

```
library(readxl)
library(lme4)
```

```
## Loading required package: Matrix
```

```
library(lmerTest)
```

```
##
```

```
## Attaching package: 'lmerTest'
```

```
## The following object is masked from 'package:lme4':
```

```
##
```

```
##      lmer
```

```
## The following object is masked from 'package:stats':
```

```
##
```

```
##      step
```

```
library(car)
```

```
## Loading required package: carData
```

```
library(MuMIn)
```

```
library(afex)
```

```
## *****
```

```
## Welcome to afex. For support visit: http://afex.singmann.science/
```

```
## - Functions for ANOVAs: aov_car(), aov_ez(), and aov_4()
```

```
## - Methods for calculating p-values with mixed(): 'S', 'KR', 'LRT', and 'PB'
```

```
## - 'afex_aov' and 'mixed' objects can be passed to emmeans() for follow-up tests
```

```
## - NEWS: emmeans() for ANOVA models now uses model = 'multivariate' as default.
```

```
## - Get and set global package options with: afex_options()
```

```
## - Set orthogonal sum-to-zero contrasts globally: set_sum_contrasts()
```

```
## - For example analyses see: browseVignettes("afex")
```

```
## *****
```

```
##
```

```
## Attaching package: 'afex'
```

```
## The following object is masked from 'package:lme4':
```

```
##
```

```
##      lmer
```

```
data <- read_excel("../Data/PredictingOutcomes_ParticipantDemographics.xlsx", sheet = "Study 1A")
```

```
print(data)
```

```
## # A tibble: 144 x 19
##   study partici~1 gener~2 rate  respo~3 score~4 respo~5 score~6 respo~7 score~8
##   <chr>         <dbl> <chr>  <chr> <chr>      <dbl> <chr>      <dbl> <chr>      <dbl>
## 1 1A             1 analyst ukno~ 50%      0 5          1 0.1%      1
## 2 1A             3 analyst ukno~ 12.5%    1 50         0 0.1%      1
## 3 1A             6 analyst ukno~ 25        0 1          0 1          0
## 4 1A             8 analyst ukno~ 12.5%    1 5          1 0.1%      1
## 5 1A            14 analyst ukno~ 15        0 50         0 0.1        1
## 6 1A            17 analyst ukno~ 50        0 100        0 10         0
## 7 1A            20 analyst ukno~ 15        0 5          1 0.1        1
## 8 1A            24 analyst ukno~ 10        0 5          1 0.1        1
## 9 1A            28 analyst ukno~ 35        0 5          1 .1         1
## 10 1A           32 analyst ukno~ 0.15%    0 1          0 0.1%      1
## # ... with 134 more rows, 9 more variables: response_fin1 <dbl>,
## #   score_fin1 <dbl>, response_fin2 <dbl>, score_fin2 <dbl>, age <dbl>,
## #   gender <dbl>, highest_degree <dbl>, stocks <dbl>, gambling <dbl>, and
## #   abbreviated variable names 1: participant_id, 2: generator,
## #   3: response_prob1, 4: score_prob1, 5: response_prob2, 6: score_prob2,
## #   7: response_prob3, 8: score_prob3
```

create a map like data structure to store the unique participant id with there corresponding gender

```
map <- data.frame(unique(data$participant_id), data$gender)
map
```

```
##   unique.data.participant_id. data.gender
## 1                          1          1
## 2                          3          0
## 3                          6          1
## 4                          8          1
## 5                         14          0
## 6                         17          1
## 7                         20          1
## 8                         24          0
## 9                         28          0
## 10                        32          1
## 11                        34          0
## 12                        37          0
## 13                        39          0
## 14                        40          0
## 15                        43          1
## 16                        46          0
## 17                        52          1
## 18                        54          0
## 19                        57          0
## 20                        59          0
## 21                        64          0
## 22                        69          1
## 23                        72          0
## 24                        74          1
## 25                        76          1
## 26                        82          1
## 27                        85          1
```

