





## Prédiction des performances

Projet tutoré



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#### Mise en forme des données

#### Prédiction en retirant les NAs

#### Différents modèles univariés

```
\mathbf{Sex}
#>
#> Call:
#> glm(formula = do_not_finish ~ sexH, family = binomial(link = "logit"),
      data = data sans NA)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 1.1093
                         0.1465 7.575 3.6e-14 ***
#> sexH1
                0.9056
                           0.4586 1.975 0.0483 *
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 317.01 on 299 degrees of freedom
#> AIC: 321.01
#>
#> Number of Fisher Scoring iterations: 4
Age
#>
#> Call:
#> glm(formula = do_not_finish ~ age, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept) 2.28904
                          0.49910 4.586 4.51e-06 ***
              -0.02775
                          0.01230 -2.255 0.0241 *
#> age
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 316.60 on 299 degrees of freedom
#> AIC: 320.6
#> Number of Fisher Scoring iterations: 4
```

#### Weight

```
#>
#> Call:
#> glm(formula = do_not_finish ~ weight, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
#>
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 4.07678
                          1.08575 3.755 0.000173 ***
              -0.04043
                          0.01510 -2.677 0.007428 **
#> weight
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' '1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 314.22 on 299 degrees of freedom
#> AIC: 318.22
#>
#> Number of Fisher Scoring iterations: 4
Max Weight
#>
#> Call:
#> glm(formula = do_not_finish ~ max_weight, family = binomial(link = "logit"),
      data = data_sans_NA)
#> Coefficients:
#>
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 3.62058
                                   3.480 0.000502 ***
                          1.04050
#> max_weight -0.03297
                          0.01406 -2.345 0.019038 *
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 315.99 on 299 degrees of freedom
#> AIC: 319.99
#>
#> Number of Fisher Scoring iterations: 4
Min Weight
#>
#> Call:
#> glm(formula = do_not_finish ~ min_weight, family = binomial(link = "logit"),
      data = data_sans_NA)
```

```
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 3.78885 1.05817 3.581 0.000343 ***
#> min_weight -0.03718
                          0.01506 -2.468 0.013572 *
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 315.36 on 299 degrees of freedom
#> AIC: 319.36
#>
#> Number of Fisher Scoring iterations: 4
Fulfillment
#>
#> Call:
#> glm(formula = do_not_finish ~ fulfillment, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 0.8649 0.9486 0.912 0.362
#> fulfillment 0.4588
                          1.1770 0.390
                                             0.697
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.49 on 299 degrees of freedom
#> AIC: 325.49
#>
#> Number of Fisher Scoring iterations: 4
Priority
#>
#> Call:
#> glm(formula = do_not_finish ~ priority, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 1.2597
                        0.2330 5.407 6.42e-08 ***
#> priority
              -0.1461
                           0.9714 - 0.150
                                             0.88
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
```

```
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.62 on 299 degrees of freedom
#> AIC: 325.62
#>
#> Number of Fisher Scoring iterations: 4
Intrinsic motivation
#>
#> Call:
#> glm(formula = do_not_finish ~ intrinsic_motivation, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
#>
                       Estimate Std. Error z value Pr(>|z|)
                                     1.135
                                            1.874
#> (Intercept)
                          2.128
                                                     0.0609 .
#> intrinsic_motivation
                         -1.014
                                     1.270 -0.799
                                                     0.4245
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 320.99 on 299 degrees of freedom
#> AIC: 324.99
#>
#> Number of Fisher Scoring iterations: 4
Identified motivation
#>
#> Call:
#> glm(formula = do_not_finish ~ identified_motivation, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
                        Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept)
                          1.4797
                                    0.7517
                                             1.968
                                                       0.049 *
                                     0.9567 -0.337
                                                       0.736
#> identified_motivation -0.3221
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.53 on 299 degrees of freedom
#> AIC: 325.53
```

#>

```
#> Number of Fisher Scoring iterations: 4
```

#### Integrated motivation

```
#>
#> Call:
#> glm(formula = do_not_finish ~ integrated_motivation, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                      Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                        #> integrated_motivation -1.6966
                                 0.9530 -1.780 0.075043 .
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 318.26 on 299 degrees of freedom
#> AIC: 322.26
#> Number of Fisher Scoring iterations: 4
Introjected motivation
#>
#> Call:
#> glm(formula = do_not_finish ~ introjected_motivation, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
                      Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                        0.8514 0.859 0.390260
#> introjected_motivation 0.7315
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
```

# #> Null deviance: 321.64 on 300 degrees of freedom #> Residual deviance: 320.89 on 299 degrees of freedom #> AIC: 324.89

#> (Dispersion parameter for binomial family taken to be 1)

#> Number of Fisher Scoring iterations: 4

#### External motivation

#> #> Call:

```
#> glm(formula = do_not_finish ~ external_motivation, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
                     Estimate Std. Error z value Pr(>|z|)
                        #> (Intercept)
#> external motivation 0.9542
                                  1.4311
                                           0.667
                                                  0.505
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.17 on 299 degrees of freedom
#> AIC: 325.17
#>
#> Number of Fisher Scoring iterations: 4
Global mental force
#>
#> Call:
#> glm(formula = do_not_finish ~ global_mental_force, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                      Estimate Std. Error z value Pr(>|z|)
                               0.8496 4.510 6.47e-06 ***
#> (Intercept)
                        3.8321
#> global_mental_force -4.0362
                                  1.2756 -3.164 0.00155 **
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#>
#> Residual deviance: 311.05 on 299 degrees of freedom
#> AIC: 315.05
#>
#> Number of Fisher Scoring iterations: 4
Confidence
#>
#> glm(formula = do_not_finish ~ confidence, family = binomial(link = "logit"),
      data = data_sans_NA_sous_dim_mental_force)
#>
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept) 3.6925
                          0.6946 5.316 1.06e-07 ***
```

```
#> confidence -4.1454 1.1113 -3.730 0.000191 ***
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 306.22 on 299 degrees of freedom
#> AIC: 310.22
#>
#> Number of Fisher Scoring iterations: 4
Consistency
#>
#> Call:
#> glm(formula = do_not_finish ~ consistency, family = binomial(link = "logit"),
      data = data_sans_NA_sous_dim_mental_force)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 3.4098
                         0.8822 3.865 0.000111 ***
#> consistency -2.8821
                           1.1342 -2.541 0.011051 *
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 314.89 on 299 degrees of freedom
#> AIC: 318.89
#>
#> Number of Fisher Scoring iterations: 4
Control
#>
#> Call:
#> glm(formula = do_not_finish ~ control, family = binomial(link = "logit"),
      data = data_sans_NA_sous_dim_mental_force)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept) 1.5584
                        0.4438 3.511 0.000446 ***
#> control
              -0.5355
                           0.6844 -0.783 0.433915
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
```

#>

```
Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.03 on 299 degrees of freedom
#> AIC: 325.03
#>
#> Number of Fisher Scoring iterations: 4
Training internal speech
#>
#> Call:
#> glm(formula = do_not_finish ~ training_internal_speech, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
#>
                          Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                           0.62286 -0.121 0.903674
#> training_internal_speech -0.07538
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.63 on 299 degrees of freedom
#> AIC: 325.63
#>
#> Number of Fisher Scoring iterations: 4
Competition internal speech
#>
#> Call:
#> glm(formula = do_not_finish ~ competition_internal_speech, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                             Estimate Std. Error z value Pr(>|z|)
                                        0.4391 4.048 5.17e-05 ***
#> (Intercept)
                               1.7774
#> competition_internal_speech -0.9254
                                          0.6943 -1.333
                                                           0.183
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 319.83 on 299 degrees of freedom
#> AIC: 323.83
```

