Process post-election data

Read in data

```
Rows: 10844 Columns: 28
-- Column specification --------------------------------------------------------
Delimiter: ","
chr (20): proliferate.condition, condition, correct, cumrt, distractor, dist...
dbl  (5): workerid, height, time_elapsed, trial_index, width
lgl  (3): button_rt, mobile, error

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
Rows: 10 Columns: 2
-- Column specification --------------------------------------------------------
Delimiter: ","
chr (1): partial
dbl (1): item

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
Rows: 10 Columns: 3
-- Column specification --------------------------------------------------------
Delimiter: ","
chr (2): q, a
dbl (1): item

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
Rows: 31 Columns: 4
-- Column specification --------------------------------------------------------
Delimiter: ","
chr (4): type, item, sentence, distractor
```

```
i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
Rows: 1375 Columns: 2
-- Column specification --------------------------------------------------------
Delimiter: ","
chr (1): prolific_participant_id
dbl (1): workerid

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
Rows: 1697 Columns: 22
-- Column specification --------------------------------------------------------
Delimiter: ","
chr  (16): Submission id, Participant id, Status, Custom study tncs accepted...
dbl   (2): Time taken, Total approvals
dttm  (4): Started at, Completed at, Reviewed at, Archived at

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

Demographics and participant exclusion

Combine demographic info from Prolific and collected via survey

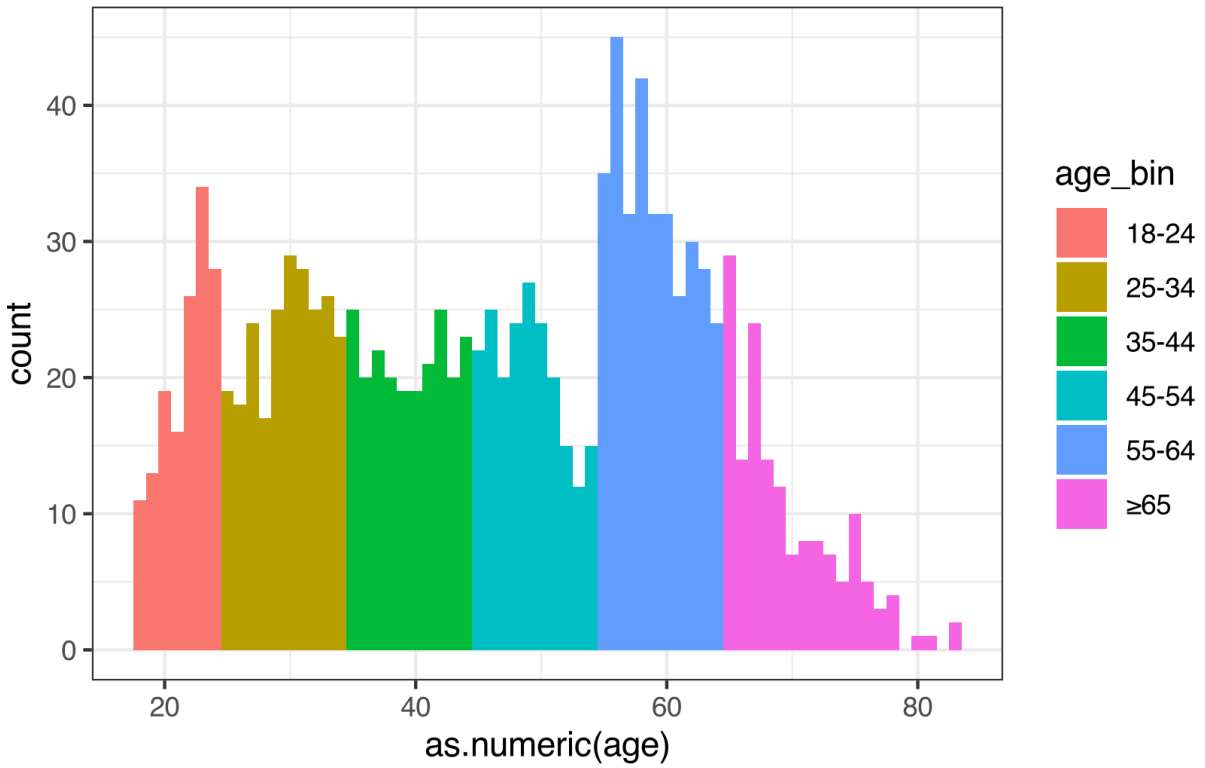
```
comp_q proportion correct: 0.9298701
```

```
`summarise()` has grouped output by 'item', 'q'. You can override using the
`.groups` argument.
```

