# Top modelos de 4 variáveis

Happy ~ YOB+Q120014+Q118237+Q101162

What is your year of birth ?

Are you more successful than most of your high-school friends?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Are you generally more of an optimist or a pessimist?

AUC: 0.73555

Happy ~ YOB+Q118237+Q108855+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Do you enjoy getting together with your extended family?

Are you generally more of an optimist or a pessimist?

AUC: 0.735643

Happy ~ YOB+Q118237+Q102289+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Does your life feel adventurous?

Are you generally more of an optimist or a pessimist?

AUC: 0.735693

Happy ~ YOB+Q118237+Q113584+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

During your average day, do you spend more time interacting with people (face-to-face) or technology?

Are you generally more of an optimist or a pessimist?

AUC: 0.736452

Happy ~ YOB+Q118237+Q102906+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Are you currently carrying a grudge against anyone in your personal life?

Are you generally more of an optimist or a pessimist?

AUC: 0.736507

Happy ~ YOB+Q118237+Q108342+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Do you spend more time with friends online or in-person?

Are you generally more of an optimist or a pessimist?

AUC: 0.736853

Happy ~ YOB+Q118237+Q101162+Q98197

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Are you generally more of an optimist or a pessimist?

Do you pray or meditate on a regular basis?

AUC: 0.737704

Happy ~ YOB+Q119334+Q118237+Q101162

What is your year of birth ?

Did you accomplish anything exciting or inspiring in 2013? (comments from the 2012 poll are linked for inspiration)

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Are you generally more of an optimist or a pessimist?

AUC: 0.74035

Happy ~ YOB+Q118237+Q101162+LivesTogether

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Are you generally more of an optimist or a pessimist?

Do you live with a significant other ?

AUC: 0.740913

Happy ~ YOB+Q118237+Q107869+Q101162

What is your year of birth ?

Do you feel like you are "in over-your-head" in any aspect of your life right now?

Do you feel like you`re "normal"?

Are you generally more of an optimist or a pessimist?

AUC: 0.750061

# 2 Clusters

## [1] "Cluster: 1 AUC: 0.747169"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3491 -1.0511 0.5891 0.9994 1.9597

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.6228 0.2191 2.842 0.004477 \*\*

Q102089Rent -0.1979 0.1080 -1.832 0.066952 .

Q102289Yes 0.6110 0.1186 5.154 2.55e-07 \*\*\*

Q102906Yes -0.4292 0.1090 -3.937 8.26e-05 \*\*\*

Q108343Yes -0.1099 0.1182 -0.930 0.352548

Q108855Yes! 0.3315 0.1107 2.995 0.002745 \*\*

Q108856Space -0.1446 0.1158 -1.249 0.211547

Q113181Yes 0.2523 0.1112 2.269 0.023267 \*

Q114961Yes -0.2001 0.1085 -1.845 0.065024 .

Q116197P.M. -0.4505 0.1222 -3.687 0.000227 \*\*\*

Q116441Yes 0.2373 0.1177 2.016 0.043805 \*

Q118237Yes -0.9623 0.1082 -8.892 < 2e-16 \*\*\*

Q119334Yes 0.4262 0.1074 3.969 7.23e-05 \*\*\*

Q120014Yes 0.2126 0.1094 1.943 0.052026 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 2410.5 on 1753 degrees of freedom

Residual deviance: 2137.1 on 1740 degrees of freedom

AIC: 2165.1

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 2 AUC: 0.777534"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3867 -1.0018 0.5069 0.9052 2.0779

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.71726 0.27063 2.650 0.008041 \*\*

