```
cutoff = 3 # only look at CFS with PAS 2 or 1
nPresent = 3 # presented 3 times
nStudy = nTrials * nPresent
```

The following is a graph of the proportion of times that an item was named, conditioned on a given PAS response.

Note that eror bars are weird because they're just simple SEMs. Currently unclear about the best ways to make error bars for variables bounded between 1 and 0.

Additionally, it is somewhat misleading to include error bars across a within-subjects factor. They could be higher than depicted, and do not accurately reflect whatever statistics will eventually be performed.

```
## Automatically converting the following non-factors to factors: studyResp3
```

```
## Automatically converting the following non-factors to factors: studyResp
```
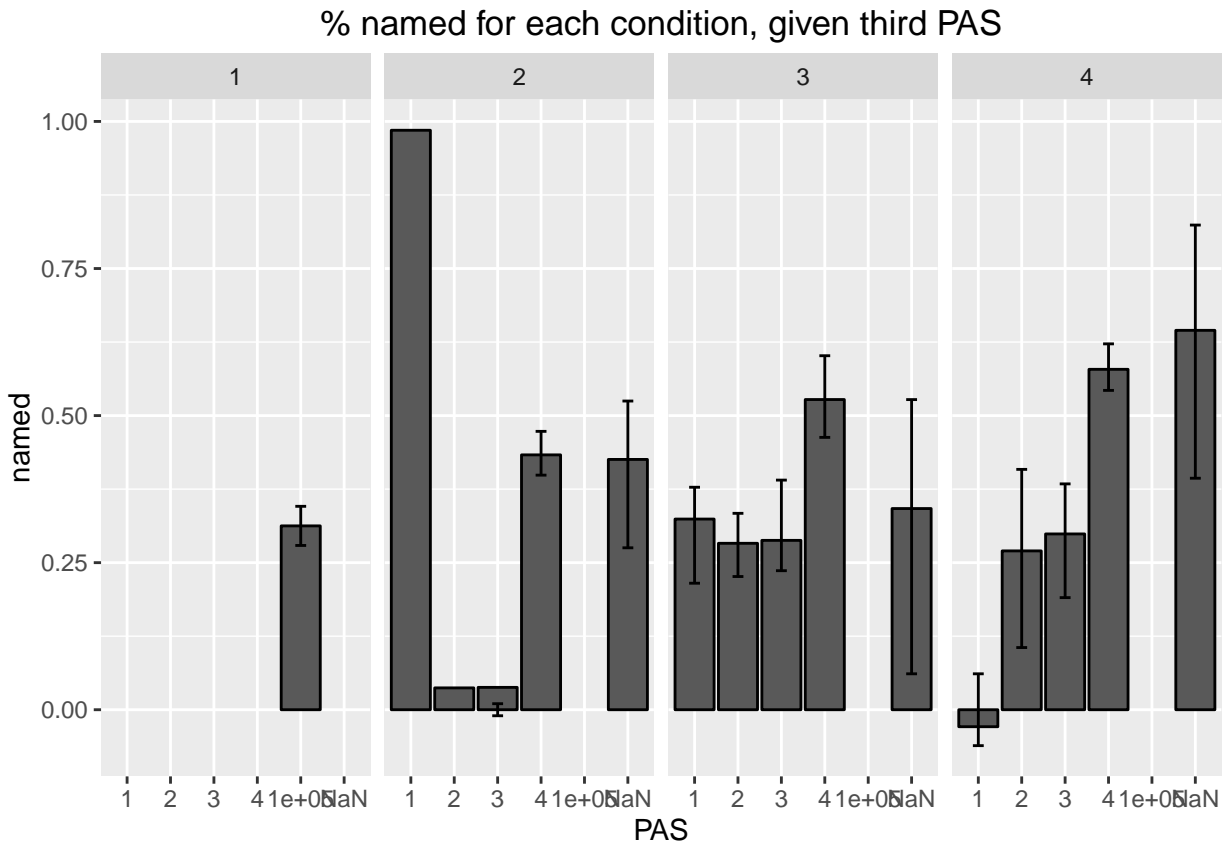
dfwc1

```
##    condition studyResp   N     named   named_norm          sd          se
## 1          1         1 1e+05 768 0.3125000   0.312500000  0.47001705  0.01696028
## 2          2         1     2 0.0000000   0.003255208  0.02633441  0.01862124
## 3          2         2     1 0.0000000  -0.014973958          NA          NA
## 4          2         