Experiment 4: summa with time pressure

Before Exclusions

Number of participants tested:

```
## [1] 1200
```

Participants in each condition:

```
##
## all_QUD any_QUD  no_QUD
##     400     400     400
```

Exclusions

Non-unique participants (remove all attempts):

```
## integer(0)
```

Participants whose native language is not english:

```
##    workerid  language
## 1        17        29
## 2        37 Cantonese
## 3        82 Hungarian
## 4        84
## 5       119   swahili
## 6       151   Spanish
## 7       220   Chinese
## 8       245   Spanish
## 9       390      Urdu
## 10      402  Filipino
## 11      420
## 12      430   Spanish
## 13      461   Russian
## 14      494   finnish
## 15      505   spanish
## 16      546
## 17      581   Spanish
## 18      590
## 19      602
## 20      672  Mandarin
## 21      691
## 22      695  romanian
## 23      715
## 24      776   Spansih
## 25      780   tagalog
## 26      793    Polish
## 27      860 bachelors
## 28      870    German
## 29      910
## 30      911
## 31      924   Spanish
```

```
## 32      971
## 33     1086    chinese
## 34     1160
## 35     1180
## 36     1182     Arabic
## 37     1187
```

Participants who got at least three practice trials wrong:

Participants who got the audio check wrong more than one once:

Participants who got the second comprehension question wrong more than twice:

```
## # A tibble: 21 x 2
## # Groups:   workerid [21]
##     workerid      n
##        <int> <int>
## 1         59      3
## 2        185      4
## 3        213      3
## 4        401      4
## 5        432      7
## 6        457      3
## 7        465      3
## 8        493      3
## 9        567      4
## 10       604      3
## # ... with 11 more rows
```

Participants with accuracy of lower than 85% on non-critical trials with "some","none","all" and numbers below 6:

```
##     workerid gaveRightAnswer  n answerNm  accuracy
## 1         15               1 14       38 36.842105
## 2         19               1 23       38 60.526316
## 3         24               1 39       46 84.782609
## 4         29               1  5       47 10.638298
## 5         31               1 35       45 77.777778
## 6         43               1 25       47 53.191489
## 7         47               1 18       44 40.909091
## 8         51               1 21       42 50.000000
## 9         61               1 28       47 59.574468
## 10        69               1  4       45  8.888889
## 11        70               1 38       45 84.444444
## 12        72               1 22       45 48.888889
## 13        73               1  2       47  4.255319
## 14        77               1 38       47 80.851064
## 15        85               1 28       46 60.869565
## 16        87               1 23       41 56.097561
## 17        88               1 23       45 51.111111
## 18        91               1 21       47 44.680851
## 19        95               1 36       47 76.595745
## 20       110               1  5       46 10.869565
## 21       118               1 38       47 80.851064
## 22       121               1 20       38 52.631579
## 23       128               1 35       43 81.395349
## 24       133               1 19       44 43.181818
```

```
## 25        138           1 15        34 44.117647
## 26        141           1  1        47  2.127660
## 27        143           1 34        43 79.069767
## 28        145           1 18        46 39.130435
## 29        152           1 28        45 62.222222
## 30        155           1  2        46  4.347826
## 31        157           1 17        41 41.463415
## 32        160           1 19        40 47.500000
## 33        161           1 17        40 42.500000
## 34        162           1 25        44 56.818182
## 35        187           1 26        46 56.521739
## 36        188           1 21        47 44.680851
## 37        191           1 16        47 34.042553
## 38        192           1 33        40 82.500000
## 39        197           1 12        23 52.173913
## 40        211           1 30        42 71.428571
## 41        214           1 30        46 65.217391
## 42        215           1 28        43 65.116279
## 43        219           1 22        46 47.826087
## 44        221           1 24        46 52.173913
## 45        227           1  2        47  4.255319
## 46        233           1 27        46 58.695652
## 47        235           1 16        47 34.042553
## 48        236           1 23        43 53.488372
## 49        238           1 24        41 58.536585
## 50        241           1 16        37 43.243243
## 51        247           1 23        46 50.000000
## 52        254           1 20        39 51.282051
## 53        258           1 28        47 59.574468
## 54        259           1 26        44 59.090909
## 55        260           1 15        38 39.473684
## 56        276           1  7        21 33.333333
## 57        282           1 23        45 51.111111
## 58        288           1 21        46 45.652174
## 59        293           1 21        45 46.666667
## 60        295           1 26        45 57.777778
## 61        296           1 29        47 61.702128
## 62        302           1 23        43 53.488372
## 63        303           1 20        38 52.631579
## 64        305           1 36        47 76.595745
## 65        306           1 23        42 54.761905
## 66        308           1 25        47 53.191489
## 67        309           1 22        45 48.888889
## 68        311           1 17        37 45.945946
## 69        316           1 25        43 58.139535
## 70        320           1 23        38 60.526316
## 71        321           1 37        47 78.723404
## 72        322           1 22        45 48.888889
## 73        323           1 24        36 66.666667
## 74        325           1 23        47 48.936170
## 75        326           1 29        43 67.441860
## 76        329           1 25        47 53.191489
## 77        331           1 10        18 55.555556
## 78        336           1 19        44 43.181818
```

```
## 79         342              1 17      41 41.463415
## 80         344              1 16      36 44.444444
## 81         346              1 14      37 37.837838
## 82         348              1 22      47 46.808511
## 83         351              1 22      43 51.162791
## 84         352              1 23      38 60.526316
## 85         356              1 22      41 53.658537
## 86         357              1 21      46 45.652174
## 87         358              1 39      47 82.978723
## 88         361              1 22      42 52.380952
## 89         362              1  2      47  4.255319
## 90         365              1 23      46 50.000000
## 91         366              1 19      36 52.777778
## 92         367              1  3      47  6.382979
## 93         369              1 26      45 57.777778
## 94         370              1 16      47 34.042553
## 95         373              1 25      46 54.347826
## 96         378              1 27      44 61.363636
## 97         382              1  2      47  4.255319
## 98         385              1 21      41 51.219512
## 99         386              1 14      38 36.842105
## 100        392              1 35      43 81.395349
## 101        406              1 33      45 73.333333
## 102        408              1 27      47 57.446809
## 103        410              1 17      45 37.777778
## 104        411              1 23      42 54.761905
## 105        