#>

#> Number of Fisher Scoring iterations: 4

#### General precompetitive anxiety

```
#>
#> Call:
#> glm(formula = do_not_finish ~ general_precompetitive_anxiety,
       family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
#>
                                  Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                                    1.0384
                                               0.2423
                                                        4.286 1.82e-05 ***
                                    0.7525
                                               0.7967
                                                        0.945
#> general_precompetitive_anxiety
                                                                 0.345
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 320.73 on 299 degrees of freedom
#> AIC: 324.73
#>
#> Number of Fisher Scoring iterations: 4
Somatic anxiety
#>
#> Call:
#> glm(formula = do_not_finish ~ somatic_anxiety, family = binomial(link = "logit"),
      data = data_sans_NA_sous_dim_anxiety)
#>
#> Coefficients:
#>
                  Estimate Std. Error z value Pr(>|z|)
                                0.2086
                                       5.752 8.8e-09 ***
#> (Intercept)
                    1.1998
#> somatic_anxiety 0.1459
                                0.7251
                                       0.201
                                                  0.841
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.60 on 299 degrees of freedom
#> AIC: 325.6
#>
#> Number of Fisher Scoring iterations: 4
Cognitive anxiety
#>
#> Call:
#> glm(formula = do_not_finish ~ cognitive_anxiety, family = binomial(link = "logit"),
       data = data_sans_NA_sous_dim_anxiety)
```

```
#>
#> Coefficients:
#>
                    Estimate Std. Error z value Pr(>|z|)
                    0.9773 0.2291 4.265
#> (Intercept)
                                                  2e-05 ***
#> cognitive_anxiety 0.8596
                               0.6435 1.336
                                                  0.182
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 319.79 on 299 degrees of freedom
#> AIC: 323.79
#>
#> Number of Fisher Scoring iterations: 4
Harmonious hobbies
#>
#> glm(formula = do_not_finish ~ harmonious_hobbies, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                     Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                     1.9118 0.9149 2.090 0.0367 *
#> harmonious hobbies -0.9133
                                1.2090 -0.755 0.4500
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.07 on 299 degrees of freedom
#> AIC: 325.07
#> Number of Fisher Scoring iterations: 4
Obsessive hobbies
#>
#> Call:
#> glm(formula = do_not_finish ~ obsessive_hobbies, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
                    Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 1.4897 0.2726 5.465 4.64e-08 ***
#> obsessive_hobbies -0.7990     0.7099 -1.126
                                                0.26
#> ---
```

```
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 320.38 on 299 degrees of freedom
#> AIC: 324.38
#>
#> Number of Fisher Scoring iterations: 4
Addiction
#>
#> Call:
#> glm(formula = do_not_finish ~ addiction, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                0.7605
                           0.5272
                                    1.442
                                             0.149
                0.8572
                           0.9345
                                    0.917
                                             0.359
#> addiction
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 320.80 on 299 degrees of freedom
#> AIC: 324.8
#>
#> Number of Fisher Scoring iterations: 4
Weekly volume profession
#>
#> Call:
#> glm(formula = do_not_finish ~ weekly_volume_profession35 + weekly_volume_profession45,
       family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
                              Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept)
                                1.6631
                                           0.2025
                                                   8.212 < 2e-16 ***
#> weekly_volume_profession351 -0.6913
                                           0.3735 -1.851 0.064169 .
#> weekly_volume_profession451 -1.1208
                                           0.3229 -3.471 0.000519 ***
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' '1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#>
#> Residual deviance: 309.03 on 298 degrees of freedom
#> AIC: 315.03
```

```
#>
#> Number of Fisher Scoring iterations: 4
Start trail
#>
#> Call:
#> glm(formula = do_not_finish ~ start_trail2 + start_trail25 +
      start_trail510, family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
#>
                  Estimate Std. Error z value Pr(>|z|)
                    0.7949
                               0.3220
                                       2.469 0.013561 *
#> (Intercept)
#> start_trail21
                    2.3550
                               0.6717
                                        3.506 0.000455 ***
                    0.1282
                               0.3897
                                       0.329 0.742114
#> start_trail251
                    0.1916
                               0.4075
                                       0.470 0.638319
#> start_trail5101
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 297.35 on 297 degrees of freedom
#> AIC: 305.35
#> Number of Fisher Scoring iterations: 5
Time proportion other practice
#>
#> Call:
#> glm(formula = do_not_finish ~ time_proportion_other_practice20 +
      time_proportion_other_practice50, family = binomial(link = "logit"),
#>
       data = data sans NA)
#>
#> Coefficients:
#>
                                     Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                                       1.4271
                                                 0.2625
                                                         5.437 5.41e-08 ***
                                                                   0.254
#> time_proportion_other_practice201 -0.3586
                                                 0.3142 -1.141
#> time_proportion_other_practice501
                                      0.2593
                                                 0.5531
                                                                    0.639
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 319.23 on 298 degrees of freedom
#> AIC: 325.23
```

#> Number of Fisher Scoring iterations: 4

#### Coach for trail

```
#>
#> Call:
#> glm(formula = do_not_finish ~ coach_for_trailOui, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
#>
                      Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                        1.3665
                                    0.1569 8.711
                                                     <2e-16 ***
#> coach_for_trailOui1 -0.7032
                                    0.3372 -2.085
                                                     0.0371 *
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 317.51 on 299 degrees of freedom
#> AIC: 321.51
#>
#> Number of Fisher Scoring iterations: 4
Heart rate monitor train
#>
#> Call:
#> glm(formula = do_not_finish ~ heart_rate_monitor_trainOui, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
#>
                                Estimate Std. Error z value Pr(>|z|)
                                            0.2621
                                                    5.495 3.91e-08 ***
#> (Intercept)
                                  1.4404
#> heart_rate_monitor_trainOui1 -0.2961
                                            0.3084 -0.960
                                                               0.337
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#>
#> Residual deviance: 320.70 on 299 degrees of freedom
#> AIC: 324.7
#>
#> Number of Fisher Scoring iterations: 4
Heart rate monitor competition
#>
#> Call:
#> glm(formula = do_not_finish ~ heart_rate_monitor_competitionOui,
      family = binomial(link = "logit"), data = data_sans_NA)
```

```
#>
#> Coefficients:
#>
                                   Estimate Std. Error z value Pr(>|z|)
                                            0.2005 5.579 2.42e-08 ***
#> (Intercept)
                                     1.1186
#> heart_rate_monitor_competitionOui1
                                     0.2088
                                               0.2763 0.756
                                                                 0.45
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.07 on 299 degrees of freedom
#> AIC: 325.07
#>
#> Number of Fisher Scoring iterations: 4
Connected platform
#>
#> Call:
#> glm(formula = do_not_finish ~ connected_platformOui, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                        Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                          #> connected platformOui1 -0.1029
                                    0.4242 -0.243 0.808335
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.58 on 299 degrees of freedom
#> AIC: 325.58
#> Number of Fisher Scoring iterations: 4
ITRA rating know
#>
#> Call:
#> glm(formula = do_not_finish ~ ITRA_rating_knowOui, family = binomial(link = "logit"),
      data = data_sans_NA)
#>
#> Coefficients:
                      Estimate Std. Error z value Pr(>|z|)
                        #> (Intercept)
#> ITRA_rating_knowOui1 -0.5198 0.2976 -1.747 0.0807 .
```

```
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>

#> (Dispersion parameter for binomial family taken to be 1)
#>

** Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 318.47 on 299 degrees of freedom
#> AIC: 322.47
#>
** Number of Fisher Scoring iterations: 4
```

#### Number hours practice trail phase preparation

```
#>
#> Call:
#> glm(formula = do_not_finish ~ number_hours_practice_trail_phase_preparation3 +
       number_hours_practice_trail_phase_preparation37 + number_hours_practice_trail_phase_preparation7
#>
       family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
#>
                                                     Estimate Std. Error z value
                                                                  0.9129
                                                                          0.444
#> (Intercept)
                                                       0.4055
                                                                          1.876
#> number_hours_practice_trail_phase_preparation31
                                                       2.0513
                                                                  1.0933
#> number_hours_practice_trail_phase_preparation371
                                                       0.8588
                                                                  0.9317 0.922
#> number_hours_practice_trail_phase_preparation7121
                                                       0.4953
                                                                  0.9420 0.526
#>
                                                     Pr(>|z|)
                                                       0.6569
#> (Intercept)
#> number_hours_practice_trail_phase_preparation31
                                                       0.0606 .
#> number_hours_practice_trail_phase_preparation371
                                                       0.3566
#> number_hours_practice_trail_phase_preparation7121
                                                       0.5990
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
       Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 313.07 on 297 degrees of freedom
#> AIC: 321.07
#>
#> Number of Fisher Scoring iterations: 5
```

#### Trail participation last two seasons

```
#>
#> Call:
#> glm(formula = do_not_finish ~ trail_participation_last_two_seasonsOui,
#> family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
#> Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
2.6741
0.7311
3.658
0.000254
```

```
#> trail_participation_last_two_seasonsOui1 -1.5457
                                                      0.7447 -2.076 0.037925
#>
#> (Intercept)
#> trail_participation_last_two_seasonsOui1 *
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 315.15 on 299 degrees of freedom
#> AIC: 319.15
#>
#> Number of Fisher Scoring iterations: 5
Drop practice trail phase preparation
#>
#> Call:
#> glm(formula = do_not_finish ~ drop_practice_trail_phase_preparation1000 +
      drop_practice_trail_phase_preparation2000, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
#>
                                             Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                                               1.4404 0.2140 6.730 1.7e-11
#> drop_practice_trail_phase_preparation10001 -0.1456
                                                        0.3309 -0.440 0.6599
                                                        0.3394 -1.934
#> drop_practice_trail_phase_preparation20001 -0.6562
                                                                         0.0531
#> (Intercept)
#> drop_practice_trail_phase_preparation10001
#> drop_practice_trail_phase_preparation20001 .
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 317.87 on 298 degrees of freedom
#> AIC: 323.87
#>
#> Number of Fisher Scoring iterations: 4
Kilometres practice trail phase preparation
#>
#> Call:
#> glm(formula = do_not_finish ~ kilometres_practice_trail_phase_preparation20 +
      kilometres_practice_trail_phase_preparation2050 + kilometres_practice_trail_phase_preparation508
#>
```

family = binomial(link = "logit"), data = data\_sans\_NA)

#>

```
#>
#> Coefficients:
                                                    Estimate Std. Error z value
#>
#> (Intercept)
                                                      0.5754
                                                                0.4167
                                                                          1.381
#> kilometres_practice_trail_phase_preparation201
                                                      1.9095
                                                                 0.8457
                                                                          2.258
#> kilometres_practice_trail_phase_preparation20501
                                                      0.8275
                                                                 0.4638 1.784
#> kilometres_practice_trail_phase_preparation50801
                                                      0.3915
                                                                 0.4741 0.826
#>
                                                    Pr(>|z|)
#> (Intercept)
                                                      0.1673
#> kilometres_practice_trail_phase_preparation201
                                                      0.0240 *
#> kilometres_practice_trail_phase_preparation20501
                                                      0.0744
#> kilometres_practice_trail_phase_preparation50801
                                                      0.4089
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
       Null deviance: 321.64 on 300
                                      degrees of freedom
#> Residual deviance: 313.16 on 297 degrees of freedom
#> AIC: 321.16
#>
#> Number of Fisher Scoring iterations: 5
```