3    25 0.2800000   0.270859375  0.47937909  0.09587582
## 5          2         4   712 0.4367978   0.435312793  0.49906596  0.01870329
## 6          2       NaN    28 0.4285714   0.474795387  0.51034628  0.09644638
## 7          3         1   143 0.3146853   0.336351799  0.45561837  0.03810072
## 8          3         2   304 0.2861842   0.289902001  0.46338134  0.02657674
## 9          3         3   172 0.3488372   0.332379482  0.48987827  0.03735287
## 10         3         4   133 0.5639098   0.552186129  0.48628731  0.04216646
## 11         3       NaN    16 0.3750000   0.385091146  0.53793383  0.13448346
## 12         4         1     2 0.0000000  -0.022786458  0.01128617  0.00798053
## 13         4         2    57 0.2982456   0.313242416  0.47575691  0.06301554
## 14         4         3   130 0.3846154   0.402934696  0.50248163  0.04407055
## 15         4         4   565 0.5893805   0.582721469  0.49720634  0.02091763
## 16         4       NaN    14 0.5000000   0.540829613  0.51415914  0.13741481
##           ci        prop
## 1  0.03329408 1.000000000
## 2  0.23660524 0.002604167
## 3          NA 0.001302083
## 4  0.19787796 0.032552083
## 5  0.03672028 0.927083333
```