415              1 25      45 55.555556
## 106        416              1 17      44 38.636364
## 107        425              1 22      43 51.162791
## 108        426              1 23      45 51.111111
## 109        439              1 23      43 53.488372
## 110        444              1 19      47 40.425532
## 111        467              1 20      37 54.054054
## 112        470              1 24      43 55.813953
## 113        471              1 32      44 72.727273
## 114        473              1 32      41 78.048780
## 115        482              1 17      45 37.777778
## 116        488              1 16      44 36.363636
## 117        501              1  1      46  2.173913
## 118        504              1 29      46 63.043478
## 119        506              1 24      44 54.545455
## 120        511              1 23      45 51.111111
## 121        516              1 35      47 74.468085
## 122        521              1 24      47 51.063830
## 123        522              1 22      43 51.162791
## 124        523              1 20      40 50.000000
## 125        531              1 19      40 47.500000
## 126        533              1  9      14 64.285714
## 127        552              1 19      46 41.304348
## 128        555              1 16      36 44.444444
## 129        557              1 16      29 55.172414
## 130        560              1  7      14 50.000000
## 131        561              1 20      43 46.511628
## 132        564              1  2      46  4.347826
```

```
## 133        572            1 14      39 35.897436
## 134        583            1 36      45 80.000000
## 135        584            1 22      43 51.162791
## 136        586            1 20      35 57.142857
## 137        588            1 21      39 53.846154
## 138        601            1 12      20 60.000000
## 139        608            1 35      43 81.395349
## 140        615            1  3      47  6.382979
## 141        616            1 23      46 50.000000
## 142        618            1 10      44 22.727273
## 143        629            1 37      47 78.723404
## 144        631            1  2      47  4.255319
## 145        636            1 38      47 80.851064
## 146        644            1 14      36 38.888889
## 147        649            1 26      45 57.777778
## 148        650            1 21      41 51.219512
## 149        657            1 22      38 57.894737
## 150        661            1 23      39 58.974359
## 151        663            1 29      46 63.043478
## 152        667            1 19      38 50.000000
## 153        669            1 20      44 45.454545
## 154        675            1 11      23 47.826087
## 155        682            1 25      45 55.555556
## 156        683            1 14      46 30.434783
## 157        686            1 24      45 53.333333
## 158        690            1 20      43 46.511628
## 159        692            1 30      45 66.666667
## 160        697            1  2      47  4.255319
## 161        704            1  5      47 10.638298
## 162        706            1  3      45  6.666667
## 163        716            1 21      46 45.652174
## 164        718            1 21      42 50.000000
## 165        722            1 15      43 34.883721
## 166        723            1 22      46 47.826087
## 167        724            1  4      47  8.510638
## 168        726            1 24      47 51.063830
## 169        732            1 15      47 31.914894
## 170        733            1 17      38 44.736842
## 171        737            1 25      44 56.818182
## 172        742            1 15      44 34.090909
## 173        748            1 21      41 51.219512
## 174        756            1 27      47 57.446809
## 175        757            1 20      44 45.454545
## 176        764            1 18      43 41.860465
## 177        767            1 21      37 56.756757
## 178        770            1  7      47 14.893617
## 179        772            1 25      46 54.347826
## 180        773            1 18      40 45.000000
## 181        774            1 16      47 34.042553
## 182        778            1 24      46 52.173913
## 183        781            1 20      32 62.500000
## 184        790            1 22      44 50.000000
## 185        796            1 17      45 37.777778
## 186        805            1 22      44 50.000000
```

```
## 187    808         1 17    47 36.170213
## 188    815         1 22    45 48.888889
## 189    822         1  2     5 40.000000
## 190    824         1 22    39 56.410256
## 191    825         1 37    46 80.434783
## 192    827         1 21    38 55.263158
## 193    829         1 18    41 43.902439
## 194    832         1 21    47 44.680851
## 195    836         1 36    45 80.000000
## 196    842         1 16    41 39.024390
## 197    843         1 22    42 52.380952
## 198    846         1 21    39 53.846154
## 199    848         1 27    43 62.790698
## 200    849         1 24    42 57.142857
## 201    850         1 20    38 52.631579
## 202    856         1 14    34 41.176471
## 203    857         1  9    17 52.941176
## 204    858         1 21    42 50.000000
## 205    865         1 24    43 55.813953
## 206    869         1  1     3 33.333333
## 207    878         1 33    40 82.500000
## 208    880         1 22    44 50.000000
## 209    884         1 11    40 27.500000
## 210    888         1 25    40 62.500000
## 211    889         1 25    45 55.555556
## 212    890         1 22    42 52.380952
## 213    902         1 20    38 52.631579
## 214    903         1 18    42 42.857143
## 215    907         1 33    44 75.000000
## 216    914         1 23    45 51.111111
## 217    920         1 32    41 78.048780
## 218    921         1 21    38 55.263158
## 219    941         1 22    46 47.826087
## 220    943         1 14    24 58.333333
## 221    949         1 27    46 58.695652
## 222    953         1 19    31 61.290323
## 223    956         1 21    42 50.000000
## 224    964         1 19    41 46.341463
## 225    966         1 24    46 52.173913
## 226    981         1 38    46 82.608696
## 227    983         1 18    39 46.153846
## 228    1006        1 25    40 62.500000
## 229    1010        1 16    42 38.095238
## 230    1013        1 32    46 69.565217
## 231    1015        1 37    45 82.222222
## 232    1019        1 18    46 39.130435
## 233    1020        1 14    41 34.146341
## 234    1022        1 38    46 82.608696
## 235    1034        1 21    44 47.727273
## 236    1040        1 22    42 52.380952
## 237    1071        1 21    42 50.000000
## 238    1075        1 27    35 77.142857
## 239    1085        1 16    39 41.025641
## 240    1090        1  3    47  6.382979
```

```
## 241      1094              1 28      39 71.794872
## 242      1097              1 20      40 50.000000
## 243      1099              1 19      37 51.351351
## 244      1101              1 16      38 42.105263
## 245      1111              1 24      46 52.173913
## 246      1113              1 30      46 65.217391
## 247      1116              1 23      40 57.500000
## 248      1130              1 24      40 60.000000
## 249      1131              1 19      39 48.717949
## 250      1156              1 25      46 54.347826
## 251      1167              1 37      47 78.723404
## 252      1172              1 37      46 80.434783
## 253      1175              1 22      37 59.459459
## 254      1176              1 16      45 35.555556
## 255      1181              1 14      40 35.000000
```