#### Number hours training trail phase preparation

```
#>
#> Call:
#> glm(formula = do_not_finish ~ number_hours_training_trail_phase_preparation3 +
       number_hours_training_trail_phase_preparation37 + number_hours_training_trail_phase_preparation7
#>
#>
       family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
#>
                                                      Estimate Std. Error z value
#> (Intercept)
                                                                  0.42956
                                                       1.23214
                                                                            2.868
#> number_hours_training_trail_phase_preparation31
                                                      -0.02817
                                                                  0.78604
                                                                          -0.036
#> number_hours_training_trail_phase_preparation371
                                                                  0.49429
                                                                            0.803
                                                       0.39710
#> number_hours_training_trail_phase_preparation7121 -0.29502
                                                                  0.47026 -0.627
#>
                                                      Pr(>|z|)
#> (Intercept)
                                                       0.00413 **
#> number_hours_training_trail_phase_preparation31
                                                      0.97141
#> number_hours_training_trail_phase_preparation371
                                                       0.42177
#> number_hours_training_trail_phase_preparation7121 0.53043
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#>
  (Dispersion parameter for binomial family taken to be 1)
#>
       Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 316.49 on 297 degrees of freedom
#> AIC: 324.49
#>
```

#### Frequence medical apointment trail

```
#>
#> Call:
#> glm(formula = do_not_finish ~ frequence_medical_apointment_trail2 +
       frequence_medical_apointment_trail6, family = binomial(link = "logit"),
#>
#>
       data = data_sans_NA)
#>
#> Coefficients:
#>
                                        Estimate Std. Error z value Pr(>|z|)
#> (Intercept)
                                          1.5581
                                                     0.3890
                                                              4.006 6.19e-05 ***
#> frequence_medical_apointment_trail21 -0.3542
                                                     0.4173 -0.849
                                                                       0.396
#> frequence_medical_apointment_trail61 -1.0473
                                                     0.8274 -1.266
                                                                       0.206
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
       Null deviance: 321.64 on 300 degrees of freedom
#>
#> Residual deviance: 319.95 on 298 degrees of freedom
#> AIC: 325.95
#>
#> Number of Fisher Scoring iterations: 4
```

#### Which races UT4M 2023

```
#>
#> Call:
#> glm(formula = do_not_finish ~ which_races_UT4M_2023_20km + which_races_UT4M_2023_40km +
       which_races_UT4M_2023_80km + which_races_UT4M_2023_100km,
#>
#>
       family = binomial(link = "logit"), data = data_sans_NA)
#>
#> Coefficients:
                               Estimate Std. Error z value Pr(>|z|)
#>
#> (Intercept)
                                 0.2283
                                            0.2146 1.064 0.287468
#> which_races_UT4M_2023_20km1
                               17.3378
                                          807.5520
                                                     0.021 0.982871
                                 1.9690
                                            0.4117
                                                     4.782 1.73e-06 ***
#> which_races_UT4M_2023_40km1
#> which_races_UT4M_2023_80km1
                                 1.7458
                                            0.5233
                                                     3.336 0.000849 ***
                                            0.3687
                                                     2.237 0.025284 *
#> which_races_UT4M_2023_100km1
                                 0.8249
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#>
#> Residual deviance: 276.08 on 296 degrees of freedom
#> AIC: 286.08
#>
```

#### Trail health problem involve no training

```
#>
#> Call:
#> glm(formula = do_not_finish ~ trail_health_problem_involve_no_trainingOui,
      family = binomial(link = "logit"), data = data_sans_NA)
#>
#>
#> Coefficients:
#>
                                                Estimate Std. Error z value
#> (Intercept)
                                                 1.21640
                                                           0.16434 7.402
#> trail_health_problem_involve_no_trainingOui1 0.05055
                                                            0.30181
                                                                     0.167
                                                Pr(>|z|)
#> (Intercept)
                                                1.34e-13 ***
#> trail_health_problem_involve_no_trainingOui1
                                                  0.867
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.62 on 299 degrees of freedom
#> AIC: 325.62
#>
#> Number of Fisher Scoring iterations: 4
```

#### Time trail health problem involve no training

#### Smoke

```
#>
#> Call:
#> glm(formula = do_not_finish ~ smokeOui, family = binomial(link = "logit"),
#>
      data = data_sans_NA)
#>
#> Coefficients:
              Estimate Std. Error z value Pr(>|z|)
#> (Intercept) 1.22829
                          0.14103 8.710 <2e-16 ***
             0.07099
                          0.66643
                                   0.107
                                             0.915
#> smokeOui1
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 321.64 on 300 degrees of freedom
#> Residual deviance: 321.63 on 299 degrees of freedom
#> AIC: 325.63
#> Number of Fisher Scoring iterations: 4
```