```
# A tibble: 10 x 4
# Groups:   item, q [10]
    item q                                                  a     prop_correct
   <dbl> <chr>                                             <chr>        <dbl>
 1     1 Is holding a staff meeting the first thing the pres~ yes          0.897
 2     2 Does the president hope that outstanding issues wil~ yes          0.963
 3     3 Does the secret service only protect the president,~ no           0.929
 4     4 Does the president take the Oath of Office in priva~ no           0.892
 5     5 Did the president make any promises on the campaign~ yes          0.965
 6     8 Will the president have access to the nuclear launc~ yes          0.939
 7     9 Will the president be accountable for defending the~ yes          0.970
```

```
 8    10 Will the president make use of the presidential mot~ no          0.740
 9    11 Will the newly elected president receive a lot of a~ yes         1
10    12 Will the president be well-protected when traveling~ yes         1
```

```
Joining with `by = join_by(prolific_id)`
```




```
# A tibble: 3 x 2
  workerid `paste(str_tail(prolific_id), collapse = ", ")`
     <dbl> <chr>
1     4047 ...6aafa6e250421de1, ...b65be128cf6147c0
2     4107 ...867f660001af5dc5, ...77b451b0107e054b
3     4121 ...2119a76894f403f3, ...f9f67c6c8ea4936b
```

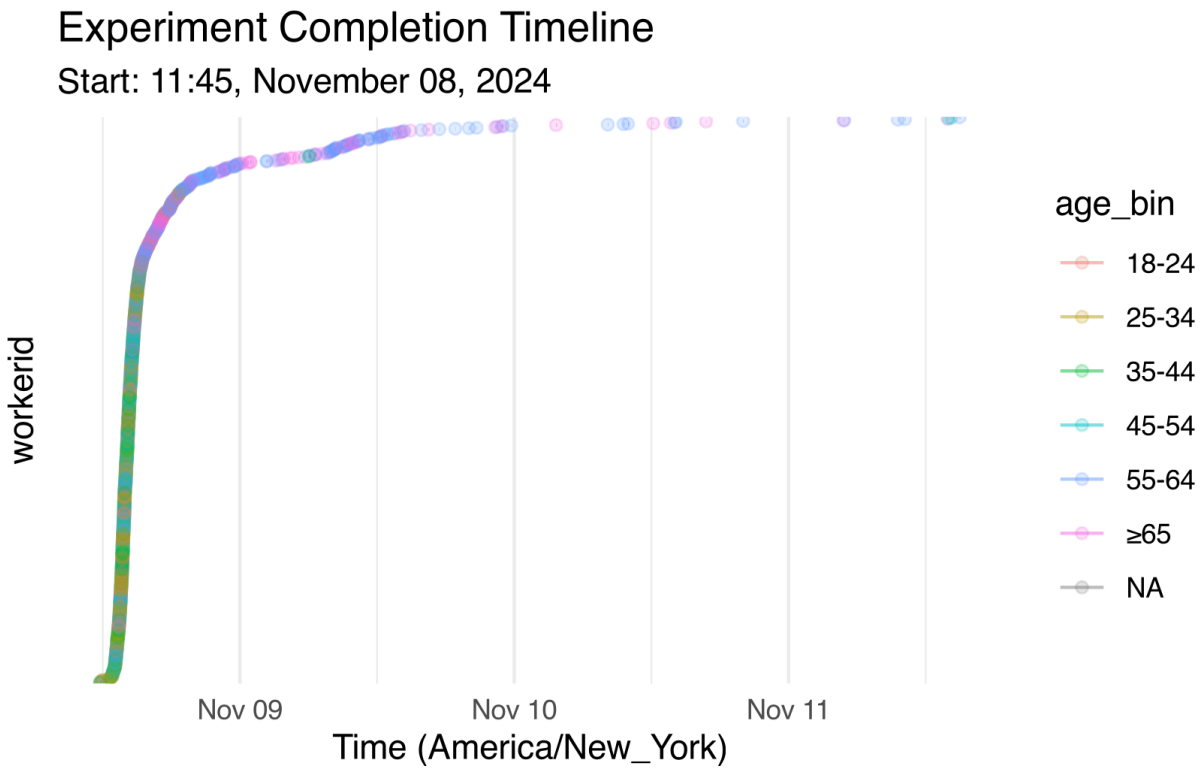
```
# A tibble: 10 x 2
   prolific_id         `paste(workerid, collapse = ", ")`
   <chr>               <chr>
 1 ...8949aa16f72e52ff 3621, 3602, 3611
 2 ...bac7758ed890cece 4583, 4580
 3 ...6ff6ced577f437c3 3776, 3772
```

```
 4 ...3be28773ac7c421f 4308, 4224
 5 ...ff590951e558a42f 4184, 4162
 6 ...4c061917284551d6 3433, 3441
 7 ...8f19614bc9ec67af 4329, 4323
 8 ...9e8a4df4bf25f8b0 3396, 3384
 9 ...<no-id>          3262, 3262
10 ...909a43d4d01e0c24 3990, 4035
```