Additional Exclusions

Participants who gave more than 5 very slow (logRT>20) responses:

```
## # A tibble: 0 x 3
## # Groups:   workerid [0]
## # ... with 3 variables: workerid <int>, slowResponse <lgl>, n <int>
```

Responses that are faster than the onset of the quantifier (rawRT<600):

```
## [1] 432
```

Responses that are very slow (logRT>20):

```
## [1] 51
```

After Exclusions

Number of participants:

```
## [1] 887
```

Participants left in each condition:

```
##
## all_QUD any_QUD  no_QUD
##     288     280     319
```

General

Expected number of yes and no answers:

```
##
##    No   Yes
## 23106 28682
```

Accuracy
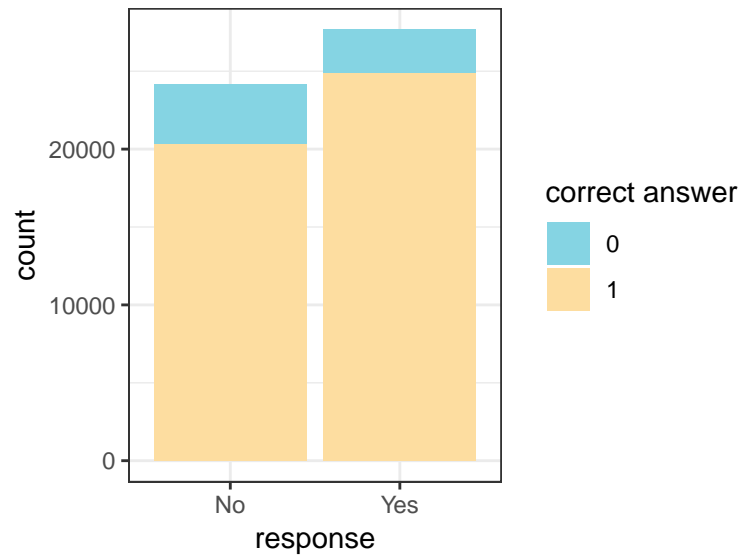
Accuracy and trial order
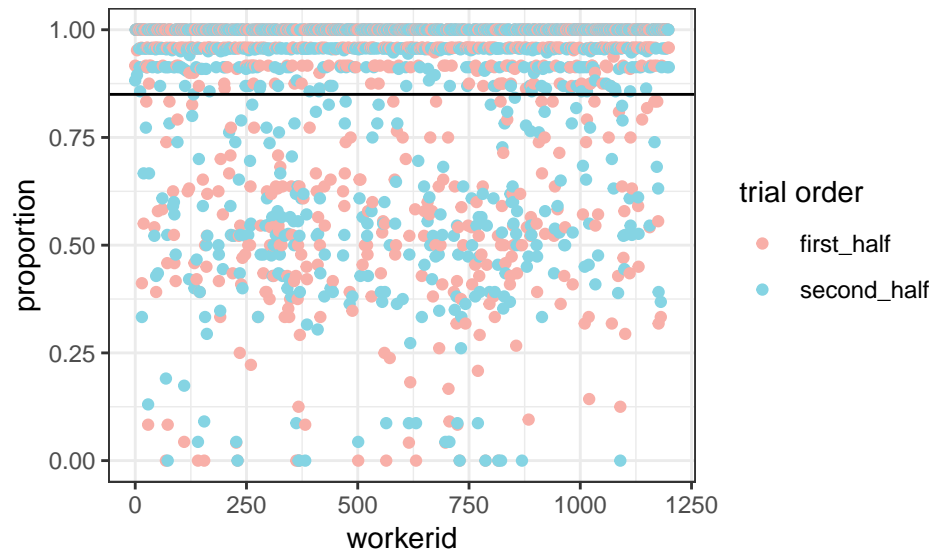
Distribution of RT and logRT

```
## Warning: Removed 2 rows containing missing values (geom_bar).
```
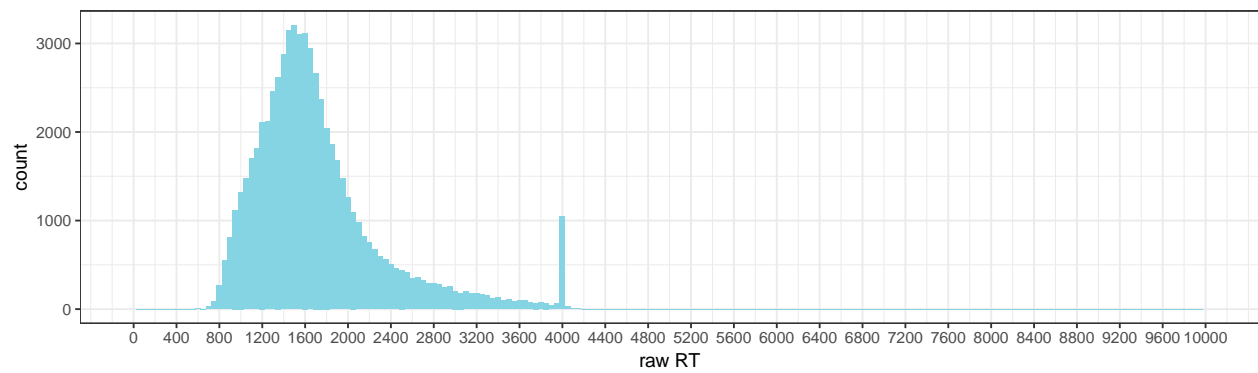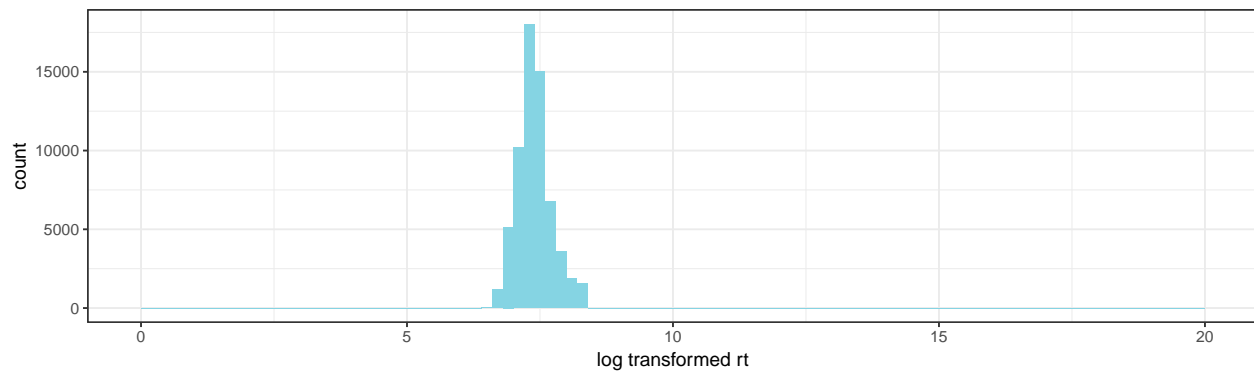
15 fastest responses (raw RT)

```
##  [1] 603 605 614 622 624 645 679 687 688 692 693 695 699 700 700
```

15 slowest responses (raw RT)

```
##  [1] 4047 4049 4052 4054 4064 4064 4065 4068 4077 4082 4101 4137 4142 4152
## [15] 4447
```