#### Modèle complet

```
#> Table de contingence pour la variable do_not_finish :
#>
#>
        0 1
   0 56 0
#>
   1 0 184
#>
#> Table de contingence pour la variable sexH :
#>
#>
        0
            1
    0 50
           6
#>
#>
    1 146 38
#> Table de contingence pour la variable weekly_volume_profession35 :
#>
#>
        0
           1
#>
    0 45 11
    1 153 31
#>
#>
#> Table de contingence pour la variable weekly_volume_profession45 :
#>
#>
        0
           1
    0 37 19
#>
#>
    1 152 32
#>
#> Table de contingence pour la variable start_trail2 :
#>
        0
#>
#>
    0 53 3
#>
    1 131 53
#>
#> Table de contingence pour la variable start_trail25 :
#>
#>
        0
#>
    0 33 23
#>
   1 127 57
#>
#> Table de contingence pour la variable start_trail510 :
#>
#>
        0
           1
#>
    0 38 18
#>
    1 134 50
#> Table de contingence pour la variable time_proportion_other_practice20 :
#>
#>
        0
           1
    0 19 37
#>
   1 74 110
#>
#> Table de contingence pour la variable time_proportion_other_practice50 :
```

```
#>
#>
        0 1
    0 52 4
#>
#>
    1 166 18
#> Table de contingence pour la variable coach_for_trailOui :
#>
        0
#>
#>
    0 42 14
    1 158 26
#>
#>
#> Table de contingence pour la variable heart_rate_monitor_trainOui :
#>
        0
           1
#>
#>
   0 15 41
#>
   1 65 119
#>
#> Table de contingence pour la variable heart_rate_monitor_competitionOui :
#>
        0
           1
#>
#>
    0 30 26
#>
    1 84 100
#> Table de contingence pour la variable connected_platformOui :
#>
#>
        0
          1
#>
   0 5 51
#>
    1 27 157
#>
#> Table de contingence pour la variable ITRA_rating_knowOui :
#>
#>
        0
          1
    0 18 38
#>
    1 77 107
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation3 :
#>
#>
        0
    0 53 3
#>
    1 157 27
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation37 :
#>
#>
        0
           1
#>
   0 27 29
   1 82 102
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation712 :
#>
#>
        0
#>
   0 33 23
```

```
1 132 52
#>
#>
#> Table de contingence pour la variable trail_participation_last_two_seasonsOui :
#>
#>
   0 2 54
#>
#>
   1 22 162
#>
#> Table de contingence pour la variable trail_injury_illnessOui :
#>
#>
        0
           1
    0 33 23
#>
#>
    1 115 69
#>
#> Table de contingence pour la variable drop_practice_trail_phase_preparation1000 :
#>
#>
        0
           1
#>
    0 41 15
#>
    1 123 61
#> Table de contingence pour la variable drop_practice_trail_phase_preparation2000 :
#>
#>
        0
           1
#>
    0 38 18
#>
   1 144 40
#>
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation20 :
#>
        0
#>
           1
   0 54
#>
           2
   1 164 20
#>
#>
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation2050 :
#>
#>
       0 1
   0 32 24
#>
#>
   1 94 90
#>
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation5080 :
#>
#>
        0
           1
    0 33 23
#>
    1 124 60
#>
#>
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation3 :
#>
#>
        0
            1
    0 54
           2
#>
#>
   1 176
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation37 :
```

```
#>
#>
        0
           1
    0 41 15
#>
#>
    1 102 82
#>
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation712 :
#>
        0
#>
#>
    0 24 32
    1 111 73
#>
#>
#> Table de contingence pour la variable frequence_medical_apointment_trail2 :
#>
        0
           1
#>
#>
   0 10 46
#>
    1 30 154
#>
#> Table de contingence pour la variable frequence_medical_apointment_trail6 :
#>
        0
            1
#>
#>
    0 53
           3
#>
    1 183
#>
#> Table de contingence pour la variable which_races_UT4M_2023_20km :
#>
#>
        0
           1
#>
    0 56
           0
#>
    1 166 18
#>
#> Table de contingence pour la variable which_races_UT4M_2023_40km :
#>
#>
        0
            1
     0 48
           8
#>
#>
    1 124 60
#> Table de contingence pour la variable which_races_UT4M_2023_80km :
#>
#>
        0
    0 54
#>
           2
    1 156 28
#>
#> Table de contingence pour la variable which_races_UT4M_2023_100km :
#>
#>
        0
           1
#>
    0 44 12
   1 147 37
#>
#> Table de contingence pour la variable trail_health_problem_involve_no_trainingOui :
#>
#>
        0
#>
   0 39 17
```

```
#>
    1 131 53
#>
#> Table de contingence pour la variable smokeOui :
#>
#>
        0
#>
    0 54
            2
    1 175
#>
#>
#> Call:
#> glm(formula = do_not_finish ~ ., family = binomial(link = "logit"),
      data = train)
#>
#> Coefficients:
#>
                                                      Estimate Std. Error z value
#> (Intercept)
                                                      15.45649
                                                                  5.03029
                                                                          3.073
                                                                  0.02684 -1.671
#> age
                                                      -0.04487
#> weight
                                                      -0.15293
                                                                  0.16950 -0.902
#> max_weight
                                                       0.07659
                                                                  0.13949
                                                                          0.549
                                                       0.03037
                                                                  0.15266
#> min_weight
                                                                          0.199
#> fulfillment
                                                       2.53285
                                                                  2.57362
                                                                           0.984
                                                       3.71497
                                                                  2.42445
#> priority
                                                                           1.532
#> intrinsic_motivation
                                                      -0.29787
                                                                  2.69603 -0.110
                                                                           0.268
#> identified_motivation
                                                       0.66443
                                                                  2.48346
#> integrated motivation
                                                                  2.22139 -0.643
                                                      -1.42777
#> introjected_motivation
                                                      -0.82929
                                                                  1.83125 -0.453
#> external_motivation
                                                       5.17178
                                                                  3.57506
                                                                           1.447
#> global_mental_force
                                                      -9.19644
                                                                  3.18644 -2.886
#> training_internal_speech
                                                      -0.05040
                                                                  1.49649 -0.034
                                                                  1.75667
#> competition_internal_speech
                                                       0.12067
                                                                          0.069
#> general_precompetitive_anxiety
                                                      -2.86975
                                                                  1.63891 -1.751
#> harmonious_hobbies
                                                      -1.27022
                                                                  2.82211 - 0.450
                                                      -2.75625
#> obsessive_hobbies
                                                                  1.66432 -1.656
#> addiction
                                                      -0.09134
                                                                  1.99753 -0.046
#> sexH1
                                                      -0.47539
                                                                  0.86962 -0.547
#> weekly_volume_profession351
                                                      -0.78536
                                                                  0.67919 - 1.156
#> weekly_volume_profession451
                                                      -0.75519
                                                                  0.59211 - 1.275
#> start trail21
                                                      1.01052
                                                                  1.04339
                                                                          0.968
#> start_trail251
                                                      -1.58323
                                                                  0.82918 -1.909
#> start trail5101
                                                                  0.77210 -0.555
                                                      -0.42860
#> time_proportion_other_practice201
                                                       0.58570
                                                                  0.57982
                                                                          1.010
#> time_proportion_other_practice501
                                                                  1.02573
                                                       1.26147
                                                                           1.230
#> coach_for_trailOui1
                                                      -0.38523
                                                                  0.59368 - 0.649
#> heart_rate_monitor_trainOui1
                                                      -2.44017
                                                                  0.81280 -3.002
#> heart_rate_monitor_competitionOui1
                                                       0.99460
                                                                  0.63612
                                                                           1.564
#> connected_platformOui1
                                                       0.07473
                                                                  0.82633
                                                                           0.090
#> ITRA_rating_knowOui1
                                                       0.55138
                                                                  0.55275
                                                                            0.998
#> number_hours_practice_trail_phase_preparation31
                                                      -3.93039
                                                                  2.48910 -1.579
#> number_hours_practice_trail_phase_preparation371
                                                      -2.56291
                                                                  2.05173 - 1.249
#> number_hours_practice_trail_phase_preparation7121
                                                      -1.00337
                                                                  1.90719 -0.526
#> trail_participation_last_two_seasonsOui1
                                                       0.36952
                                                                  1.36721
                                                                            0.270
#> trail_injury_illnessOui1
                                                       0.67901
                                                                  0.78634
                                                                            0.864
```

```
#> drop_practice_trail_phase_preparation10001
                                                        -0.14852
                                                                    0.63094 -0.235
                                                       -0.54075
                                                                    0.63330 -0.854
#> drop_practice_trail_phase_preparation20001
#> kilometres_practice_trail_phase_preparation201
                                                        1.14376
                                                                    1.57193 0.728
#> kilometres_practice_trail_phase_preparation20501
                                                                    1.00661
                                                         1.09956
                                                                              1.092
#> kilometres_practice_trail_phase_preparation50801
                                                        1.03852
                                                                    0.89063
                                                                             1.166
#> number_hours_training_trail_phase_preparation31
                                                       -0.43641
                                                                   1.54798 -0.282
#> number_hours_training_trail_phase_preparation371
                                                        0.17939
                                                                    0.93757
                                                                            0.191
#> number_hours_training_trail_phase_preparation7121
                                                        -0.87645
                                                                    0.81508 -1.075
#> frequence_medical_apointment_trail21
                                                        -1.37644
                                                                    0.70911 -1.941
#> frequence_medical_apointment_trail61
                                                        -6.35160
                                                                    2.86972 -2.213
#> which_races_UT4M_2023_20km1
                                                        19.19822 1276.17452
                                                                             0.015
#> which_races_UT4M_2023_40km1
                                                        2.13250
                                                                    0.70429
                                                                              3.028
#> which_races_UT4M_2023_80km1
                                                        2.67368
                                                                    1.00249
                                                                              2,667
#> which_races_UT4M_2023_100km1
                                                         1.05612
                                                                    0.58059
                                                                             1.819
#> trail_health_problem_involve_no_trainingOui1
                                                        -0.33804
                                                                    0.86624 -0.390
#> smokeOui1
                                                         1.79617
                                                                    1.61135
                                                                             1.115
#>
                                                     Pr(>|z|)
#> (Intercept)
                                                      0.00212 **
                                                      0.09463 .
#> age
#> weight
                                                      0.36692
#> max_weight
                                                      0.58298
#> min weight
                                                      0.84233
#> fulfillment
                                                      0.32504
#> priority
                                                      0.12545
#> intrinsic_motivation
                                                      0.91202
#> identified_motivation
                                                      0.78905
                                                      0.52040
#> integrated_motivation
#> introjected_motivation
                                                      0.65065
#> external_motivation
                                                      0.14800
#> global_mental_force
                                                      0.00390 **
#> training_internal_speech
                                                      0.97313