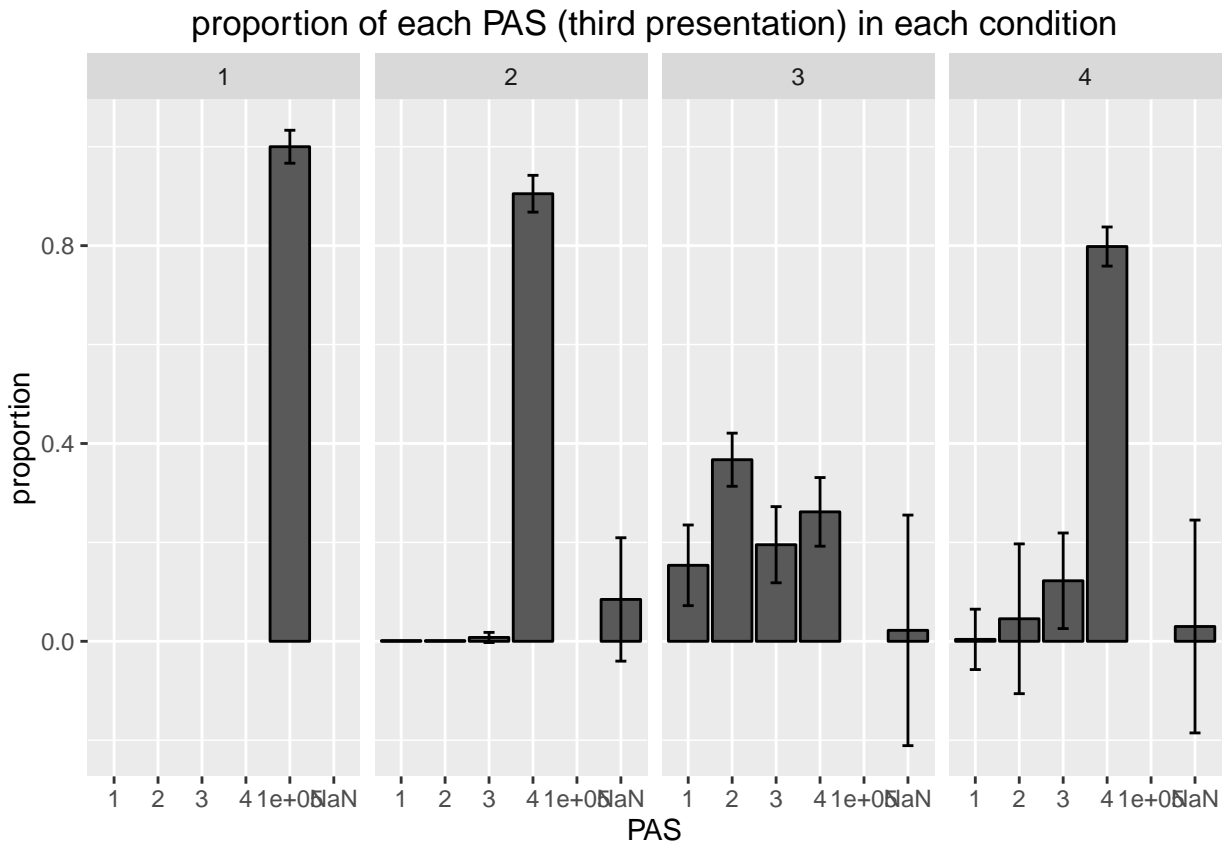
```
## 6   0.19789163 0.036458333
## 7   0.07531793 0.186197917
## 8   0.05229835 0.395833333
## 9   0.07373209 0.223958333
## 10  0.08340942 0.173177083
## 11  0.28664470 0.020833333
## 12  0.10140225 0.002604167
## 13  0.12623530 0.074218750
## 14  0.08719467 0.169270833
## 15  0.04108597 0.735677083
## 16  0.29686665 0.018229167
```
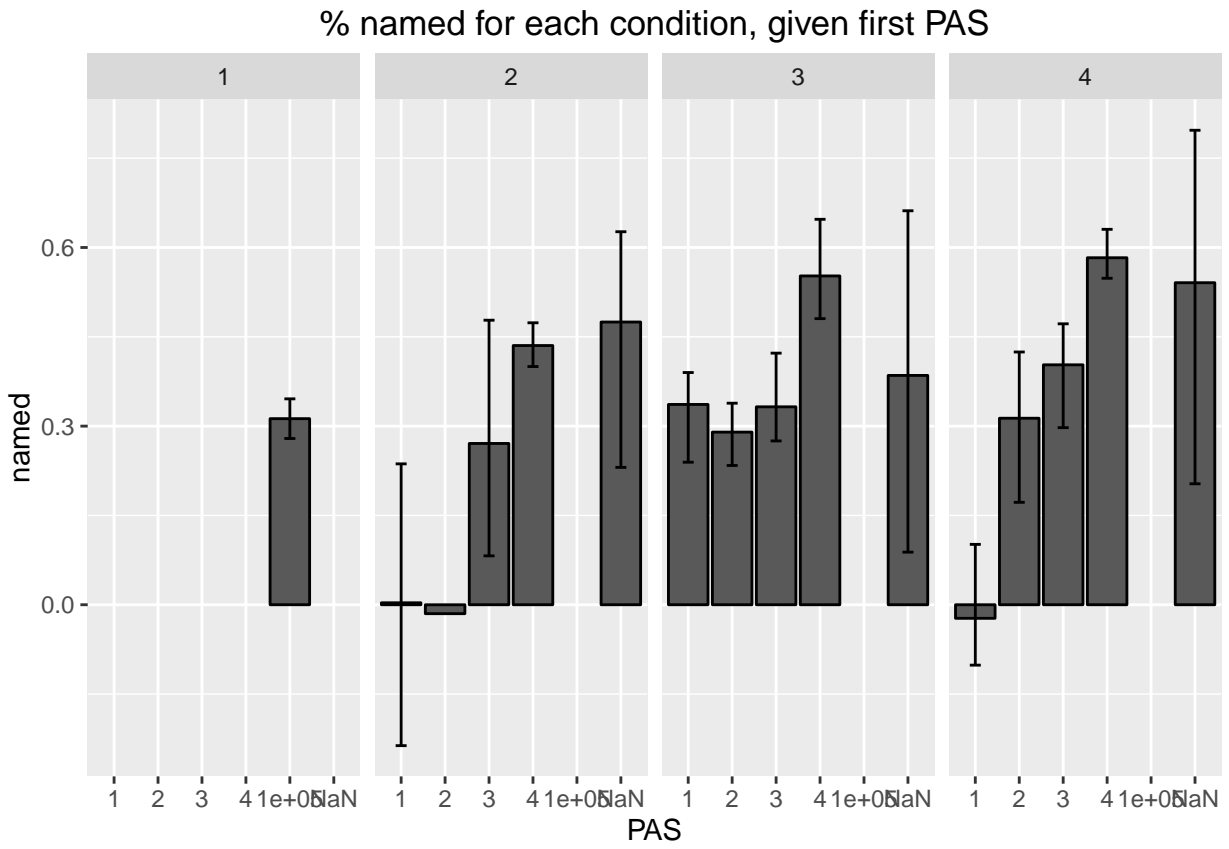
dfwc3

```
##    condition studyResp3   N     named  named_norm          sd          se
## 1          1    1e+05 768 0.3125000   0.31250000 0.470017053 0.016960280
## 2          2        1   1 1.0000000   0.98502604          NA          NA
## 3          2        2   1 0.0000000   0.03710938          NA          NA
## 4          2        3   6 0.0000000   0.03797743 0.009762039 0.003985336
## 5          2        4 695 0.4359712   0.43322748 0.499692450 0.018954415
## 6          2      NaN  65 0.4000000   0.42549079 0.503440602 0.062444121
## 7          3        1 118 0.2966102   0.32409737 0.447311929 0.041178401
## 8          3        2 282 0.2801418   0.28289838 0.458341355 0.027293830
## 9          3        