Non-critical Trials

Response type:
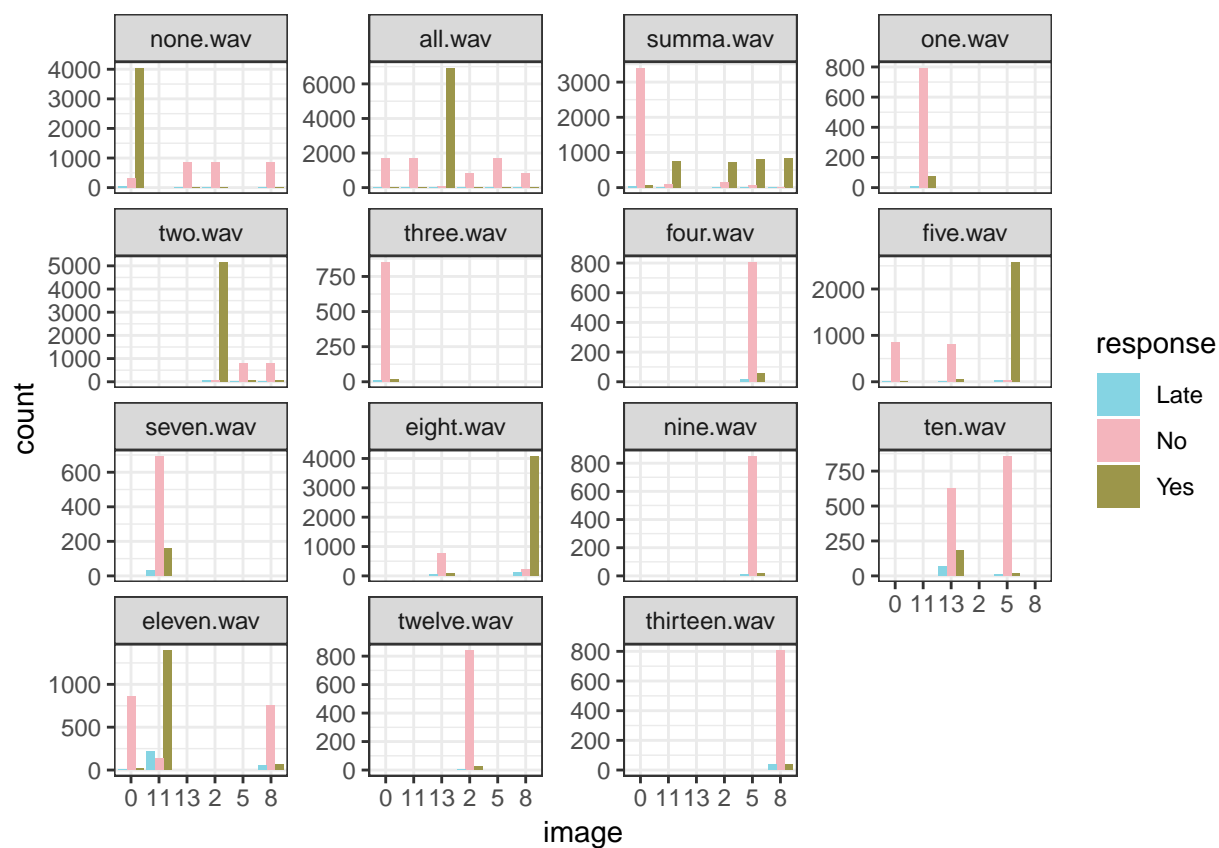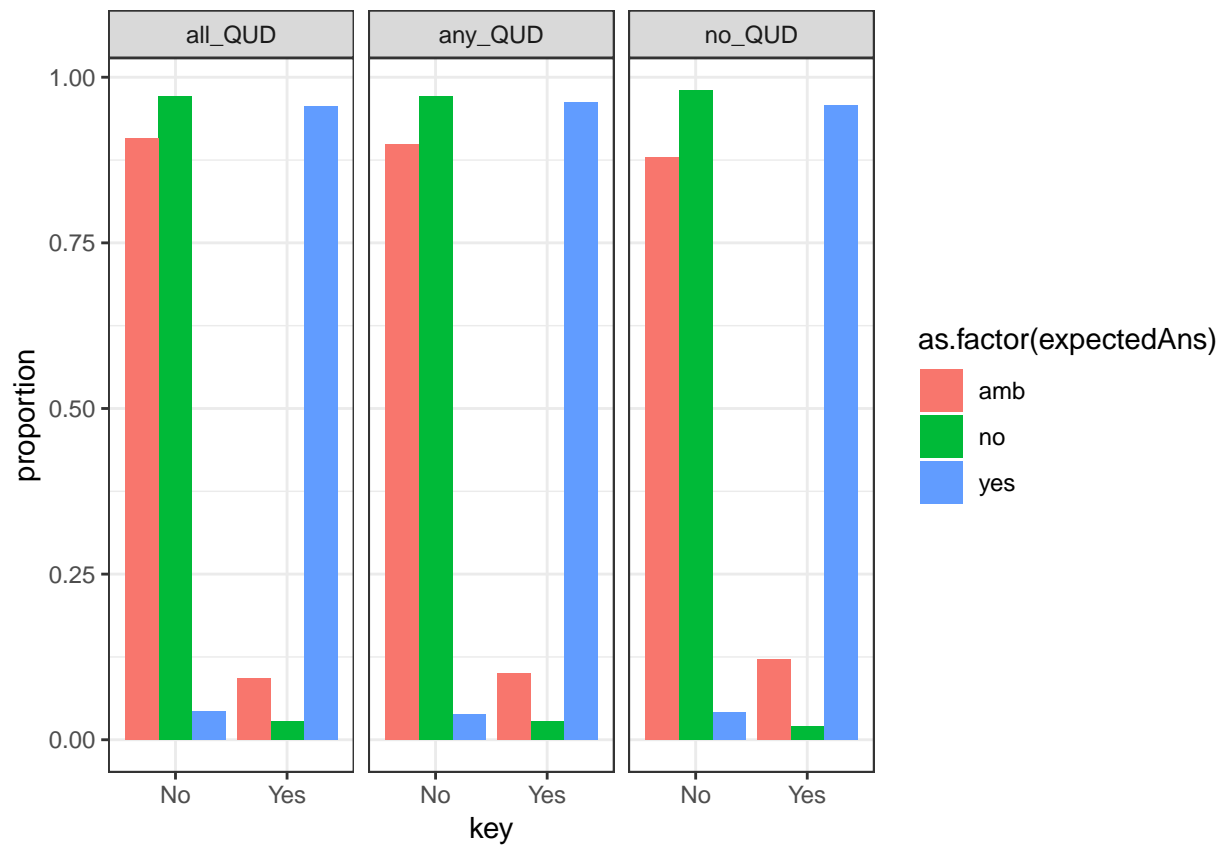