#> competition_internal_speech
                                                      0.94523
#> general_precompetitive_anxiety
                                                      0.07994
#> harmonious_hobbies
                                                      0.65264
#> obsessive hobbies
                                                      0.09770
#> addiction
                                                      0.96353
#> sexH1
                                                      0.58461
#> weekly_volume_profession351
                                                      0.24755
#> weekly_volume_profession451
                                                      0.20216
#> start_trail21
                                                      0.33280
#> start trail251
                                                      0.05621
#> start_trail5101
                                                      0.57882
#> time_proportion_other_practice201
                                                      0.31243
#> time_proportion_other_practice501
                                                      0.21876
#> coach_for_trailOui1
                                                      0.51642
#> heart_rate_monitor_trainOui1
                                                      0.00268 **
#> heart_rate_monitor_competitionOui1
                                                      0.11792
#> connected_platformOui1
                                                      0.92794
                                                      0.31851
#> ITRA_rating_knowOui1
#> number_hours_practice_trail_phase_preparation31
                                                      0.11433
#> number_hours_practice_trail_phase_preparation371
                                                      0.21161
```

```
#> number_hours_practice_trail_phase_preparation7121 0.59882
#> trail_participation_last_two_seasonsOui1
                                                      0.78695
#> trail_injury_illnessOui1
                                                      0.38786
#> drop_practice_trail_phase_preparation10001
                                                      0.81390
#> drop_practice_trail_phase_preparation20001
                                                      0.39318
#> kilometres_practice_trail_phase_preparation201
                                                      0.46685
#> kilometres_practice_trail_phase_preparation20501
                                                      0.27468
#> kilometres_practice_trail_phase_preparation50801
                                                      0.24359
#> number_hours_training_trail_phase_preparation31
                                                      0.77800
#> number_hours_training_trail_phase_preparation371
                                                      0.84827
#> number_hours_training_trail_phase_preparation7121
                                                      0.28224
#> frequence_medical_apointment_trail21
                                                      0.05225
#> frequence_medical_apointment_trail61
                                                      0.02688 *
#> which_races_UT4M_2023_20km1
                                                      0.98800
#> which_races_UT4M_2023_40km1
                                                      0.00246 **
#> which_races_UT4M_2023_80km1
                                                      0.00765 **
#> which_races_UT4M_2023_100km1
                                                      0.06891 .
#> trail_health_problem_involve_no_trainingOui1
                                                      0.69636
                                                      0.26498
#> smokeOui1
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
#>
       Null deviance: 260.77 on 239
                                     degrees of freedom
#> Residual deviance: 161.58 on 187 degrees of freedom
#> AIC: 267.58
#> Number of Fisher Scoring iterations: 17
#> AIC: 267.5846
#> BIC: 452.0585
#>
#> Call:
#> glm(formula = do_not_finish ~ ., family = binomial(link = "logit"),
       data = train_sous_dim_mental_force)
#>
#> Coefficients:
#>
                                                       Estimate Std. Error z value
#> (Intercept)
                                                      2.758e+01 5.750e+03
                                                                           0.005
                                                     -8.551e-02 3.551e-02 -2.408
#> age
#> weight
                                                     -5.935e-01 2.479e-01 -2.395
                                                      4.304e-01 1.885e-01
#> max_weight
                                                                             2.283
#> min_weight
                                                      1.401e-01 1.850e-01
                                                                             0.758
#> fulfillment
                                                     -9.066e-01 3.025e+00 -0.300
#> priority
                                                      3.849e+00 2.725e+00
                                                                            1.412
#> intrinsic_motivation
                                                      5.903e+00 3.801e+00
                                                                             1.553
#> identified_motivation
                                                      5.905e+00 2.970e+00
                                                                            1.988
#> integrated_motivation
                                                     -6.965e+00 3.516e+00 -1.981
#> introjected_motivation
                                                      2.893e+00 2.424e+00
                                                                            1.194
#> external_motivation
                                                      5.636e+00 4.607e+00
                                                                             1.223
#> confidence
                                                     -1.543e+01 3.977e+00 -3.881
```

```
#> consistency
                                                    -1.576e+00 2.498e+00 -0.631
#> control
                                                    3.299e+00 1.900e+00 1.736
                                                    3.488e+00 1.935e+00 1.803
#> training internal speech
                                                   -8.479e-01 2.129e+00 -0.398
#> competition_internal_speech
#> general_precompetitive_anxiety
                                                   -2.984e+00 2.360e+00 -1.264
#> harmonious hobbies
                                                    5.858e+00 3.612e+00 1.622
#> obsessive hobbies
                                                   -2.208e+00 1.992e+00 -1.108
                                                   -1.066e+00 2.715e+00 -0.393
#> addiction
#> sexH1
                                                    6.605e-01 1.015e+00 0.651
#> weekly_volume_profession351
                                                   -1.578e+00 8.931e-01 -1.767
#> weekly_volume_profession451
                                                   -1.577e+00 7.118e-01 -2.216
#> start_trail21
                                                   -4.335e-02 1.386e+00 -0.031
                                                   -3.466e+00 1.078e+00 -3.217
#> start_trail251
#> start_trail5101
                                                    3.501e-01 1.015e+00 0.345
                                                    1.156e+00 8.673e-01
#> time_proportion_other_practice201
                                                                           1.333
#> time_proportion_other_practice501
                                                    3.388e+00 1.461e+00
                                                                          2.319
                                                   -2.440e+00 8.799e-01 -2.773
#> coach_for_trailOui1
#> heart rate monitor trainOui1
                                                   -2.201e+00 9.821e-01 -2.241
                                                    1.089e+00 7.942e-01
#> heart_rate_monitor_competitionOui1
                                                                          1.372
#> connected_platformOui1
                                                   -4.146e-01 1.156e+00 -0.359
#> ITRA_rating_knowOui1
                                                    2.451e-01 6.753e-01
                                                                         0.363
#> number_hours_practice_trail_phase_preparation31
                                                   -2.335e+01 5.750e+03 -0.004
#> number_hours_practice_trail_phase_preparation371 -2.431e+01 5.750e+03 -0.004
#> number_hours_practice_trail_phase_preparation7121 -2.159e+01 5.750e+03 -0.004
#> trail_participation_last_two_seasonsOui1
                                                    2.702e+00 1.494e+00 1.809
#> trail_injury_illnessOui1
                                                   -2.509e-01 1.005e+00 -0.250
#> drop_practice_trail_phase_preparation10001
                                                    9.644e-03 8.041e-01
                                                                         0.012
#> drop_practice_trail_phase_preparation20001
                                                    1.161e-01 7.996e-01
                                                                         0.145
#> kilometres_practice_trail_phase_preparation201
                                                    1.975e+01 1.646e+03 0.012
#> kilometres_practice_trail_phase_preparation20501
                                                    2.158e+00 1.184e+00 1.823
#> kilometres_practice_trail_phase_preparation50801
                                                     1.836e+00 1.034e+00
                                                                          1.776
#> number_hours_training_trail_phase_preparation31
                                                    -1.326e+00 2.095e+00 -0.633
#> number_hours_training_trail_phase_preparation371
                                                   -2.329e+00 1.273e+00 -1.830
#> number_hours_training_trail_phase_preparation7121 -1.598e+00 1.034e+00 -1.545
                                                                         -2.214
#> frequence_medical_apointment_trail21
                                                    -1.956e+00 8.834e-01
#> frequence_medical_apointment_trail61
                                                   -3.647e+00 1.951e+00 -1.869
#> which races UT4M 2023 20km1
                                                    2.234e+01 1.753e+03
                                                                         0.013
#> which_races_UT4M_2023_40km1
                                                    4.430e+00 1.190e+00
                                                                           3.722
#> which_races_UT4M_2023_80km1
                                                    4.948e+00 1.351e+00
                                                                          3.662
#> which_races_UT4M_2023_100km1
                                                    1.558e+00 7.310e-01
                                                                           2.132
#> trail health problem involve no trainingOui1
                                                    8.856e-01 1.103e+00 0.803
#> smokeOui1
                                                    -1.670e+00 1.915e+00 -0.872
                                                   Pr(>|z|)
#> (Intercept)
                                                    0.996173
#> age
                                                    0.016050 *
#> weight
                                                    0.016642 *
#> max_weight
                                                    0.022404 *
#> min_weight
                                                    0.448750
#> fulfillment
                                                    0.764397
#> priority
                                                    0.157869
#> intrinsic_motivation
                                                    0.120475
```

```
#> identified motivation
                                                      0.046823 *
#> integrated_motivation
                                                      0.047598 *
#> introjected_motivation
                                                      0.232545
#> external_motivation
                                                      0.221239
#> confidence
                                                      0.000104 ***
#> consistency
                                                      0.528075
#> control
                                                      0.082542 .
#> training_internal_speech
                                                      0.071450 .
#> competition_internal_speech
                                                      0.690487
#> general_precompetitive_anxiety
                                                      0.206191
#> harmonious_hobbies
                                                      0.104774
#> obsessive_hobbies
                                                      0.267841
#> addiction
                                                      0.694593
#> sexH1
                                                      0.515348
#> weekly_volume_profession351
                                                      0.077311 .
#> weekly_volume_profession451
                                                      0.026692 *
#> start_trail21
                                                      0.975053
#> start trail251
                                                      0.001296 **
#> start_trail5101
                                                      0.730101
#> time_proportion_other_practice201
                                                      0.182599
#> time_proportion_other_practice501
                                                      0.020398 *
#> coach_for_trailOui1
                                                      0.005554 **
#> heart rate monitor trainOui1
                                                      0.025015 *
#> heart_rate_monitor_competitionOui1
                                                      0.170187
#> connected_platformOui1
                                                      0.719893
#> ITRA_rating_knowOui1
                                                      0.716628
#> number_hours_practice_trail_phase_preparation31
                                                      0.996760
#> number_hours_practice_trail_phase_preparation371
                                                      0.996626
#> number_hours_practice_trail_phase_preparation7121 0.997004
                                                      0.070427 .
#> trail_participation_last_two_seasonsOui1
#> trail_injury_illnessOui1
                                                      0.802783
#> drop_practice_trail_phase_preparation10001
                                                      0.990431
#> drop_practice_trail_phase_preparation20001
                                                      0.884572
#> kilometres_practice_trail_phase_preparation201
                                                      0.990429
#> kilometres_practice_trail_phase_preparation20501
                                                      0.068228 .
#> kilometres_practice_trail_phase_preparation50801 0.075769 .
#> number hours training trail phase preparation31
                                                      0.526812
#> number_hours_training_trail_phase_preparation371  0.067245 .
#> number_hours_training_trail_phase_preparation7121 0.122281
#> frequence_medical_apointment_trail21
                                                      0.026837 *
#> frequence medical apointment trail61
                                                      0.061644 .
#> which_races_UT4M_2023_20km1
                                                      0.989833
#> which_races_UT4M_2023_40km1
                                                      0.000198 ***
#> which_races_UT4M_2023_80km1
                                                      0.000251 ***
#> which_races_UT4M_2023_100km1
                                                      0.033014 *
#> trail_health_problem_involve_no_trainingOui1
                                                      0.422118
#> smokeOui1
                                                      0.383333
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#> (Dispersion parameter for binomial family taken to be 1)
```

```
#>
      Null deviance: 255.92 on 239 degrees of freedom
#> Residual deviance: 122.61 on 185 degrees of freedom
#> AIC: 232.61
#> Number of Fisher Scoring iterations: 18