Q102089Rent -0.51033 0.20462 -2.494 0.012631 \*

Q102289Yes 0.78672 0.16482 4.773 1.81e-06 \*\*\*

Q102906Yes -0.50639 0.14952 -3.387 0.000707 \*\*\*

Q108343Yes -0.32468 0.15485 -2.097 0.036020 \*

Q108855Yes! 0.30588 0.14945 2.047 0.040690 \*

Q108856Space -0.42988 0.16760 -2.565 0.010320 \*

Q113181Yes 0.19727 0.14623 1.349 0.177327

Q114961Yes -0.29289 0.14736 -1.988 0.046850 \*

Q116197P.M. -0.16767 0.14355 -1.168 0.242784

Q116441Yes 0.07046 0.14684 0.480 0.631345

Q118237Yes -0.98212 0.15269 -6.432 1.26e-10 \*\*\*

Q119334Yes 0.47024 0.14933 3.149 0.001638 \*\*

Q120014Yes 0.40833 0.14637 2.790 0.005274 \*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1384.3 on 1016 degrees of freedom

Residual deviance: 1161.6 on 1003 degrees of freedom

AIC: 1189.6

Number of Fisher Scoring iterations: 4

[1] "Clusters: 2 Media: 0.762351"

# 3 Clusters

## [1] "Cluster: 1 AUC: 0.712022"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2231 -0.9962 0.5289 0.8851 2.0371

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.0057 0.3689 2.726 0.00640 \*\*

Q102089Rent -0.1868 0.3335 -0.560 0.57541

Q102289Yes 0.7420 0.2333 3.181 0.00147 \*\*

Q102906Yes -0.5700 0.2116 -2.694 0.00706 \*\*

Q108343Yes -0.1664 0.2148 -0.775 0.43838

Q108855Yes! 0.1662 0.2132 0.779 0.43576

Q108856Space -0.3338 0.2386 -1.399 0.16181

Q113181Yes 0.1394 0.2056 0.678 0.49780

Q114961Yes -0.4132 0.2081 -1.986 0.04702 \*

Q116197P.M. -0.3058 0.2002 -1.527 0.12673

Q116441Yes -0.1351 0.2048 -0.660 0.50954

Q118237Yes -1.1614 0.2154 -5.391 7.03e-08 \*\*\*

Q119334Yes 0.4216 0.2089 2.019 0.04352 \*

Q120014Yes 0.3486 0.2033 1.715 0.08643 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 714.20 on 529 degrees of freedom

Residual deviance: 606.26 on 516 degrees of freedom

AIC: 634.26

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 2 AUC: 0.787919"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1222 -1.0198 0.5148 0.9373 1.8960

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.3972 0.2897 1.371 0.17032

Q102089Rent -0.5441 0.1669 -3.260 0.00111 \*\*

Q102289Yes 0.6639 0.1701 3.903 9.50e-05 \*\*\*

Q102906Yes -0.3568 0.1524 -2.342 0.01919 \*

Q108343Yes -0.2986 0.1574 -1.898 0.05771 .

Q108855Yes! 0.4354 0.1525 2.855 0.00431 \*\*

Q108856Space -0.2971 0.1651 -1.799 0.07194 .

Q113181Yes 0.2864 0.1501 1.908 0.05635 .

Q114961Yes -0.1866 0.1498 -1.246 0.21295

Q116197P.M. -0.2548 0.1514 -1.683 0.09243 .

Q116441Yes 0.3202 0.1513 2.117 0.03428 \*

Q118237Yes -0.9166 0.1528 -5.999 1.98e-09 \*\*\*

Q119334Yes 0.4794 0.1511 3.173 0.00151 \*\*

Q120014Yes 0.4305 0.1510 2.850 0.00437 \*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1300.1 on 948 degrees of freedom

Residual deviance: 1103.5 on 935 degrees of freedom

AIC: 1131.5

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 3 AUC: 0.732864"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2882 -1.0594 0.5858 1.0006 1.9149

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.58716 0.25726 2.282 0.022470 \*

Q102089Rent -0.07869 0.12578 -0.626 0.531597

Q102289Yes 0.65951 0.13518 4.879 1.07e-06 \*\*\*

Q102906Yes -0.49918 0.12605 -3.960 7.48e-05 \*\*\*

Q108343Yes -0.10943 0.14315 -0.764 0.444631

Q108855Yes! 0.29657 0.12845 2.309 0.020951 \*

Q108856Space -0.15647 0.13431 -1.165 0.244048

Q113181Yes 0.21759 0.13106 1.660 0.096868 .