Response time:
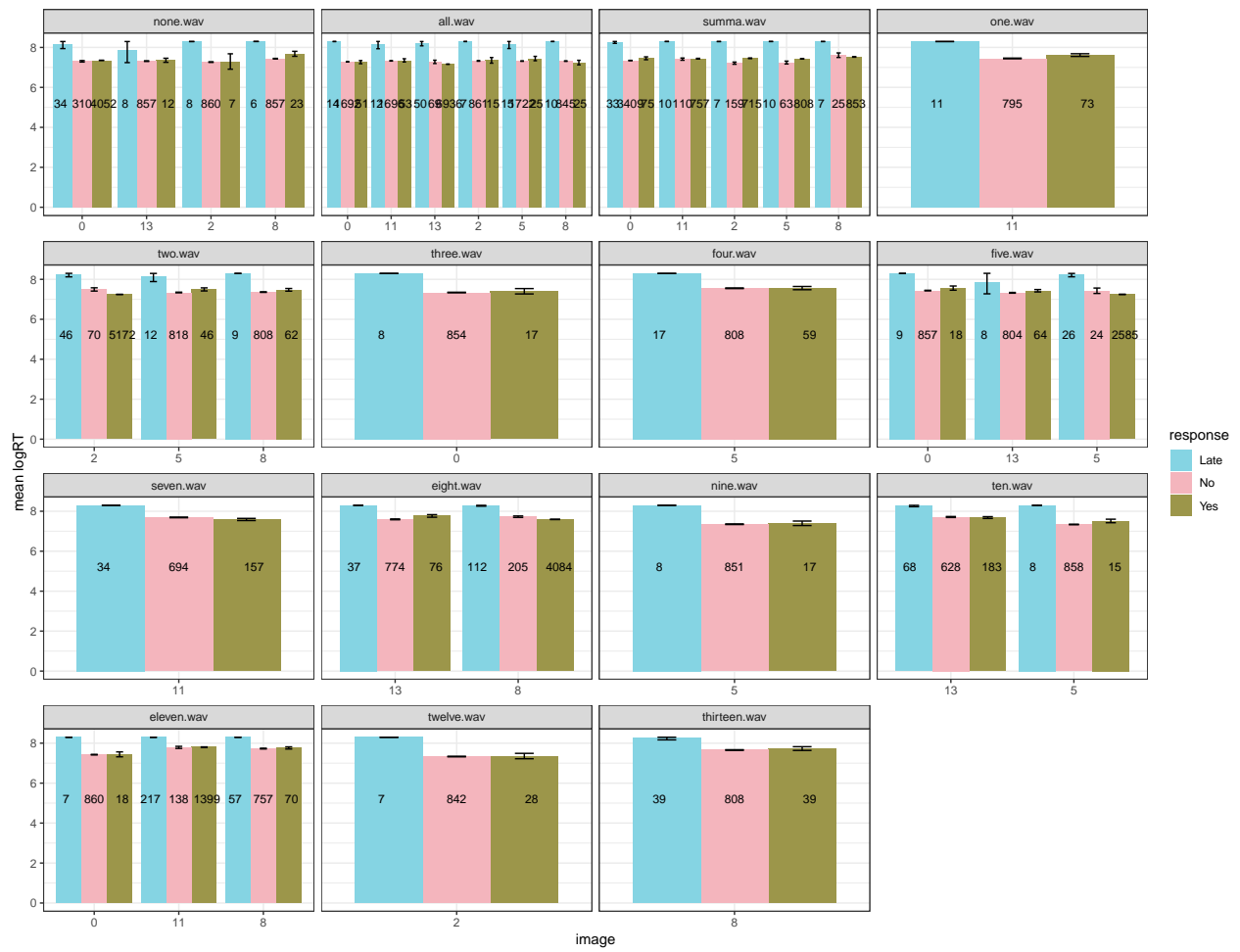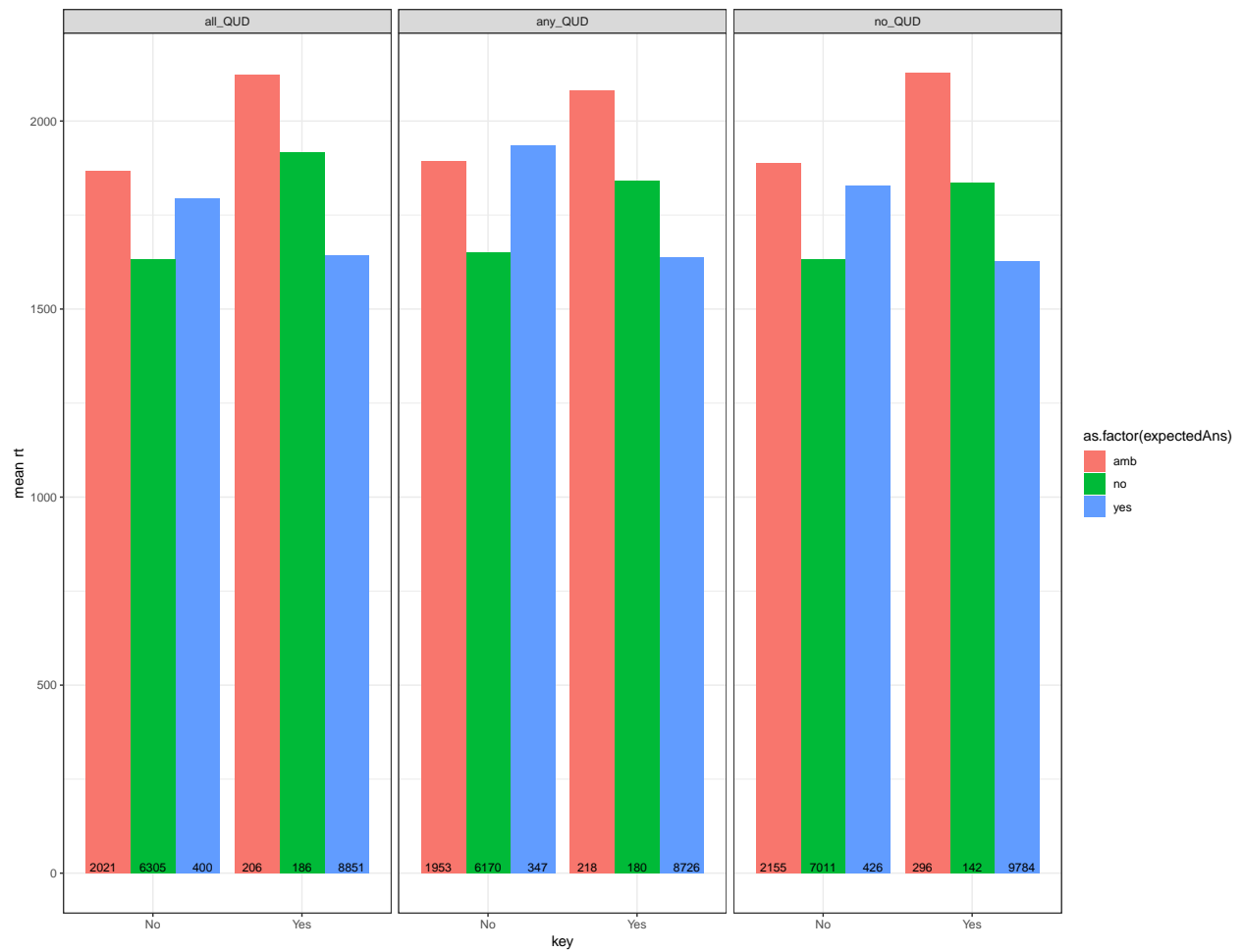
Critical Trials