#> AIC sous dimension global mental force : 232.6124
#> BIC sous dimension global mental force : 424.0476
#>
#> Call:
#> glm(formula = do_not_finish ~ ., family = binomial(link = "logit"),
      data = train_sous_dim_anxiety)
#> Coefficients:
#>
                                                      Estimate Std. Error z value
#> (Intercept)
                                                       9.87887
                                                                  5.32434
                                                                            1.855
#> age
                                                      -0.02535
                                                                  0.02926 -0.866
#> weight
                                                      -0.16318
                                                                 0.18177 -0.898
                                                       0.07671
                                                                  0.13823
                                                                           0.555
#> max_weight
#> min weight
                                                       0.04668
                                                                  0.16192
                                                                            0.288
#> fulfillment
                                                      -0.06573
                                                                  2.71979 -0.024
#> priority
                                                       0.12219
                                                                  2.31838
                                                                          0.053
#> intrinsic_motivation
                                                       4.40406
                                                                  3.36358
                                                                            1.309
#> identified motivation
                                                       3.31246
                                                                  2.53874
                                                                           1.305
                                                                  2.75698 -1.188
#> integrated_motivation
                                                      -3.27400
#> introjected_motivation
                                                       1.41370
                                                                  1.94838
                                                                           0.726
#> external_motivation
                                                       5.85231
                                                                  3.65541
                                                                            1.601
#> global_mental_force
                                                      -9.27184
                                                                  3.68002 -2.520
#> training_internal_speech
                                                       3.26497
                                                                 1.79428
                                                                          1.820
#> competition_internal_speech
                                                      -3.29936
                                                                  2.08283 -1.584
#> somatic_anxiety
                                                      -1.82004
                                                                  1.49005 -1.221
#> cognitive_anxiety
                                                      -0.39238
                                                                  1.57461 -0.249
#> harmonious_hobbies
                                                      -0.33077
                                                                  2.96442 -0.112
#> obsessive_hobbies
                                                      -2.27659
                                                                  1.71711 -1.326
#> addiction
                                                       0.00210
                                                                  2.36855
                                                                           0.001
                                                                  1.00561 -0.527
#> sexH1
                                                      -0.53002
#> weekly_volume_profession351
                                                      -0.87412
                                                                  0.74353 - 1.176
#> weekly_volume_profession451
                                                      -1.23378
                                                                  0.58681 - 2.103
#> start_trail21
                                                       0.75930
                                                                  1.09614
                                                                           0.693
#> start_trail251
                                                      -1.46498
                                                                  0.82054 - 1.785
#> start_trail5101
                                                                  0.78977
                                                                           0.528
                                                       0.41671
#> time_proportion_other_practice201
                                                       0.42217
                                                                  0.61367
                                                                            0.688
#> time_proportion_other_practice501
                                                       1.54961
                                                                  1.10023
                                                                           1.408
#> coach_for_trailOui1
                                                                  0.64762 -0.814
                                                      -0.52715
#> heart_rate_monitor_trainOui1
                                                      -1.65063
                                                                  0.82465 -2.002
#> heart_rate_monitor_competitionOui1
                                                                           1.328
                                                       0.91408
                                                                  0.68848
#> connected_platformOui1
                                                      -0.56050
                                                                  1.03266 -0.543
#> ITRA_rating_knowOui1
                                                       0.23228
                                                                  0.62353
                                                                           0.373
#> number_hours_practice_trail_phase_preparation31
                                                                  2.75743 -0.693
                                                      -1.91178
#> number_hours_practice_trail_phase_preparation371
                                                      -1.59462
                                                                  2.29886
                                                                          -0.694
#> number_hours_practice_trail_phase_preparation7121
                                                       0.35313
                                                                  2.16951
                                                                            0.163
```

```
#> trail_participation_last_two_seasonsOui1
                                                         0.88193
                                                                    1.28292
                                                                              0.687
#> trail_injury_illnessOui1
                                                         0.42996
                                                                    0.86792 0.495
#> drop_practice_trail_phase_preparation10001
                                                        -0.22510
                                                                    0.65067 -0.346
#> drop_practice_trail_phase_preparation20001
                                                                    0.68159 -0.885
                                                        -0.60346
#> kilometres_practice_trail_phase_preparation201
                                                        22.31083 1733.97933
                                                                             0.013
#> kilometres_practice_trail_phase_preparation20501
                                                        0.89786
                                                                    1.05228
                                                                            0.853
#> kilometres_practice_trail_phase_preparation50801
                                                        1.00917
                                                                    0.93467
                                                                              1.080
#> number_hours_training_trail_phase_preparation31
                                                        -0.04658
                                                                    1.91315 -0.024
#> number_hours_training_trail_phase_preparation371
                                                        -1.41667
                                                                    1.15723 -1.224
#> number_hours_training_trail_phase_preparation7121
                                                        -1.33686
                                                                    0.96499 - 1.385
#> frequence_medical_apointment_trail21
                                                        -1.55201
                                                                    0.76776 -2.021
#> frequence_medical_apointment_trail61
                                                        -1.47945
                                                                    1.62544 -0.910
#> which_races_UT4M_2023_20km1
                                                        19.72731 1997.33615
                                                                             0.010
                                                                              3.901
#> which_races_UT4M_2023_40km1
                                                         3.15488
                                                                    0.80866
#> which_races_UT4M_2023_80km1
                                                         3.72726
                                                                    1.04737
                                                                              3.559
#> which_races_UT4M_2023_100km1
                                                         1.52446
                                                                    0.64827
                                                                              2.352
#> trail_health_problem_involve_no_trainingOui1
                                                                    0.97414 -0.450
                                                        -0.43884
                                                        -0.53275
                                                                    1.42685 -0.373
                                                     Pr(>|z|)
#> (Intercept)
                                                      0.063537 .
#> age
                                                      0.386317
#> weight
                                                      0.369306
#> max_weight
                                                      0.578956
#> min weight
                                                      0.773108
#> fulfillment
                                                      0.980719
#> priority
                                                      0.957966
#> intrinsic_motivation
                                                      0.190420
#> identified_motivation
                                                      0.191972
#> integrated_motivation
                                                     0.235018
#> introjected_motivation
                                                     0.468096
#> external_motivation
                                                     0.109377
#> global_mental_force
                                                      0.011752 *
#> training_internal_speech
                                                      0.068812 .
#> competition_internal_speech
                                                      0.113175
#> somatic anxiety
                                                      0.221912
#> cognitive_anxiety
                                                     0.803210
#> harmonious hobbies
                                                     0.911155
#> obsessive_hobbies
                                                      0.184898
#> addiction
                                                      0.999293
#> sexH1
                                                     0.598152
#> weekly_volume_profession351
                                                     0.239745
#> weekly_volume_profession451
                                                     0.035506 *
#> start trail21
                                                      0.488495
#> start_trail251
                                                     0.074199
#> start_trail5101
                                                     0.597748
#> time_proportion_other_practice201
                                                     0.491497
#> time_proportion_other_practice501
                                                      0.158998
#> coach_for_trailOui1
                                                      0.415651
#> heart_rate_monitor_trainOui1
                                                      0.045328 *
#> heart_rate_monitor_competitionOui1
                                                      0.184280
#> connected_platformOui1
                                                     0.587288
```

```
#> ITRA_rating_knowOui1
                                                     0.709509
#> number_hours_practice_trail_phase_preparation31
                                                     0.488110
#> number_hours_practice_trail_phase_preparation371
                                                     0.487898
#> number_hours_practice_trail_phase_preparation7121 0.870700
#> trail_participation_last_two_seasonsOui1
                                                     0.491806
#> trail injury illnessOui1
                                                     0.620323
#> drop_practice_trail_phase_preparation10001
                                                     0.729375
#> drop_practice_trail_phase_preparation20001
                                                     0.375953
#> kilometres_practice_trail_phase_preparation201
                                                     0.989734
#> kilometres_practice_trail_phase_preparation20501
                                                     0.393523
#> kilometres_practice_trail_phase_preparation50801
                                                     0.280274
#> number_hours_training_trail_phase_preparation31
                                                     0.980577
#> number_hours_training_trail_phase_preparation371
                                                     0.220879
#> number_hours_training_trail_phase_preparation7121 0.165942
#> frequence_medical_apointment_trail21
                                                     0.043229 *
#> frequence_medical_apointment_trail61
                                                     0.362725
#> which_races_UT4M_2023_20km1
                                                     0.992120
#> which_races_UT4M_2023_40km1
                                                     9.57e-05 ***
#> which_races_UT4M_2023_80km1
                                                     0.000373 ***
#> which_races_UT4M_2023_100km1
                                                     0.018695 *
#> trail_health_problem_involve_no_trainingOui1
                                                     0.652356
#> smokeOui1
                                                     0.708873
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
       Null deviance: 260.77 on 239 degrees of freedom
#> Residual deviance: 152.80 on 186 degrees of freedom
#> AIC: 260.8
#>
#> Number of Fisher Scoring iterations: 18
#> AIC sous dimension anxiety: 260.8047
#> BIC sous dimension anxiety : 448.7592
```