```
Participant exclusion. Initial: 1273
```

```
After screening criteria: 1246
```

```
After removing duplicates: 1246
```

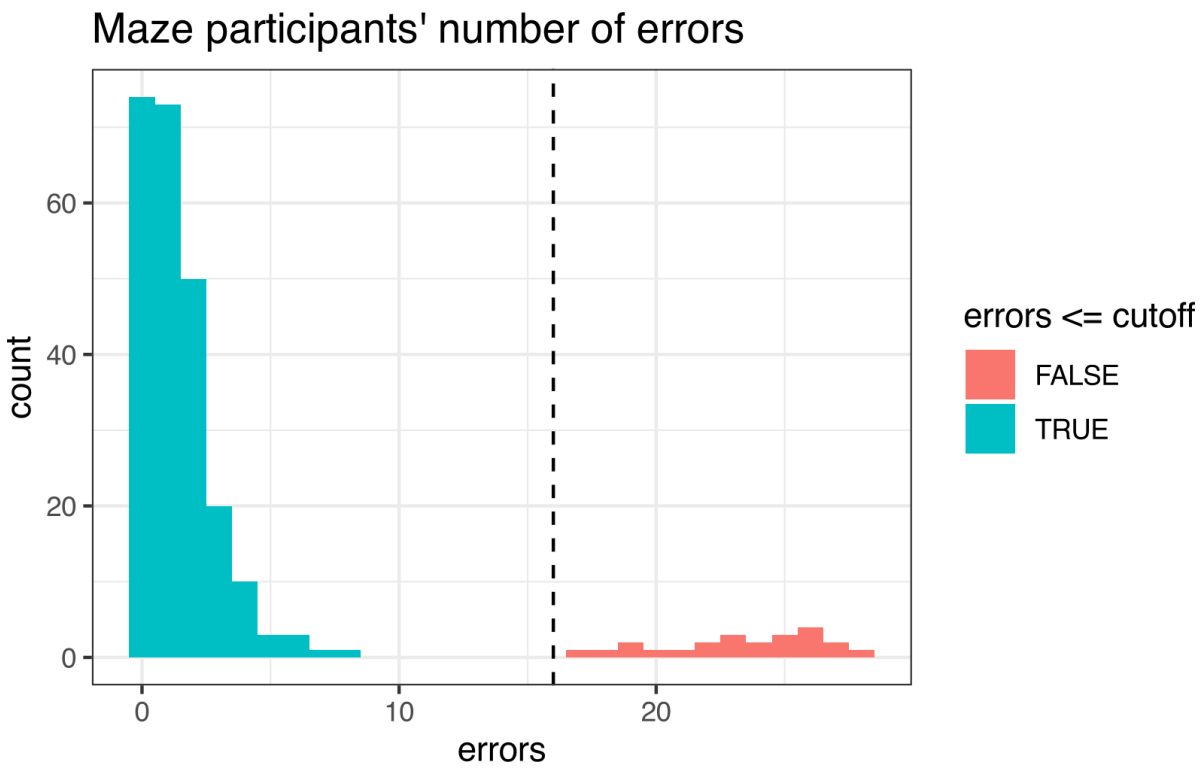



```
SPR: Proportion RTs excluded for being unreasonably fast or slow:  12%.
```

```
Joining with `by = join_by(workerid)`
fixed-effect model matrix is rank deficient so dropping 2 columns /
coefficients
```

```
Linear mixed model fit by REML ['lmerMod']
Formula:
log(rt) ~ 1 + (scale(log(gmean_rt)) + scale(word_number) + scale(nchar) +
    is_first_in_sent + comma + period)^2 + (1 | item)
   Data: spr

REML criterion at convergence: 6443.8

Scaled residuals:
    Min      1Q  Median      3Q     Max
-5.1801 -0.5771 -0.0805  0.4536  9.2746

Random effects:
 Groups   Name        Variance Std.Dev.
 item     (Intercept) 0.00507  0.0712
 Residual             0.07940  0.2818
Number of obs: 19933, groups:  item, 89