Q114961Yes -0.18523 0.12636 -1.466 0.142699

Q116197P.M. -0.39391 0.14542 -2.709 0.006753 \*\*

Q116441Yes 0.17625 0.14692 1.200 0.230258

Q118237Yes -0.93282 0.12586 -7.412 1.25e-13 \*\*\*

Q119334Yes 0.42749 0.12456 3.432 0.000599 \*\*\*

Q120014Yes 0.17758 0.12802 1.387 0.165417

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1778.4 on 1291 degrees of freedom

Residual deviance: 1584.6 on 1278 degrees of freedom

AIC: 1612.6

Number of Fisher Scoring iterations: 4

[1] "Clusters: 3 Media: 0.744268"

# 4 Clusters

## [1] "Cluster: 1 AUC: 0.725439"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1948 -1.0722 0.5591 1.0181 1.8935

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.6976841 0.3062923 2.278 0.022736 \*

Q102089Rent -0.0303117 0.1494415 -0.203 0.839265

Q102289Yes 0.6741271 0.1583119 4.258 2.06e-05 \*\*\*

Q102906Yes -0.5066172 0.1446567 -3.502 0.000461 \*\*\*

Q108343Yes -0.2577328 0.1806818 -1.426 0.153740

Q108855Yes! 0.1913908 0.1486672 1.287 0.197963

Q108856Space -0.1537337 0.1574273 -0.977 0.328798

Q113181Yes 0.1799518 0.1532573 1.174 0.240322

Q114961Yes -0.2460152 0.1466352 -1.678 0.093399 .

Q116197P.M. -0.3885799 0.1763372 -2.204 0.027551 \*

Q116441Yes -0.0092586 0.1950591 -0.047 0.962142

Q118237Yes -0.8953145 0.1474179 -6.073 1.25e-09 \*\*\*

Q119334Yes 0.5811139 0.1454806 3.994 6.48e-05 \*\*\*

Q120014Yes -0.0006438 0.1524428 -0.004 0.996630

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1312.0 on 947 degrees of freedom

Residual deviance: 1169.4 on 934 degrees of freedom

AIC: 1197.4

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 2 AUC: 0.687066"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1791 -0.9909 0.5554 0.8489 1.9284

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.9580 0.4445 2.155 0.03116 \*

Q102089Rent -0.4514 0.4268 -1.058 0.29027

Q102289Yes 0.8046 0.2891 2.783 0.00539 \*\*

Q102906Yes -0.4179 0.2555 -1.636 0.10191

Q108343Yes 0.2035 0.2716 0.749 0.45372

Q108855Yes! 0.2528 0.2552 0.991 0.32178

Q108856Space -0.4409 0.2869 -1.537 0.12429

Q113181Yes 0.1613 0.2478 0.651 0.51504

Q114961Yes -0.3594 0.2525 -1.423 0.15468

Q116197P.M. -0.2439 0.2419 -1.008 0.31335

Q116441Yes -0.1530 0.2495 -0.613 0.53978

Q118237Yes -1.3978 0.2713 -5.152 2.57e-07 \*\*\*

Q119334Yes 0.4723 0.2515 1.878 0.06039 .