## 28	88	0
## 29	90	0
## 30	93	1
## 31	96	0
## 32	99	0
## 33	102	1
## 34	105	1
## 35	108	0
## 36	110	0
## 37	112	0
## 38	114	0
## 39	117	0
## 40	120	1
## 41	122	0
## 42	125	0
## 43	128	1
## 44	132	1
## 45	134	0
## 46	136	1
## 47	139	0
## 48	141	0
## 49	144	0
## 50	147	1
## 51	151	1
## 52	152	0
## 53	153	0
## 54	154	0
## 55	155	1
## 56	156	0
## 57	157	0
## 58	158	1
## 59	159	1
## 60	160	1
## 61	161	1
## 62	162	0
## 63	163	0
## 64	164	1
## 65	165	0
## 66	166	0
## 67	167	1
## 68	168	1
## 69	169	0
## 70	170	1
## 71	171	0
## 72	172	1
## 73	173	0
## 74	174	0
## 75	175	1
## 76	176	1
## 77	177	0
## 78	178	1
## 79	179	0
## 80	180	1
## 81	181	1

## 82	182	0
## 83	183	1
## 84	184	0
## 85	185	0
## 86	186	1
## 87	187	0
## 88	188	0
## 89	189	0
## 90	190	1
## 91	191	0
## 92	192	0
## 93	193	0
## 94	194	0
## 95	195	1
## 96	196	1
## 97	197	0
## 98	198	0
## 99	199	0
## 100	200	0
## 101	4	0
## 102	7	1
## 103	9	1
## 104	11	1
## 105	15	0
## 106	18	0
## 107	21	1
## 108	22	0
## 109	26	0
## 110	30	0
## 111	33	0
## 112	35	1
## 113	44	1
## 114	47	0
## 115	49	0
## 116	55	0
## 117	58	0
## 118	60	0
## 119	62	0
## 120	65	0
## 121	67	1
## 122	70	1
## 123	77	1
## 124	79	0
## 125	81	1
## 126	83	0
## 127	86	0
## 128	91	0
## 129	94	1
## 130	97	0
## 131	100	0
## 132	103	0
## 133	106	1
## 134	115	0
## 135	118	0

## 136	123	1
## 137	126	0
## 138	129	0
## 139	137	0
## 140	140	0
## 141	142	1
## 142	145	1
## 143	148	1
## 144	150	0

```
data1 <- read_excel("../Data/PredictingOutcomes_ParticipantPredictions.xlsx", sheet = "Study 1A")
```

append the prediction_recode and terminal_streak_length for each participant to map

```
for (i in 1:nrow(map)) {
  map[i, 3] <- mean(data1[data1$participant_id == map[i, 1], "prediction_recode"])
  map[i, 4] <- mean(data1[data1$participant_id == map[i, 1], "terminal_streak_length"])
}
```

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## Warning in mean.default(data1[data1$participant_id == map[i, 1],
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```

```
map
```

```
##      unique.data.participant_id. data.gender V3 V4
## 1              1              1 NA NA
## 2              3              0 NA NA
## 3              6              1 NA NA
## 4              8              1 NA NA
## 5             14              0 NA NA
## 6             17              1 NA NA
## 7             20              1 NA NA
## 8             24              0 NA NA
## 9             28              0 NA NA
## 10            32              1 NA NA
## 11            34              0 NA NA
## 12            37              0 NA NA
## 13            39              0 NA NA
## 14            40              0 NA NA
## 15            43              1 NA NA
## 16            46              0 NA NA
## 17            52              1 NA NA
## 18            54              0 NA NA
## 19            57              0 NA NA
## 20            59              0 NA NA
## 21            64              0 NA NA
## 22            69              1 NA NA
## 23            72              0 NA NA
## 24            74              1 NA NA
## 25            76              1 NA NA
## 26            82              1 NA NA
## 27            85              1 NA NA
## 28            88              0 NA NA
## 29            90              0 NA NA
## 30            93              1 NA NA
## 31            96              0 NA NA
## 32            99              0 NA NA
## 33           102              1 NA NA
## 34           105              1 NA NA
```