#### Sélection Step

#> Coefficients:

```
#>
#> Call:
#> glm(formula = do_not_finish ~ age + weight + max_weight + external_motivation +
       global_mental_force + general_precompetitive_anxiety + obsessive_hobbies +
#>
       start_trail2 + start_trail25 + heart_rate_monitor_trainOui +
#>
       heart_rate_monitor_competitionOui + ITRA_rating_knowOui +
#>
       number_hours_practice_trail_phase_preparation3 + number_hours_practice_trail_phase_preparation37
#>
       number_hours_training_trail_phase_preparation712 + frequence_medical_apointment_trail2 +
#>
       frequence_medical_apointment_trail6 + which_races_UT4M_2023_20km +
#>
       which_races_UT4M_2023_40km + which_races_UT4M_2023_80km +
#>
       which_races_UT4M_2023_100km, family = binomial(link = "logit"),
#>
       data = train)
#>
```

```
#>
                                                      Estimate Std. Error z value
                                                      12.96605 2.96404 4.374
#> (Intercept)
#> age
                                                      -0.04122 0.02156 -1.912
                                                      -0.17347 0.10970 -1.581
#> weight
#> max_weight
                                                       0.14420
                                                                  0.10546
                                                                           1.367
#> external motivation
                                                       4.49373 2.64312 1.700
                                                      -8.86570
#> global_mental_force
                                                                  2.30492 -3.846
                                                      -2.22673
#> general_precompetitive_anxiety
                                                                  1.29783 -1.716
#> obsessive hobbies
                                                      -2.70330
                                                                  1.16036 -2.330
#> start_trail21
                                                       1.24788
                                                                  0.78048 1.599
#> start_trail251
                                                      -1.20468
                                                                  0.48271 - 2.496
#> heart_rate_monitor_trainOui1
                                                      -2.17367
                                                                  0.64564 - 3.367
                                                       1.31302
                                                                          2.362
#> heart_rate_monitor_competitionOui1
                                                                  0.55601
                                                       0.72656
#> ITRA_rating_knowOui1
                                                                  0.47696
                                                                          1.523
                                                      -1.96646
#> number_hours_practice_trail_phase_preparation31
                                                                  0.96182 -2.045
#> number_hours_practice_trail_phase_preparation371
                                                      -0.98021
                                                                  0.46511 -2.107
#> number_hours_training_trail_phase_preparation7121
                                                                  0.42029 - 1.576
                                                      -0.66237
#> frequence_medical_apointment_trail21
                                                      -0.81928
                                                                  0.57704 - 1.420
                                                      -3.66645
#> frequence_medical_apointment_trail61
                                                                  1.54799 -2.369
#> which_races_UT4M_2023_20km1
                                                      18.49635 1351.52328
                                                                          0.014
#> which_races_UT4M_2023_40km1
                                                       1.88146
                                                                  0.57635
                                                                          3.264
#> which_races_UT4M_2023_80km1
                                                       2.41488
                                                                  0.86698 2.785
#> which_races_UT4M_2023_100km1
                                                       0.90768
                                                                  0.49414 1.837
#>
                                                    Pr(>|z|)
                                                    1.22e-05 ***
#> (Intercept)
#> age
                                                    0.055910 .
#> weight
                                                    0.113798
#> max_weight
                                                    0.171524
#> external_motivation
                                                    0.089101 .
#> global_mental_force
                                                    0.000120 ***
#> general_precompetitive_anxiety
                                                    0.086210 .
#> obsessive_hobbies
                                                    0.019821 *
#> start_trail21
                                                    0.109849
#> start_trail251
                                                    0.012572 *
#> heart_rate_monitor_trainOui1
                                                    0.000761 ***
#> heart_rate_monitor_competitionOui1
                                                    0.018200 *
#> ITRA_rating_knowOui1
                                                    0.127680
#> number_hours_practice_trail_phase_preparation31
                                                    0.040903 *
#> number_hours_practice_trail_phase_preparation371  0.035075 *
#> number_hours_training_trail_phase_preparation7121 0.115031
#> frequence_medical_apointment_trail21
                                                    0.155670
#> frequence_medical_apointment_trail61
                                                    0.017859 *
#> which_races_UT4M_2023_20km1
                                                    0.989081
#> which_races_UT4M_2023_40km1
                                                    0.001097 **
#> which_races_UT4M_2023_80km1
                                                    0.005346 **
#> which_races_UT4M_2023_100km1
                                                    0.066228 .
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
#> (Dispersion parameter for binomial family taken to be 1)
#>
```

```
Null deviance: 260.77 on 239 degrees of freedom
#> Residual deviance: 173.84 on 218 degrees of freedom
#> AIC: 217.84
#>
#> Number of Fisher Scoring iterations: 17
#> AIC : 217.8425
#> BIC: 294.4166
#>
#> Call:
#> glm(formula = do_not_finish ~ age + weight + max_weight + identified_motivation +
      introjected_motivation + confidence + control + weekly_volume_profession45 +
#>
      start_trail25 + time_proportion_other_practice50 + coach_for_trailOui +
#>
      number_hours_practice_trail_phase_preparation3 + number_hours_practice_trail_phase_preparation37
      number_hours_practice_trail_phase_preparation712 + kilometres_practice_trail_phase_preparation20
#>
#>
      kilometres_practice_trail_phase_preparation2050 + kilometres_practice_trail_phase_preparation508
#>
      frequence_medical_apointment_trail2 + frequence_medical_apointment_trail6 +
#>
      which_races_UT4M_2023_20km + which_races_UT4M_2023_40km +
      which_races_UT4M_2023_80km + which_races_UT4M_2023_100km,
#>
#>
      family = binomial(link = "logit"), data = train_sous_dim_mental_force)
#>
#> Coefficients:
#>
                                                      Estimate Std. Error z value
#> (Intercept)
                                                      24.50811 5808.96671
                                                                          0.004
                                                                  0.02558 -2.269
#> age
                                                      -0.05805
                                                                  0.14436 -2.155
                                                      -0.31104
#> weight
                                                                  0.14165 2.106
#> max_weight
                                                       0.29834
#> identified_motivation
                                                       5.17922
                                                                  1.88392 2.749
#> introjected_motivation
                                                       3.00116
                                                                  1.32832 2.259
#> confidence
                                                      -8.67685 2.27101 -3.821
#> control
                                                       3.15027
                                                                 1.28297 2.455
#> weekly_volume_profession451
                                                                  0.53216 -3.357
                                                      -1.78644
                                                      -2.70384
#> start_trail251
                                                                  0.63224 -4.277
#> time_proportion_other_practice501
                                                       1.79491
                                                                  0.92527
                                                                          1.940
#> coach_for_trailOui1
                                                      -1.81679
                                                                  0.56354 -3.224
#> number_hours_practice_trail_phase_preparation31
                                                     -21.78265 5808.96631 -0.004
#> number_hours_practice_trail_phase_preparation371
                                                     -22.98791 5808.96619 -0.004
#> number_hours_practice_trail_phase_preparation7121 -21.30725 5808.96612 -0.004
#> kilometres_practice_trail_phase_preparation201
                                                      18.14972 1753.15712 0.010
#> kilometres_practice_trail_phase_preparation20501
                                                       1.44090
                                                                  0.89784
                                                                            1.605
#> kilometres_practice_trail_phase_preparation50801
                                                       1.63233
                                                                  0.76543 2.133
#> frequence_medical_apointment_trail21
                                                      -1.23552
                                                                  0.64607 - 1.912
#> frequence_medical_apointment_trail61
                                                      -2.96888
                                                                  1.35694 -2.188
#> which_races_UT4M_2023_20km1
                                                      20.33802 1936.05577
                                                                           0.011
#> which_races_UT4M_2023_40km1
                                                                  0.72861
                                                                            4.149
                                                       3.02279
                                                                  0.99012
#> which_races_UT4M_2023_80km1
                                                       3.83154
                                                                            3.870
#> which_races_UT4M_2023_100km1
                                                                  0.56945
                                                                            2.519
                                                       1.43458
#>
                                                    Pr(>|z|)
#> (Intercept)
                                                    0.996634
                                                    0.023255 *
#> age
#> weight
                                                    0.031190 *
#> max_weight
                                                    0.035182 *
```

```
#> identified motivation
                                                     0.005975 **
#> introjected_motivation
                                                     0.023861 *
#> confidence
                                                     0.000133 ***
#> control
                                                     0.014071 *
#> weekly_volume_profession451
                                                     0.000788 ***
#> start trail251
                                                     1.90e-05 ***
#> time_proportion_other_practice501
                                                     0.052394 .
#> coach for trailOui1
                                                     0.001265 **
#> number_hours_practice_trail_phase_preparation31
                                                     0.997008
#> number_hours_practice_trail_phase_preparation371
                                                     0.996843
#> number_hours_practice_trail_phase_preparation7121 0.997073
#> kilometres_practice_trail_phase_preparation201
                                                     0.991740
#> kilometres_practice_trail_phase_preparation20501 0.108527
#> kilometres_practice_trail_phase_preparation50801 0.032961 *
#> frequence_medical_apointment_trail21
                                                     0.055827 .
#> frequence_medical_apointment_trail61
                                                     0.028675 *
#> which_races_UT4M_2023_20km1
                                                     0.991618
#> which races UT4M 2023 40km1
                                                     3.34e-05 ***
#> which_races_UT4M_2023_80km1
                                                     0.000109 ***
#> which races UT4M 2023 100km1
                                                     0.011761 *
#> ---
#> Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 255.92 on 239 degrees of freedom
#> Residual deviance: 145.72 on 216 degrees of freedom
#> AIC: 193.72
#>
#> Number of Fisher Scoring iterations: 18
#> AIC sous dimension global mental force: 193.7198
#> BIC sous dimension global mental force : 277.2551
#>
#> Call:
#> glm(formula = do_not_finish ~ external_motivation + global_mental_force +
#>
       weekly_volume_profession45 + start_trail25 + heart_rate_monitor_trainOui +
#>
      heart rate monitor competitionOui + number hours practice trail phase preparation37 +
#>
      kilometres_practice_trail_phase_preparation20 + which_races_UT4M_2023_20km +
#>
       which_races_UT4M_2023_40km + which_races_UT4M_2023_80km +
#>
      which_races_UT4M_2023_100km, family = binomial(link = "logit"),
#>
       data = train_sous_dim_anxiety)
#>
#> Coefficients:
#>
                                                     Estimate Std. Error z value
#> (Intercept)
                                                       3.0886 1.2832 2.407
                                                                  2.0081 1.596
#> external_motivation
                                                       3.2045
#> global_mental_force
                                                      -2.8238
                                                                  1.7190 -1.643
#> weekly_volume_profession451
                                                      -1.1594
                                                                  0.4448 - 2.606
#> start_trail251
                                                      -1.3265
                                                                  0.4191 - 3.165
#> heart_rate_monitor_trainOui1
                                                      -1.1430
                                                                  0.5936 - 1.926
#> heart_rate_monitor_competitionOui1
                                                      0.7943
                                                                  0.5341
                                                                          1.487
```

```
#> number_hours_practice_trail_phase_preparation371
                                                      -1.0574
                                                                  0.4205 - 2.515
#> kilometres_practice_trail_phase_preparation201
                                                      17.4435 1262.8015
                                                                           0.014
                                                      18.6791 1327.7999
#> which_races_UT4M_2023_20km1
                                                                           0.014
#> which_races_UT4M_2023_40km1
                                                       2.7066
                                                                           4.961
                                                                  0.5456
#> which_races_UT4M_2023_80km1
                                                       3.4717
                                                                  0.8834
                                                                           3.930
#> which_races_UT4M_2023_100km1
                                                       1.4611
                                                                  0.4989
                                                                           2.929
#>
                                                    Pr(>|z|)
#> (Intercept)
                                                     0.01609 *
#> external_motivation
                                                     0.11054
#> global_mental_force
                                                     0.10046
#> weekly_volume_profession451
                                                     0.00915 **
#> start_trail251
                                                     0.00155 **
#> heart_rate_monitor_trainOui1
                                                     0.05415 .
#> heart_rate_monitor_competitionOui1
                                                     0.13698
#> number_hours_practice_trail_phase_preparation371 0.01191 *
#> kilometres_practice_trail_phase_preparation201
                                                     0.98898
#> which_races_UT4M_2023_20km1
                                                     0.98878
#> which_races_UT4M_2023_40km1
                                                    7.01e-07 ***
#> which_races_UT4M_2023_80km1
                                                    8.49e-05 ***
#> which_races_UT4M_2023_100km1
                                                     0.00340 **
#> ---
#> Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
#>
#> (Dispersion parameter for binomial family taken to be 1)
#>
      Null deviance: 260.77 on 239 degrees of freedom
#> Residual deviance: 177.36 on 227 degrees of freedom
#> AIC: 203.36
#>
#> Number of Fisher Scoring iterations: 17
#> AIC sous dimension anxiety : 203.3562
#> BIC sous dimension anxiety : 248.6045
```