Q120014Yes 0.3438 0.2461 1.397 0.16239

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 499.07 on 379 degrees of freedom

Residual deviance: 422.98 on 366 degrees of freedom

AIC: 450.98

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 3 AUC: 0.800452"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.4718 -0.9511 0.4671 0.9360 2.0354

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.47555 0.34979 1.360 0.17399

Q102089Rent -0.51323 0.23829 -2.154 0.03126 \*

Q102289Yes 0.84613 0.20420 4.144 3.42e-05 \*\*\*

Q102906Yes -0.56977 0.18734 -3.041 0.00236 \*\*

Q108343Yes -0.62814 0.19567 -3.210 0.00133 \*\*

Q108855Yes! 0.33163 0.18801 1.764 0.07775 .

Q108856Space -0.41298 0.21090 -1.958 0.05021 .

Q113181Yes 0.19324 0.18471 1.046 0.29548

Q114961Yes -0.28345 0.18478 -1.534 0.12502

Q116197P.M. -0.05228 0.18258 -0.286 0.77463

Q116441Yes 0.27969 0.18887 1.481 0.13866

Q118237Yes -0.74548 0.18969 -3.930 8.50e-05 \*\*\*

Q119334Yes 0.46120 0.18831 2.449 0.01432 \*

Q120014Yes 0.47136 0.18559 2.540 0.01109 \*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 877.60 on 636 degrees of freedom

Residual deviance: 726.67 on 623 degrees of freedom

AIC: 754.67

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.759671"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2528 -1.0429 0.5696 0.9534 1.8418

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.57678 0.32512 1.774 0.07605 .

Q102089Rent -0.36801 0.16088 -2.287 0.02217 \*

Q102289Yes 0.56314 0.18174 3.099 0.00194 \*\*

Q102906Yes -0.27097 0.17177 -1.578 0.11467

Q108343Yes -0.07462 0.16674 -0.448 0.65448

Q108855Yes! 0.47736 0.16934 2.819 0.00482 \*\*

Q108856Space -0.13330 0.17398 -0.766 0.44355

Q113181Yes 0.31989 0.16535 1.935 0.05304 .

Q114961Yes -0.17665 0.16496 -1.071 0.28425

Q116197P.M. -0.51511 0.17434 -2.955 0.00313 \*\*

Q116441Yes 0.27054 0.16277 1.662 0.09649 .

Q118237Yes -1.03300 0.16272 -6.348 2.17e-10 \*\*\*

Q119334Yes 0.24546 0.16297 1.506 0.13202

Q120014Yes 0.49866 0.16201 3.078 0.00208 \*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1090.76 on 805 degrees of freedom

Residual deviance: 950.01 on 792 degrees of freedom

AIC: 978.01

Number of Fisher Scoring iterations: 3

[1] "Clusters: 4 Media: 0.743157"

# 5 Clusters

## [1] "Cluster: 1 AUC: 0.772560"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3357 -0.9786 0.4906 0.9401 1.9163

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.27001 0.38127 0.708 0.47883

Q102089Rent -0.54898 0.28295 -1.940 0.05235 .

Q102289Yes 0.73366 0.22417 3.273 0.00106 \*\*

Q102906Yes -0.47351 0.20564 -2.303 0.02130 \*

Q108343Yes -0.59733 0.21337 -2.799 0.00512 \*\*

Q108855Yes! 0.30321 0.20820 1.456 0.14529

Q108856Space -0.21532 0.22745 -0.947 0.34382

Q113181Yes 0.18785 0.20464 0.918 0.35864

Q114961Yes -0.19603 0.20903 -0.938 0.34835

Q116197P.M. 0.02511 0.20150 0.125 0.90083

Q116441Yes 0.17970 0.20670 0.869 0.38464

Q118237Yes -0.81768 0.20750 -3.941 8.13e-05 \*\*\*

Q119334Yes 0.44322 0.21101 2.100 0.03569 \*

Q120014Yes 0.51737 0.20378 2.539 0.01112 \*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 706.96 on 511 degrees of freedom

Residual deviance: 595.77 on 498 degrees of freedom

AIC: 623.77

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 2 AUC: 0.704117"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2641 -1.0019 0.5369 0.8355 1.8901