3 150 0.3133333   0.28787326 0.477109360 0.038955816
## 10         3        4 201 0.5323383   0.52728869 0.499006368 0.035197195
## 11         3      NaN  17 0.2941176   0.34195006 0.453293313 0.109939777
## 12         4        1   3 0.0000000  -0.02886285 0.024573659 0.014187609
## 13         4        2  35 0.2571429   0.26999628 0.440814860 0.074511311
## 14         4        3  94 0.2872340   0.29880042 0.471877350 0.048670432
## 15         4        4 613 0.5823817   0.57865709 0.498510305 0.020134642
## 16         4      NaN  23 0.6086957   0.64489923 0.497625483 0.103762086
##           ci        prop
## 1  0.03329408 1.000000000
## 2          NA 0.001302083
## 3          NA 0.001302083
## 4  0.01024463 0.007812500
## 5  0.03721487 0.904947917
## 6  0.12474647 0.084635417
## 7  0.08155167 0.153645833
## 8  0.05372632 0.367187500
## 9  0.07697721 0.195312500
## 10 0.06940522 0.261718750
## 11 0.23306192 0.022135417
## 12 0.06104435 0.003906250
## 13 0.15142520 0.045572917
## 14 0.09664983 0.122395833
## 15 0.03954137 0.798177083
## 16 0.21518940 0.029947917
```
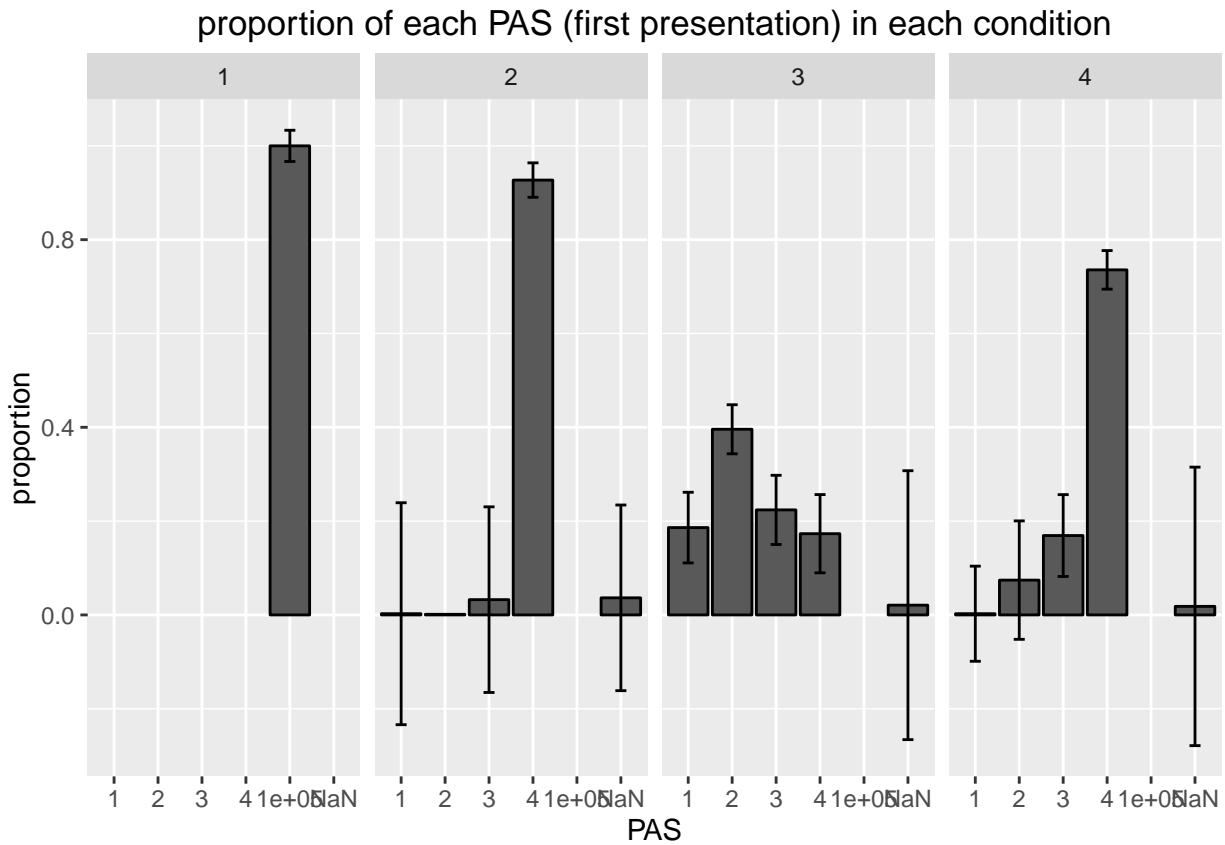
% named for each condition, given third PAS