Total number of critical trials (8 per participant):

[1] 7033

Total number of critical trials with late responses removed:

[1] 6929

Response Type
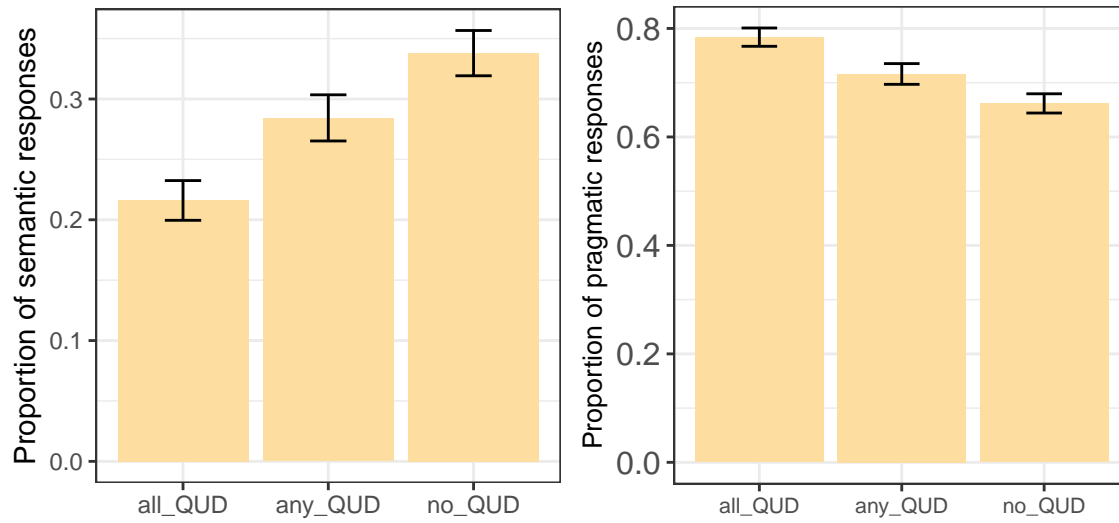
Distribution of participants over number of semantic responses
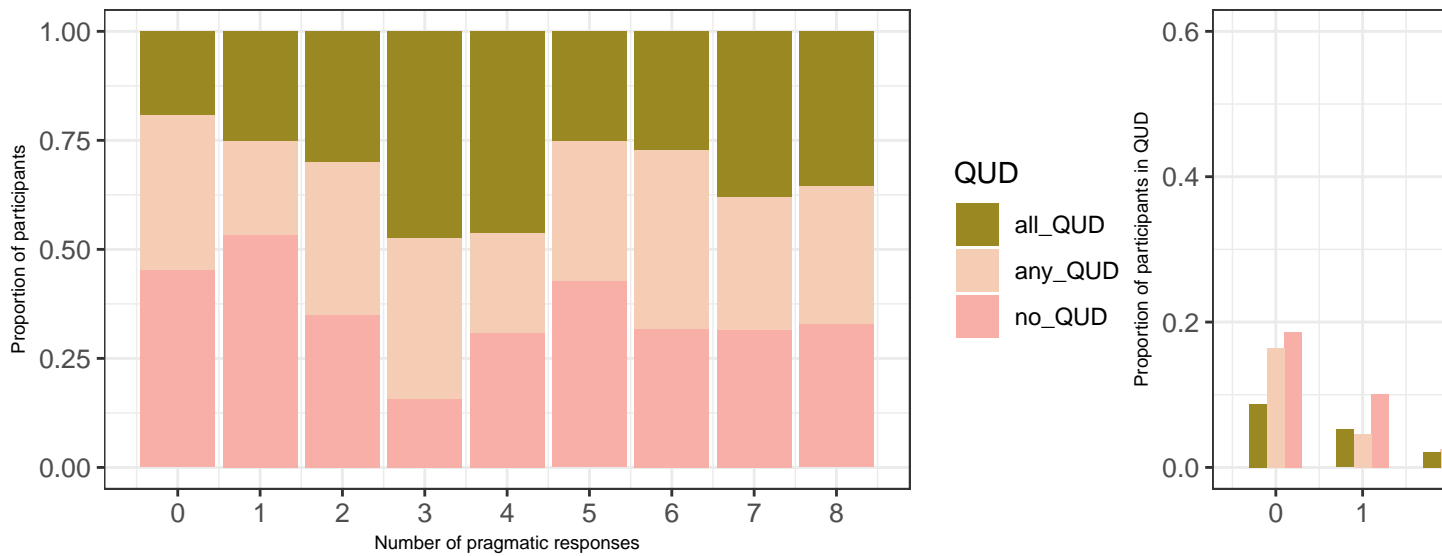
Response type and trial order
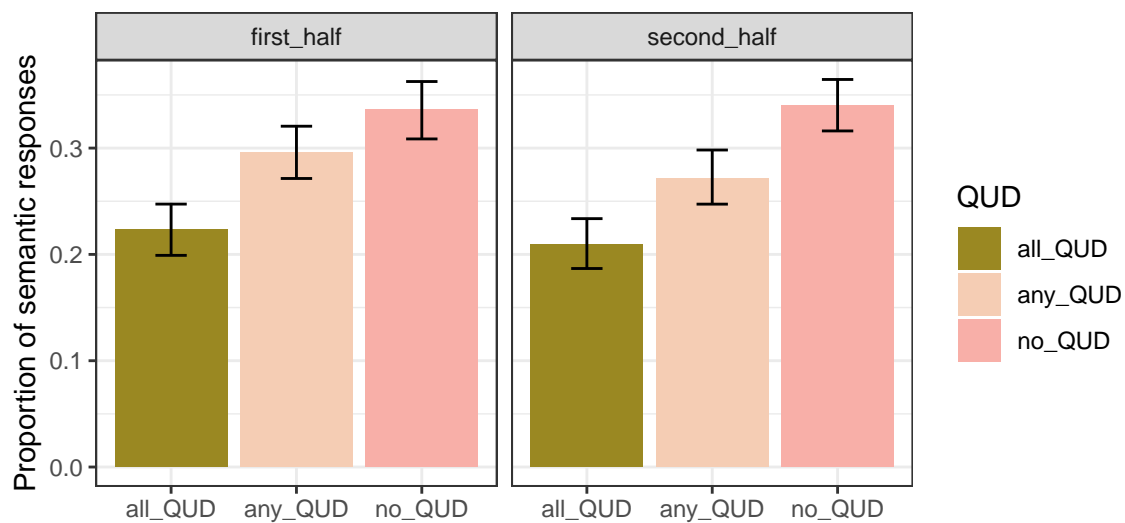
13

Age distribution of participants
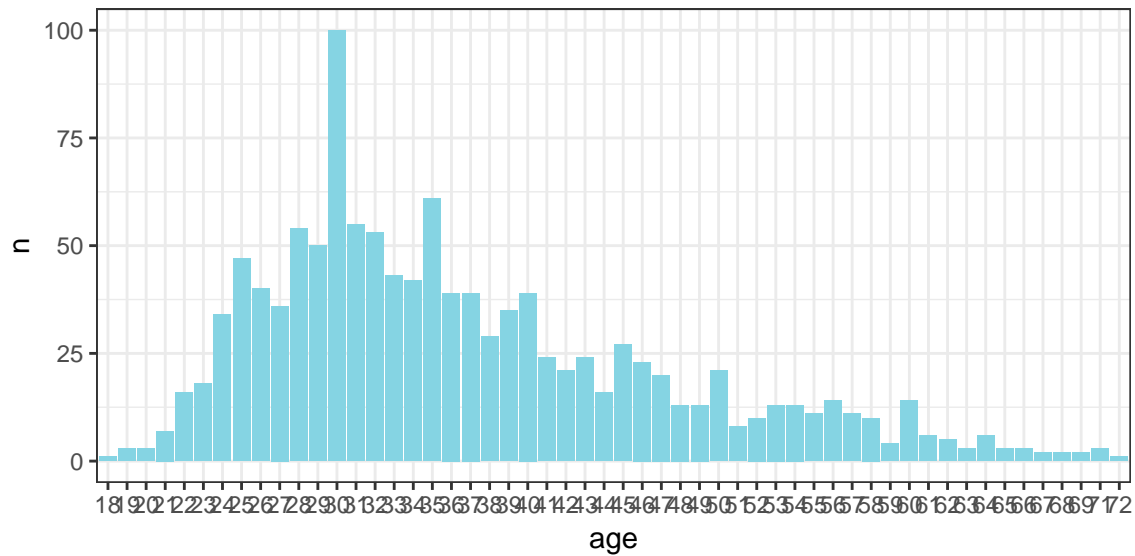
Response type and age
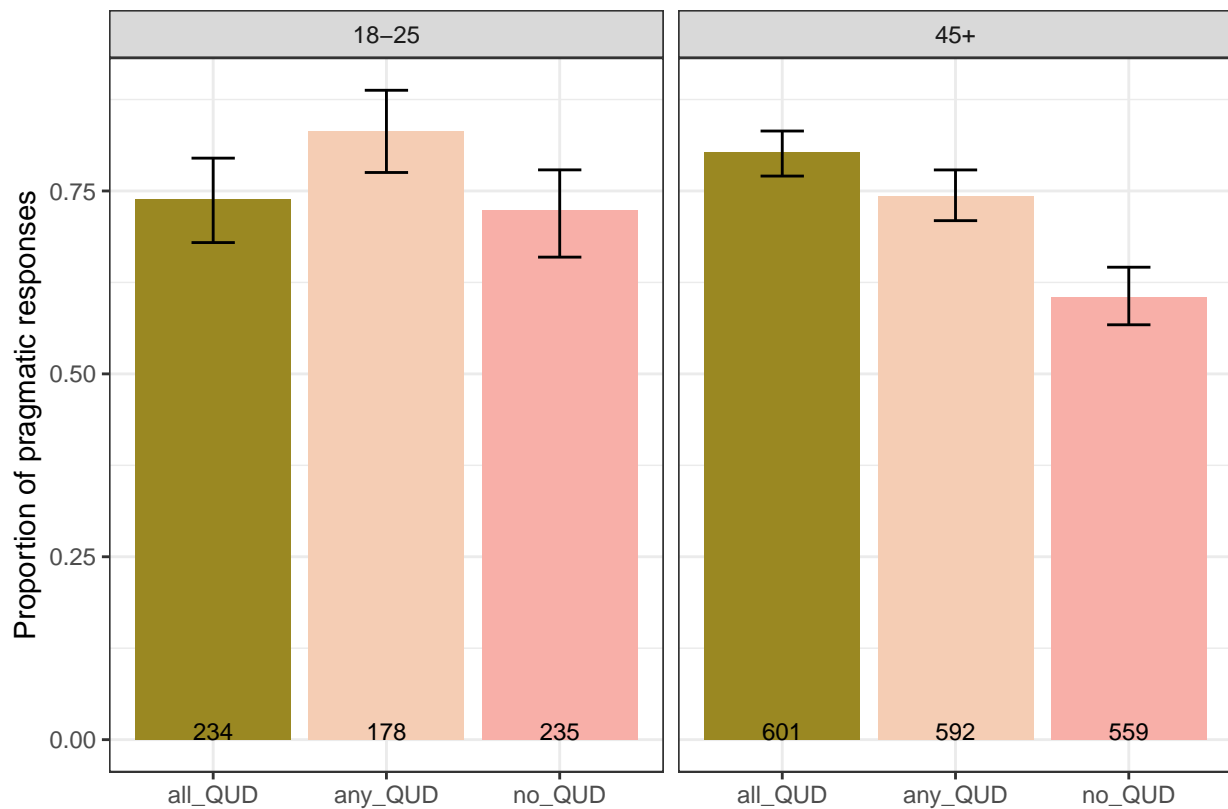
Response Time