Fixed effects:
                                          Estimate Std. Error t value
(Intercept)                               6.200603   0.007935 781.473
scale(log(gmean_rt))                      0.338738   0.002334 145.116
scale(word_number)                       -0.036840   0.002177 -16.922
scale(nchar)                              0.037836   0.002176  17.384
is_first_in_sentTRUE                      0.122457   0.014376   8.518
commaTRUE                                 0.062462   0.011921   5.240
periodTRUE                                0.153059   0.010252  14.930
scale(log(gmean_rt)):scale(word_number)  -0.024815   0.002103 -11.800
scale(log(gmean_rt)):scale(nchar)         0.015175   0.001993   7.613
scale(log(gmean_rt)):is_first_in_sentTRUE -0.012367   0.008383  -1.475
scale(log(gmean_rt)):commaTRUE            0.018394   0.010386   1.771
scale(log(gmean_rt)):periodTRUE           0.121661   0.009619  12.649
scale(word_number):scale(nchar)           0.002297   0.002189   1.050
scale(word_number):is_first_in_sentTRUE  -0.038882   0.009416  -4.129
scale(word_number):commaTRUE             -0.007265   0.014679  -0.495
scale(word_number):periodTRUE            -0.126581   0.014503  -8.728
scale(nchar):is_first_in_sentTRUE         0.007355   0.022862   0.322
scale(nchar):commaTRUE                   -0.056397   0.012534  -4.499
scale(nchar):periodTRUE                  -0.025427   0.012791  -1.988
is_first_in_sentTRUE:commaTRUE            0.070277   0.094183   0.746
```

```
Correlation matrix not shown by default, as p = 20 > 12.
Use print(x, correlation=TRUE)  or
    vcov(x)        if you need it

fit warnings:
fixed-effect model matrix is rank deficient so dropping 2 columns / coefficients

Removed 8.9% of participants who had number of errors larger than cutoff value.
```




```
Joining with `by = join_by(workerid)`
fixed-effect model matrix is rank deficient so dropping 2 columns /
coefficients

Linear mixed model fit by REML ['lmerMod']
Formula:
log(rt) ~ 1 + (scale(log(gmean_rt)) + scale(word_number) + scale(nchar) +
    prev_incorrect + is_first_in_sent + comma + period)^2 + (1 |      item)
   Data: maze
```

```
REML criterion at convergence: 8545.4

Scaled residuals:
    Min      1Q  Median      3Q     Max
-5.6668 -0.6499 -0.1403  0.4891  7.5013

Random effects:
 Groups   Name        Variance Std.Dev.
 item     (Intercept) 0.005476 0.0740
 Residual             0.120093 0.3465
Number of obs: 11474, groups:  item, 83

Fixed effects:
                                            Estimate Std. Error t value
(Intercept)                                6.9026636  0.0090547 762.327
scale(log(gmean_rt))                       0.1847049  0.0042756  43.199
scale(word_number)                        -0.0401407  0.0037105 -10.818
scale(nchar)                               0.0492655  0.0036443  13.518
prev_incorrectTRUE                         0.1863621  0.0247519   7.529
is_first_in_sentTRUE                      -0.0325103  0.0247317  -1.315
commaTRUE                                 -0.0850665  0.0198864  -4.278
periodTRUE                                -0.0367557  0.0140512  -2.616
scale(log(gmean_rt)):scale(word_number)   -0.0194715  0.0033605  -5.794
scale(log(gmean_rt)):scale(nchar)         -0.0045394  0.0032821  -1.383
scale(log(gmean_rt)):prev_incorrectTRUE   -0.0044113  0.0204536  -0.216
scale(log(gmean_rt)):is_first_in_sentTRUE  0.0422707  0.0138588   3.050
scale(log(gmean_rt)):commaTRUE            -0.0127766  0.0178472  -0.716
scale(log(gmean_rt)):periodTRUE            0.0009346  0.0132499   0.071
scale(word_number):scale(nchar)            0.0206599  0.0036402   5.675
scale(word_number):prev_incorrectTRUE     -0.0393587  0.0204173  -1.928
scale(word_number):is_first_in_sentTRUE   -0.0118605  0.0163750  -0.724
scale(word_number):commaTRUE              -0.0422053  0.0256555  -1.645
scale(word_number):periodTRUE             -0.0440057  0.0129913  -3.387
scale(nchar):prev_incorrectTRUE            0.0441272  0.0197771   2.231
scale(nchar):is_first_in_sentTRUE         -0.0557093  0.0367700  -1.515
scale(nchar):commaTRUE                    -0.0377795  0.0213690  -1.768
scale(nchar):periodTRUE                    0.0452375  0.0162235   2.788
prev_incorrectTRUE:is_first_in_sentTRUE   -0.0834113  0.2038285  -0.409
prev_incorrectTRUE:commaTRUE               0.0681952  0.1269573   0.537
prev_incorrectTRUE:periodTRUE              0.2087019  0.1456538   1.433
is_first_in_sentTRUE:commaTRUE             0.2912636  0.1529907   1.904
```

```
Correlation matrix not shown by default, as p = 27 > 12.
Use print(x, correlation=TRUE)  or
    vcov(x)        if you need it

fit warnings:
fixed-effect model matrix is rank deficient so dropping 2 columns / coefficients
```

Export