proportion of each PAS (third presentation) in each condition

looking at first presentations

% named for each condition, given first PAS

proportion of each PAS (first presentation) in each condition
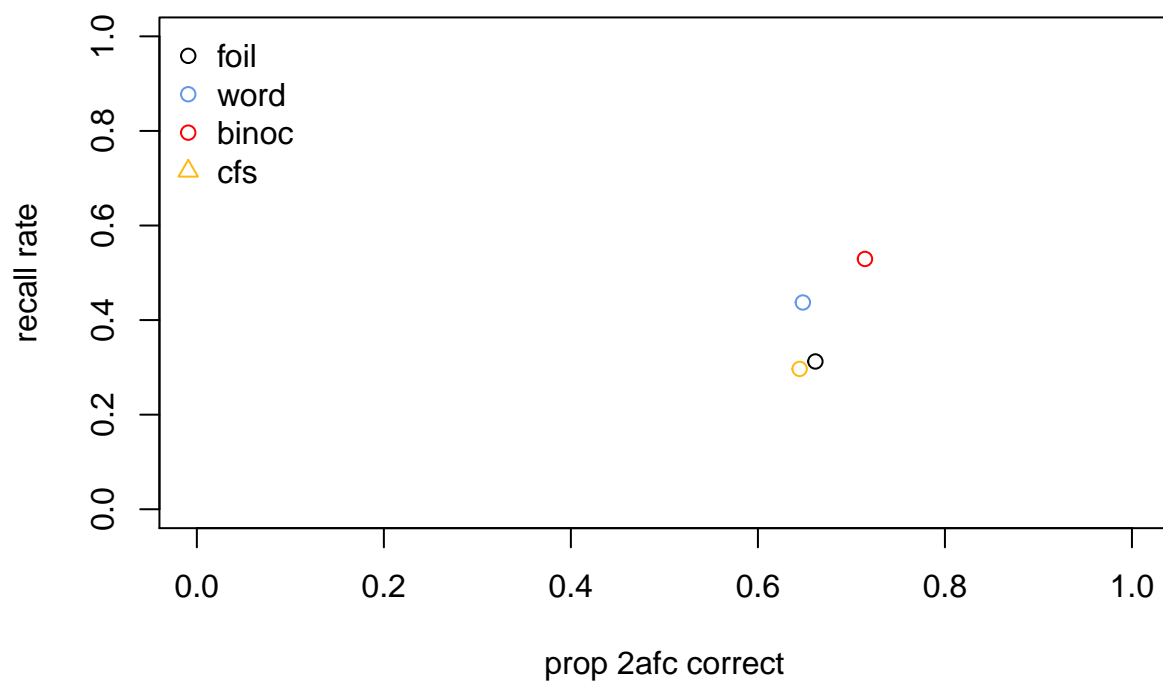
now, scatter plots

CFS performance is conditioned on having responded 0-2 at the third study opportunity. Binocular and Word is conditioned on having responded 3