Distribution of response times in critical trials

```
## Warning: Removed 2 rows containing missing values (geom_bar).
```
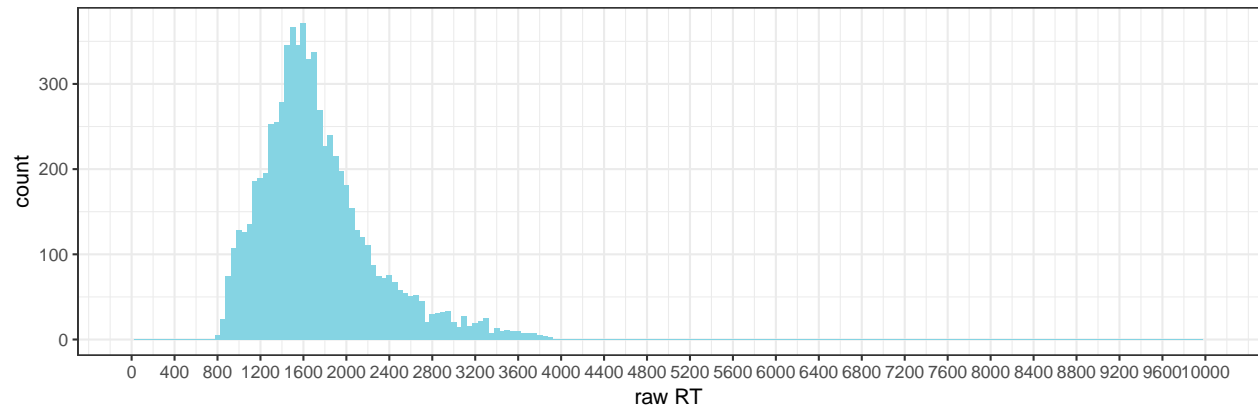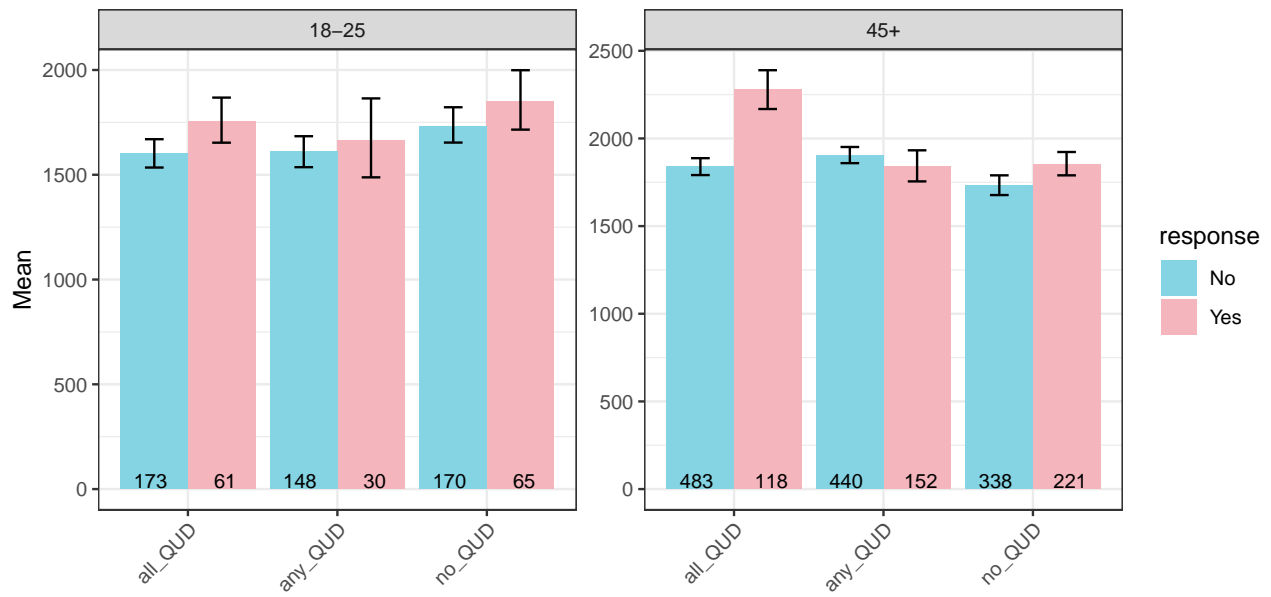