#### Pénalisation Lasso

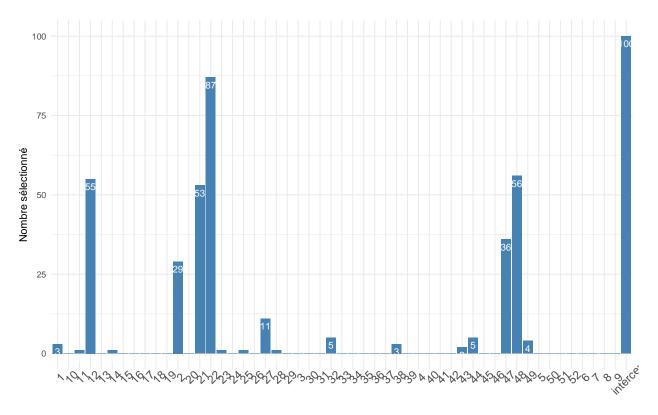
#>

#> 0.25

```
#> 0 1
#> 0 3 3
#> 1 9 46

#> L'accuracy mesure le nombre total de prédictions correctes par rapport au nombre total d'observations
#> 0.8033
#>
#> La sensibilité mesure la capacité du modèle à détecter les vrais positifs. La spécificité est égale
#> 0.9388
#>
```

#> La spécificité mesure la capacité du modèle à détecter les vrais négatifs. La sensibilité est égale



#### Variable

```
#>
                                                       var val
#> 1
                                                intercept 100
#> 2
                                             start_trail2
#> 3
                              which_races_UT4M_2023_40km
                                                            56
#> 4
                                      global_mental_force
#> 5
                              weekly_volume_profession45
                                                            53
#> 6
                              {\tt which\_races\_UT4M\_2023\_20km}
                                                            36
#> 7
                                                            29
                                                    weight
#> 8
                                      coach_for_trailOui
                                                            11
#> 9
                                                             5
        number_hours_practice_trail_phase_preparation3
                                                             5
#> 10 number_hours_training_trail_phase_preparation712
#> 11
                                                             4
                              which_races_UT4M_2023_80km
                                                             3
#> 12
                                                       age
                                                             3
#> 13
              drop_practice_trail_phase_preparation2000
#>
   14
       {\tt number\_hours\_training\_trail\_phase\_preparation37}
                                                             2
#> 15
                                      external_motivation
                                                             1
#> 16
                             competition_internal_speech
                                                             1
#> 17
                                                             1
                                            start_trail25
#> 18
                       time_proportion_other_practice20
                                                             1
#> 19
                                                             1
                             heart_rate_monitor_trainOui
#> 20
                                               max_weight
                                                             0
#> 21
                                               min_weight
                                                             0
#> 22
                                                             0
                                              fulfillment
#> 23
                                                 priority
                                                             0
```

```
#> 24
                                                            0
                                    intrinsic_motivation
#> 25
                                                            0
                                  identified_motivation
#> 26
                                  integrated_motivation
                                                            0
#> 27
                                                            0
                                 introjected_motivation
#> 28
                               training_internal_speech
                                                            0
                                                            0
#> 29
                         general_precompetitive_anxiety
#> 30
                                      harmonious hobbies
                                                            0
#> 31
                                       obsessive_hobbies
                                                            0
#> 32
                                               addiction
                                                            0
                                                            0
#> 33
                                                     sexH
#> 34
                             weekly_volume_profession35
                                                            0
                                                            0
#> 35
                                          start_trail510
#> 36
                                                            0
                       time_proportion_other_practice50
                      heart_rate_monitor_competitionOui
                                                            0
#> 37
#> 38
                                                            0
                                  connected_platformOui
#> 39
                                     ITRA_rating_knowOui
                                                            0
                                                            0
#> 40
       number_hours_practice_trail_phase_preparation37
                                                            0
      number_hours_practice_trail_phase_preparation712
               \verb|trail_participation_last_two_seasons0ui|\\
                                                            0
#> 42
#> 43
                                trail_injury_illnessOui
                                                            0
#> 44
             drop_practice_trail_phase_preparation1000
                                                            0
#> 45
                                                            0
         kilometres_practice_trail_phase_preparation20
                                                            0
       kilometres_practice_trail_phase_preparation2050
#> 46
                                                            0
#> 47
       kilometres_practice_trail_phase_preparation5080
        number_hours_training_trail_phase_preparation3
                                                            0
#> 48
#> 49
                    frequence_medical_apointment_trail2
                                                            0
#> 50
                                                            0
                    frequence_medical_apointment_trail6
#> 51
                            which_races_UT4M_2023_100km
                                                            0
           trail_health_problem_involve_no_trainingOui
                                                            0
#> 52
#> 53
                                                smokeOui
                                                            0
```

#### Pénalisation Ridge

```
#> pred_ridge
               0
#>
            0
               4
                  6
            1
              8 43
#> L'accuracy mesure le nombre total de prédictions correctes par rapport au nombre total d'observation
#>
    0.7705
#>
    La sensibilité mesure la capacité du modèle à détecter les vrais positifs. La spécificité est égale
#>
    0.8776
#>
    La spécificité mesure la capacité du modèle à détecter les vrais négatifs. La sensibilité est égale
```

### Prédiction en imputant les NAs par la médiane

#> Table de contingence pour la variable do\_not\_finish :

```
#>
#>
       0 1
    0 75 0
#>
#>
    1 0 258
#> Table de contingence pour la variable sexH :
#>
        0
#>
#>
    0 68
    1 203 55
#>
#>
#> Table de contingence pour la variable weekly_volume_profession35 :
        0
           1
#>
#>
   0 61 14
#>
   1 213 45
#> Table de contingence pour la variable weekly_volume_profession45 :
#>
        0
           1
#>
#>
    0 47 28
#>
    1 209 49
#> Table de contingence pour la variable start_trail2 :
#>
#>
       0
          1
#>
    0 71 4
#>
    1 185 73
#>
#> Table de contingence pour la variable start_trail25 :
#>
#>
        0
           1
    0 45 30
#>
#>
    1 175 83
#> Table de contingence pour la variable start_trail510 :
#>
#>
        0
    0 50 25
#>
    1 195 63
#>
#> Table de contingence pour la variable time_proportion_other_practice20 :
#>
#>
        0
           1
#>
   0 24 50
   1 112 145
#>
#> Table de contingence pour la variable time_proportion_other_practice50 :
#>
#>
        0
   0 69
#>
```

```
1 227 30
#>
#>
#> Table de contingence pour la variable coach_for_trailOui :
#>
#>
#>
    0 57 17
#>
   1 219 38
#>
#> Table de contingence pour la variable heart_rate_monitor_trainOui :
#>
#>
        0
           1
    0 20 54
#>
    1 83 174
#>
#> Table de contingence pour la variable heart_rate_monitor_competitionOui :
#>
#>
        0
           1
    0 37 37
#>
    1 112 145
#>
#> Table de contingence pour la variable connected_platformOui :
#>
#>
        0 1
#>
    0
       9 65
    1 31 226
#>
#>
#> Table de contingence pour la variable ITRA_rating_knowOui :
#>
        0
#>
           1
   0 25 50
#>
#>
   1 110 148
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation3 :
#>
#>
        0
    0 70
#>
           4
#>
    1 216 36
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation37 :
#>
#>
        0
           1
    0 36 38
#>
    1 109 143
#>
#>
#> Table de contingence pour la variable number_hours_practice_trail_phase_preparation712 :
#>
#>
        0
           1
    0 45 29
#>
#>
   1 182 70
#> Table de contingence pour la variable trail_participation_last_two_seasonsOui :
```

```
#>
#>
        0 1
    0 3 71
#>
#>
   1 32 220
#>
#> Table de contingence pour la variable trail_injury_illnessOui :
#>
        0
#>
#>
    0 45 27
    1 153 97
#>
#>
#> Table de contingence pour la variable drop_practice_trail_phase_preparation1000 :
        0
           1
#>
#>
   0 53 21
#>
   1 174 78
#>
#> Table de contingence pour la variable drop_practice_trail_phase_preparation2000 :
#>
        0
           1
#>
#>
    0 52 22
#>
    1 201 51
#>
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation20 :
#>
#>
        0
           1
#>
   0 72 2
#>
    1 226 26
#>
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation2050 :
#>
#>
        0
           1
    0 42 32
#>
#>
    1 119 133
#> Table de contingence pour la variable kilometres_practice_trail_phase_preparation5080 :
#>
#>
        0
    0 45 29
#>
    1 175 77
#>
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation3 :
#>
#>
        0 1
#>
   0 70
   1 242 10
#>
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation37 :
#>
#>
        0
#>
   0 53 21
```

```
#>
    1 140 112
#>
#> Table de contingence pour la variable number_hours_training_trail_phase_preparation712 :
#>
#>
        0
#>
    0 34 40
#>
    1 147 105
#>
#> Table de contingence pour la variable frequence_medical_apointment_trail2 :
#>
#>
        0
           1
    0 11 61
#>
    1 48 202
#>
#> Table de contingence pour la variable frequence_medical_apointment_trail6 :
#>
#>
        0
            1
#>
     0 69
           3
#>
    1 244
            6
#> Table de contingence pour la variable which_races_UT4M_2023_20km :
#>
#>
        0
            1
#>
    0 74
    1 224 28
#>
#>
#> Table de contingence pour la variable which_races_UT4M_2023_40km :
#>
        0
#>
            1
    0 65
#>
#>
    1 165 87
#>
#> Table de contingence pour la variable which_races_UT4M_2023_80km :
#>
#>
        0
#>
    0 68
           6
#>
    1 213 39
#>
#> Table de contingence pour la variable which_races_UT4M_2023_100km :
#>
#>
        0
           1
#>
    0 58 16
    1 205 47
#>
#>
#> Table de contingence pour la variable trail_health_problem_involve_no_trainingOui :
#>
#>
        0
           1
     0 51 21
#>
#>
    1 174 76
#> Table de contingence pour la variable smokeOui :
```