6
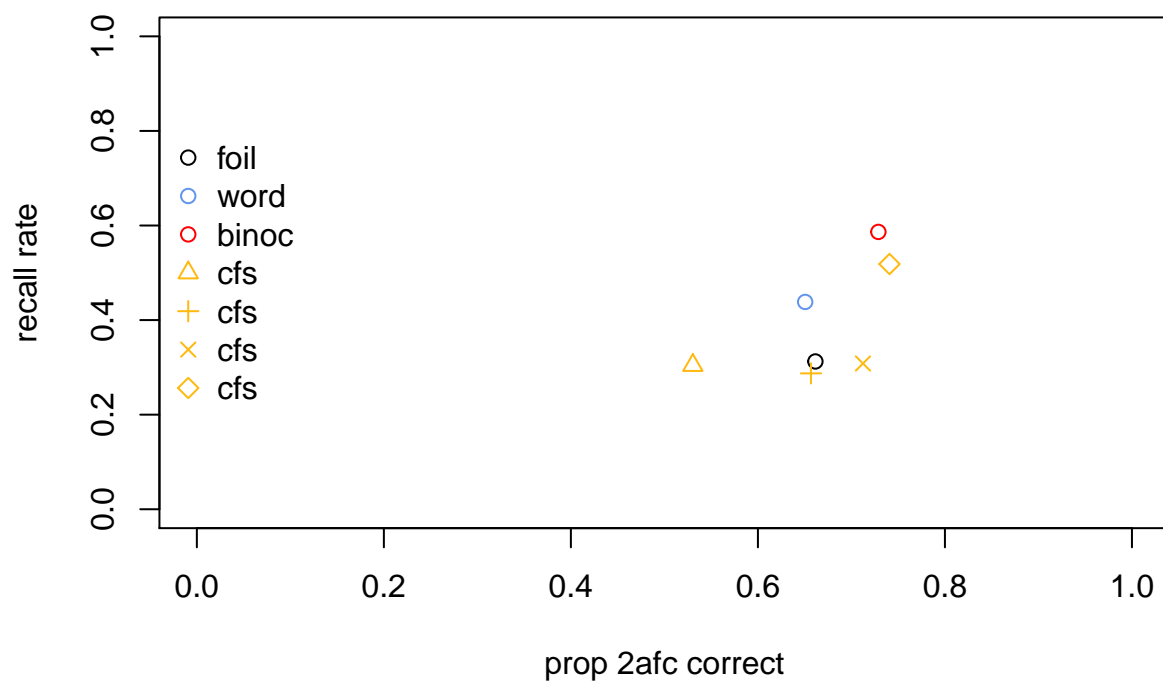
comparing PAS responses for words and binocular. Note, many possible points are missing. Those correspond to cases that never occurred, like a rating of 1 to the binocular condition