Response time and QUD
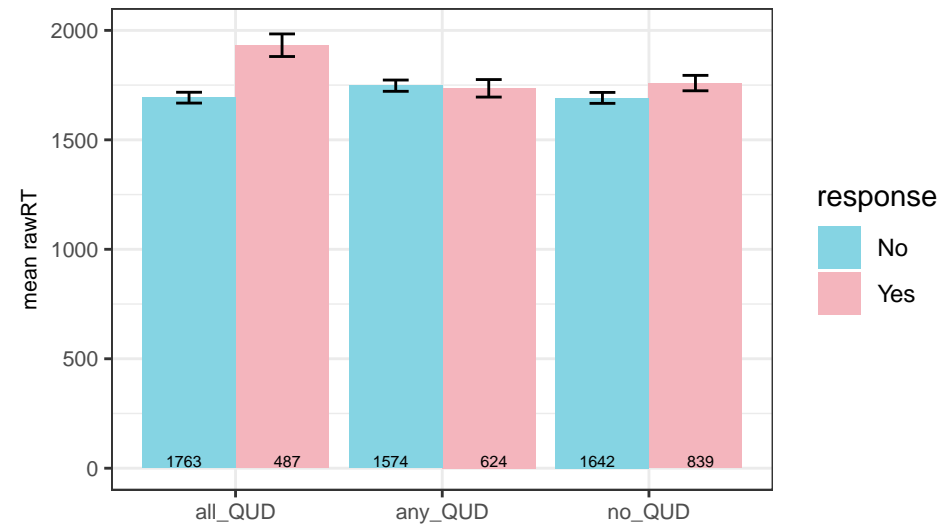
Response time, trial order and QUD
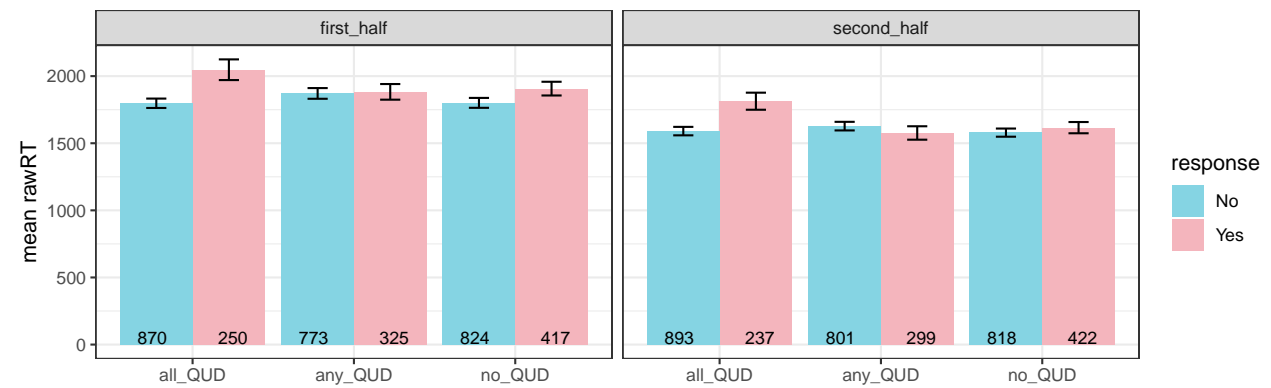
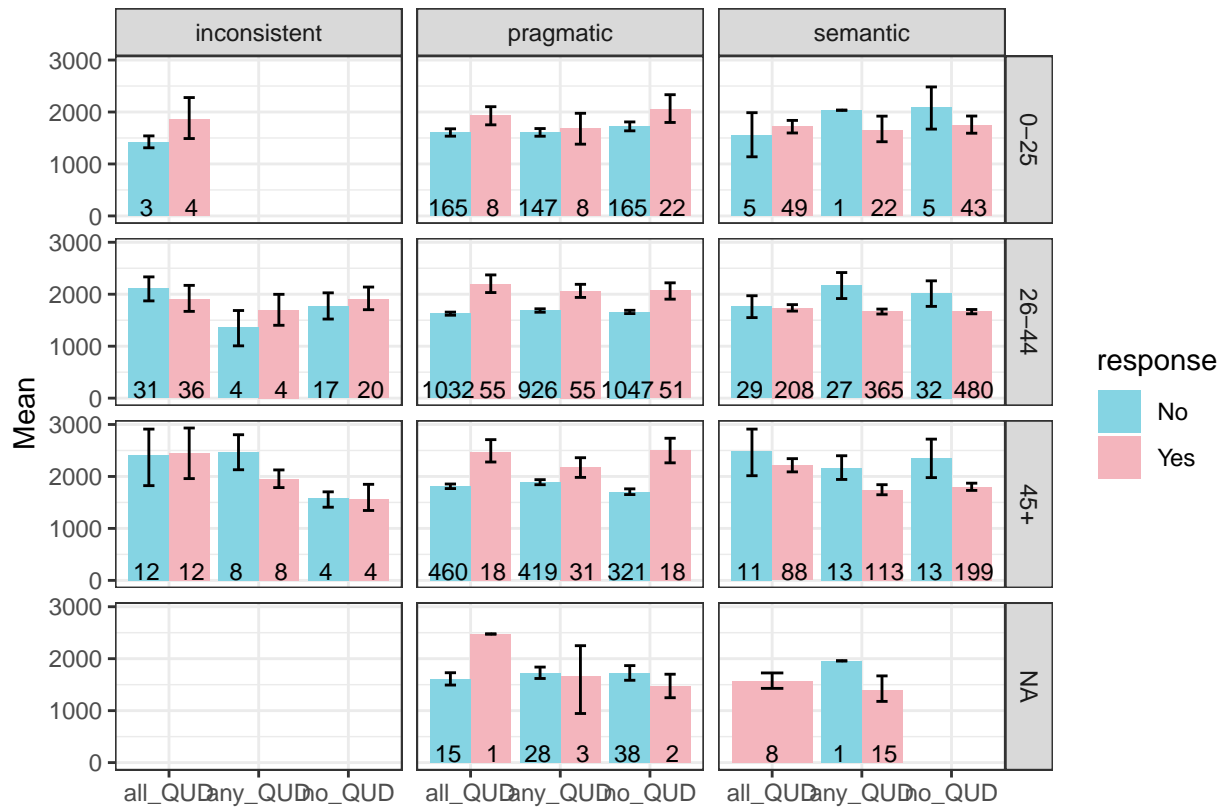**Response time, responder type and QUD**
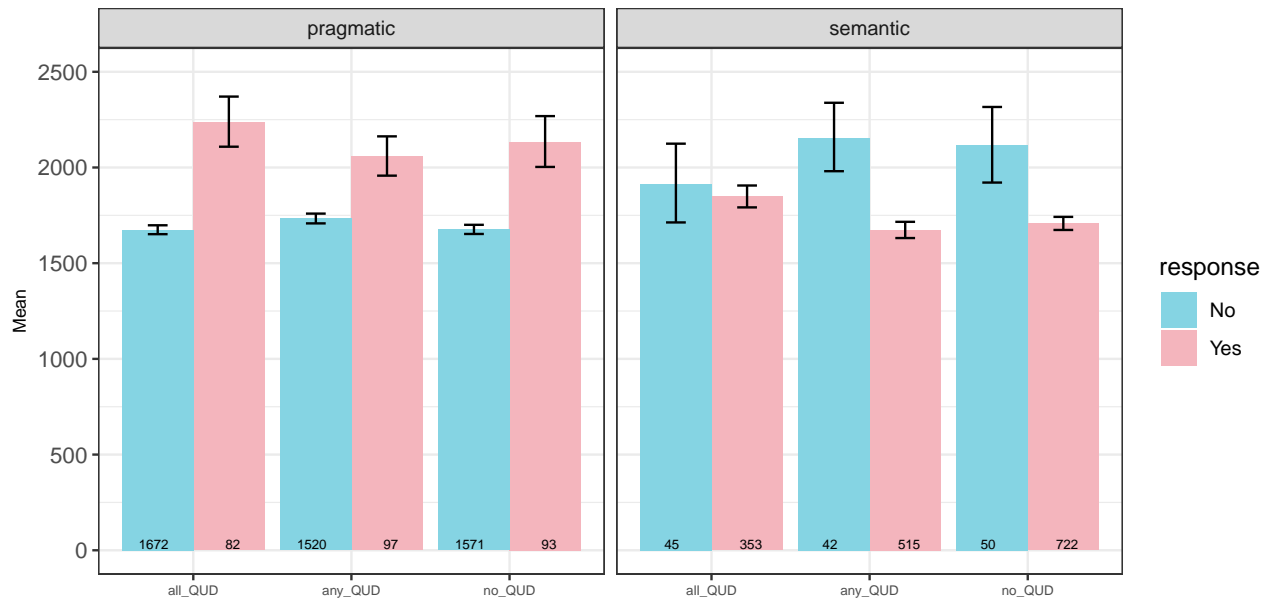
Response time, age and QUD

Response time, age, responder type and QUD

EXTRA: Pragmaticity and response time

Models