## 35	108	0 NA NA
## 36	110	0 NA NA
## 37	112	0 NA NA
## 38	114	0 NA NA
## 39	117	0 NA NA
## 40	120	1 NA NA
## 41	122	0 NA NA
## 42	125	0 NA NA
## 43	128	1 NA NA
## 44	132	1 NA NA
## 45	134	0 NA NA
## 46	136	1 NA NA
## 47	139	0 NA NA
## 48	141	0 NA NA
## 49	144	0 NA NA
## 50	147	1 NA NA
## 51	151	1 NA NA
## 52	152	0 NA NA
## 53	153	0 NA NA
## 54	154	0 NA NA
## 55	155	1 NA NA
## 56	156	0 NA NA
## 57	157	0 NA NA
## 58	158	1 NA NA
## 59	159	1 NA NA
## 60	160	1 NA NA
## 61	161	1 NA NA
## 62	162	0 NA NA
## 63	163	0 NA NA
## 64	164	1 NA NA
## 65	165	0 NA NA
## 66	166	0 NA NA
## 67	167	1 NA NA
## 68	168	1 NA NA
## 69	169	0 NA NA
## 70	170	1 NA NA
## 71	171	0 NA NA
## 72	172	1 NA NA
## 73	173	0 NA NA
## 74	174	0 NA NA
## 75	175	1 NA NA
## 76	176	1 NA NA
## 77	177	0 NA NA
## 78	178	1 NA NA
## 79	179	0 NA NA
## 80	180	1 NA NA
## 81	181	1 NA NA
## 82	182	0 NA NA
## 83	183	1 NA NA
## 84	184	0 NA NA
## 85	185	0 NA NA
## 86	186	1 NA NA
## 87	187	0 NA NA
## 88	188	0 NA NA

## 89	189	0 NA NA
## 90	190	1 NA NA
## 91	191	0 NA NA
## 92	192	0 NA NA
## 93	193	0 NA NA
## 94	194	0 NA NA
## 95	195	1 NA NA
## 96	196	1 NA NA
## 97	197	0 NA NA
## 98	198	0 NA NA
## 99	199	0 NA NA
## 100	200	0 NA NA
## 101	4	0 NA NA
## 102	7	1 NA NA
## 103	9	1 NA NA
## 104	11	1 NA NA
## 105	15	0 NA NA
## 106	18	0 NA NA
## 107	21	1 NA NA
## 108	22	0 NA NA
## 109	26	0 NA NA
## 110	30	0 NA NA
## 111	33	0 NA NA
## 112	35	1 NA NA
## 113	44	1 NA NA
## 114	47	0 NA NA
## 115	49	0 NA NA
## 116	55	0 NA NA
## 117	58	0 NA NA
## 118	60	0 NA NA
## 119	62	0 NA NA
## 120	65	0 NA NA
## 121	67	1 NA NA
## 122	70	1 NA NA
## 123	77	1 NA NA
## 124	79	0 NA NA
## 125	81	1 NA NA
## 126	83	0 NA NA
## 127	86	0 NA NA
## 128	91	0 NA NA
## 129	94	1 NA NA
## 130	97	0 NA NA
## 131	100	0 NA NA
## 132	103	0 NA NA
## 133	106	1 NA NA
## 134	115	0 NA NA
## 135	118	0 NA NA
## 136	123	1 NA NA
## 137	126	0 NA NA
## 138	129	0 NA NA
## 139	137	0 NA NA
## 140	140	0 NA NA
## 141	142	1 NA NA
## 142	145	1 NA NA

## 143	148	1 NA NA
## 144	150	0 NA NA