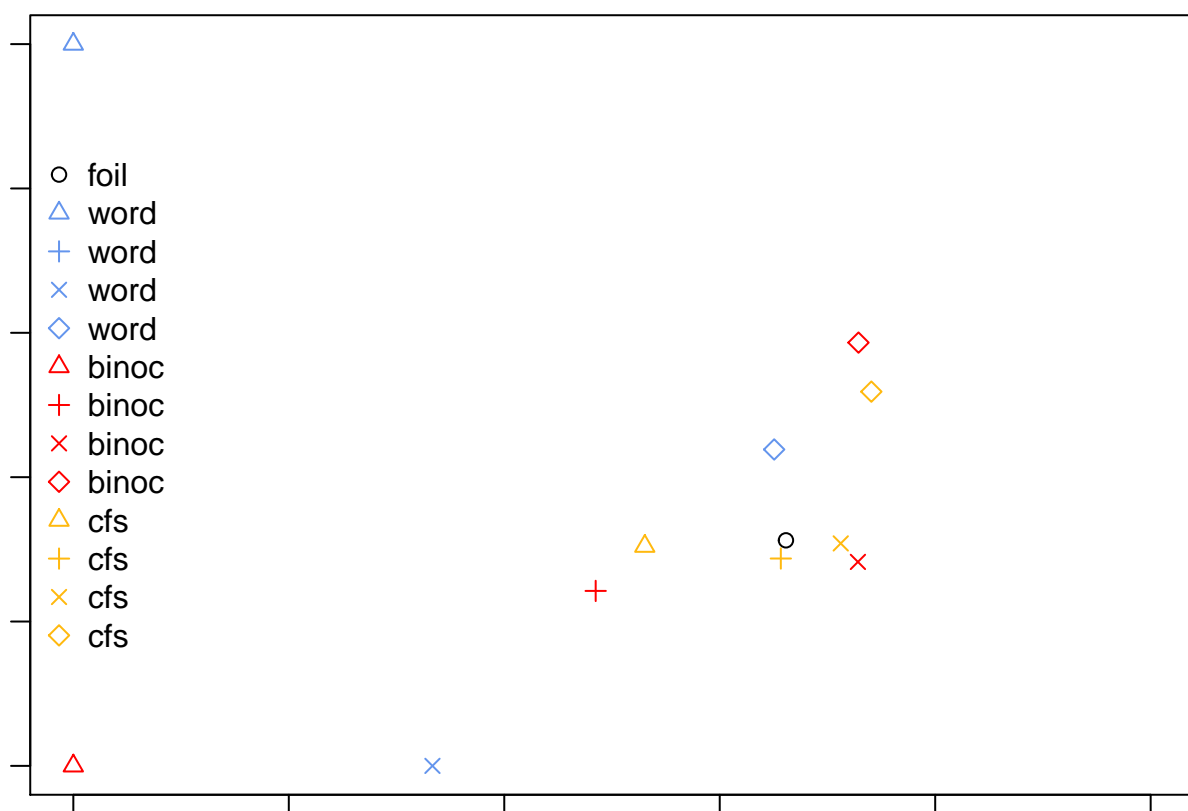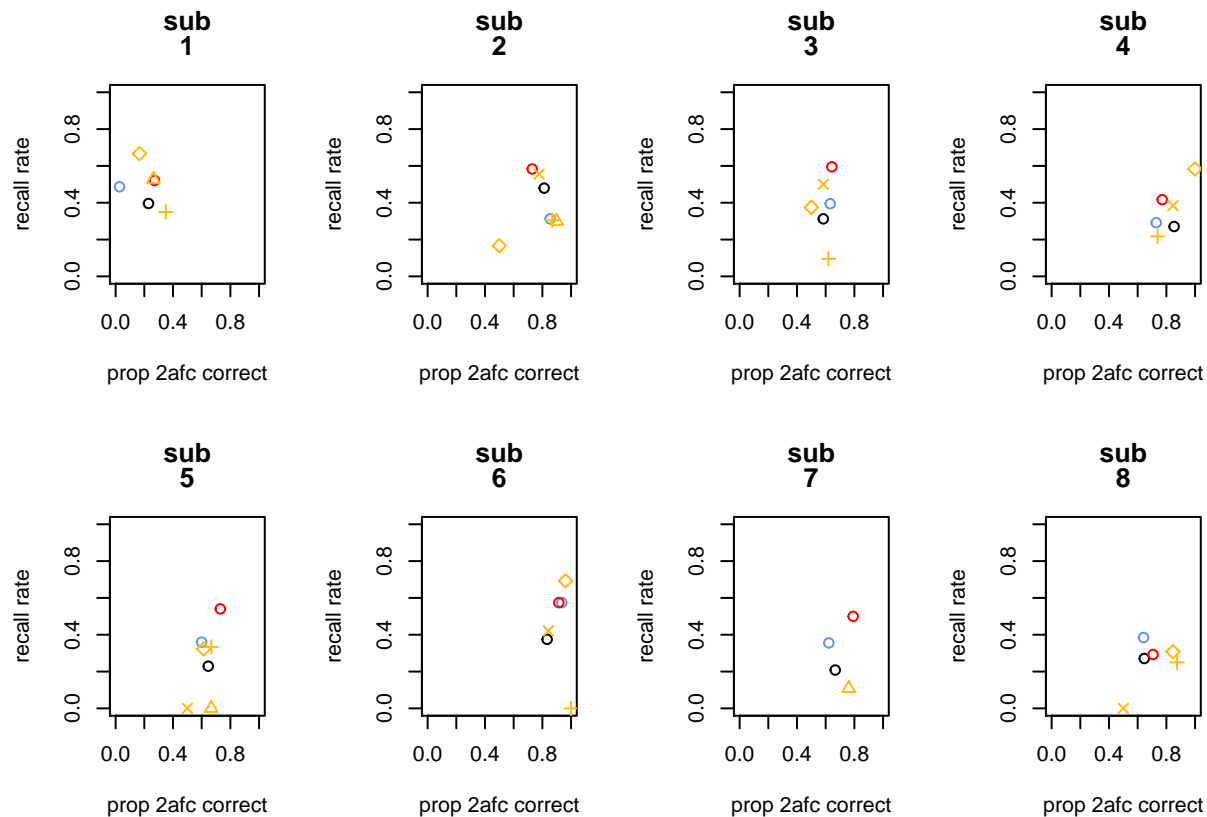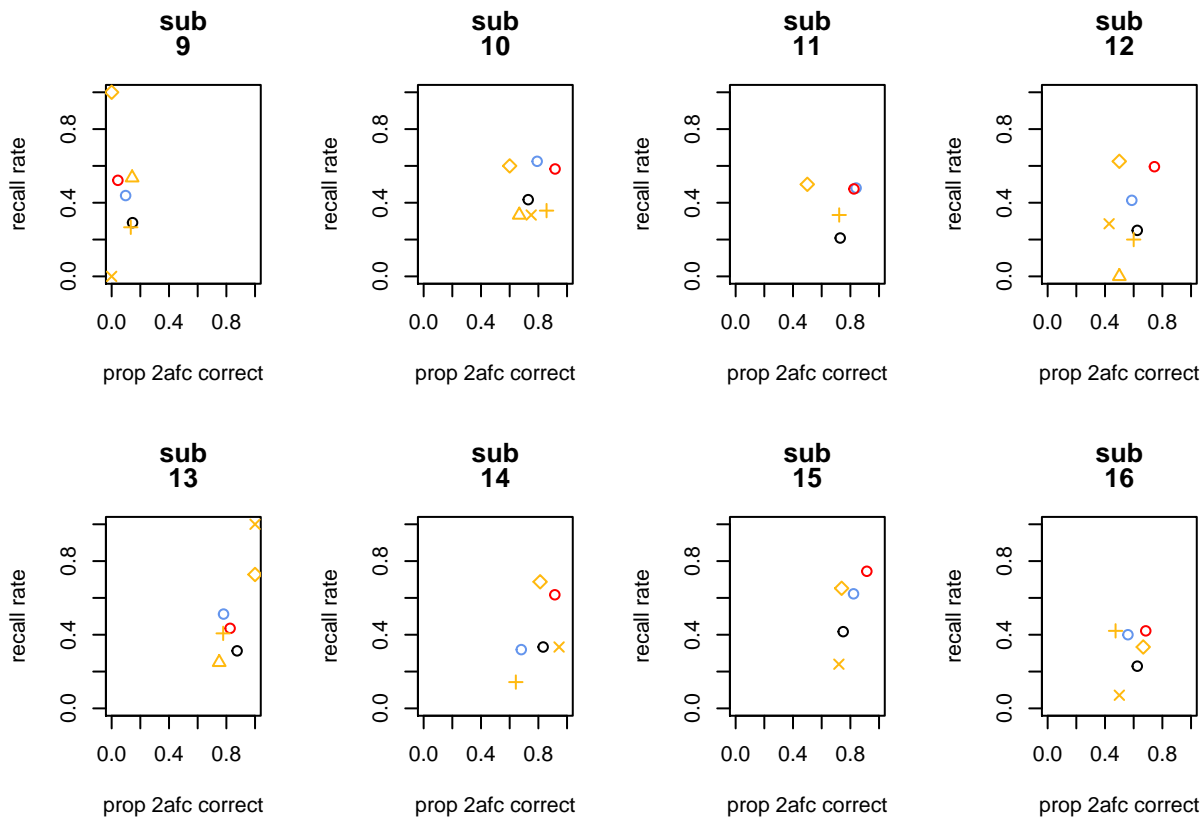
Plot just the average of CFS, given responses below 3

By Subjects

Still looking at test performance as judged by third PAS response

**sub
1**

recall rate

prop 2afc correct

**sub
2**

recall rate

prop 2afc correct

**sub
3**

recall rate

prop 2afc correct

**sub
4**

recall rate

prop 2afc correct

**sub
5**

recall rate

prop 2afc correct

**sub
6**

recall rate

prop 2afc correct

**sub
7**

recall rate

prop 2afc correct

**sub
8**

recall rate

prop 2afc correct

next, look at the state traces by subject

first presentation

second presentation

third presentation

```
## [1] 5
```

11

num(PAS_3 | PAS_1)
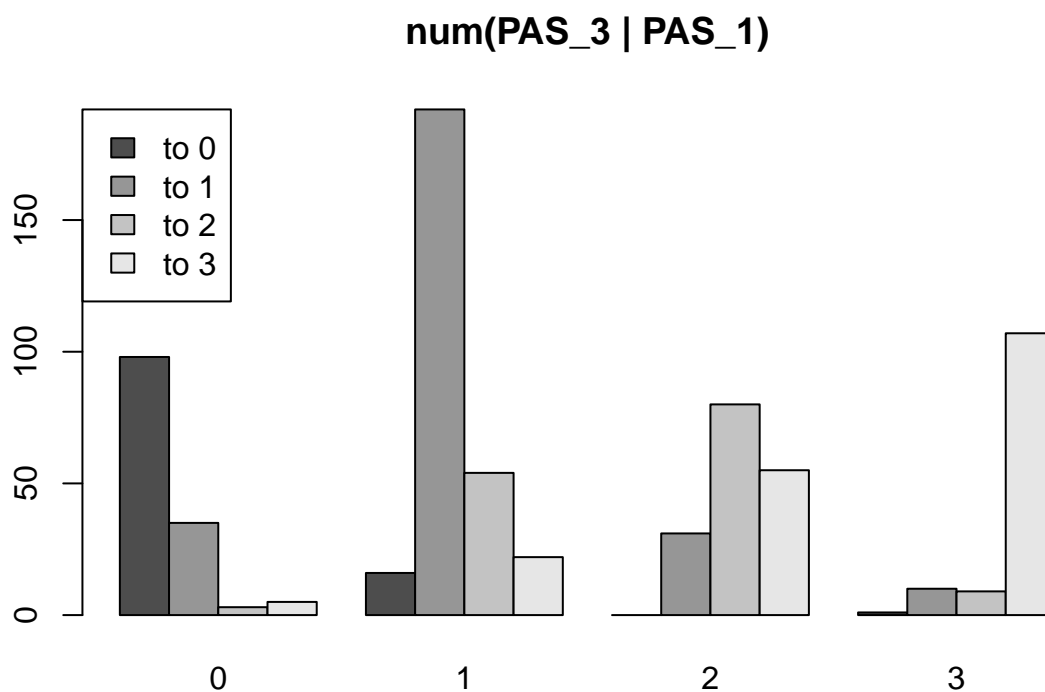
In the following graph, note that the highest of each group of bars shifts one bar to the right for each gropu (0-3). This says that, for a PAS of 3 on the first presentation, the most likely PAS on the second is 3. Similarly, for a PAS of 2 on the first presentation, the most likely is a 2 on the second (followed by a 1). For 1 on the first, mostly likely is a second 1 (followed by 2). For 0, the most likely is split between 0 and 1.

p(PAS_3 | PAS_1)