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.468048 0.498661 2.944 0.003240 \*\*

Q102089Rent -0.352073 0.457809 -0.769 0.441870

Q102289Yes 0.674972 0.319657 2.112 0.034725 \*

Q102906Yes -0.654677 0.282745 -2.315 0.020589 \*

Q108343Yes 0.113421 0.297362 0.381 0.702890

Q108855Yes! -0.000408 0.280619 -0.001 0.998840

Q108856Space -0.786941 0.326622 -2.409 0.015982 \*

Q113181Yes 0.296399 0.270833 1.094 0.273780

Q114961Yes -0.422181 0.274208 -1.540 0.123649

Q116197P.M. -0.280751 0.262826 -1.068 0.285430

Q116441Yes -0.217800 0.275775 -0.790 0.429660

Q118237Yes -1.118281 0.299155 -3.738 0.000185 \*\*\*

Q119334Yes 0.605808 0.280564 2.159 0.030831 \*

Q120014Yes 0.324516 0.268685 1.208 0.227127

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 421.15 on 324 degrees of freedom

Residual deviance: 354.39 on 311 degrees of freedom

AIC: 382.39

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 3 AUC: 0.729329"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1188 -1.0515 0.6075 0.9763 1.7424

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.173628 0.379831 0.457 0.64759

Q102089Rent -0.206712 0.182149 -1.135 0.25644

Q102289Yes 0.632336 0.197775 3.197 0.00139 \*\*

Q102906Yes -0.422702 0.193639 -2.183 0.02904 \*

Q108343Yes -0.004538 0.188606 -0.024 0.98080

Q108855Yes! 0.531949 0.191485 2.778 0.00547 \*\*

Q108856Space 0.121591 0.192816 0.631 0.52830

Q113181Yes 0.253398 0.190759 1.328 0.18406

Q114961Yes -0.215656 0.186097 -1.159 0.24652

Q116197P.M. -0.378199 0.200585 -1.885 0.05937 .

Q116441Yes 0.240176 0.186615 1.287 0.19809

Q118237Yes -0.870056 0.187518 -4.640 3.49e-06 \*\*\*

Q119334Yes 0.364941 0.185971 1.962 0.04972 \*

Q120014Yes 0.318952 0.184585 1.728 0.08400 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 832.19 on 610 degrees of freedom

Residual deviance: 737.98 on 597 degrees of freedom

AIC: 765.98

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.727018"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.266 -1.056 0.576 1.025 1.899

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.00759 0.35619 2.829 0.004673 \*\*

Q102089Rent 0.03440 0.17472 0.197 0.843914

Q102289Yes 0.60228 0.18197 3.310 0.000934 \*\*\*

Q102906Yes -0.54070 0.16524 -3.272 0.001067 \*\*

Q108343Yes -0.39667 0.22963 -1.727 0.084093 .

Q108855Yes! 0.10209 0.16926 0.603 0.546405

Q108856Space -0.32562 0.18497 -1.760 0.078337 .

Q113181Yes 0.17469 0.17722 0.986 0.324269

Q114961Yes -0.17395 0.16876 -1.031 0.302662

Q116197P.M. -0.45965 0.20953 -2.194 0.028258 \*

Q116441Yes 0.07831 0.25524 0.307 0.758983

Q118237Yes -0.98573 0.16703 -5.901 3.6e-09 \*\*\*

Q119334Yes 0.48578 0.16641 2.919 0.003510 \*\*

Q120014Yes 0.03746 0.17535 0.214 0.830813

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1004.24 on 725 degrees of freedom

Residual deviance: 894.74 on 712 degrees of freedom

AIC: 922.74

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 5 AUC: 0.800779"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2747 -0.9840 0.4893 0.9195 1.9203

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.7080 0.3742 1.892 0.058464 .

Q102089Rent -0.5636 0.2056 -2.741 0.006127 \*\*

Q102289Yes 0.8750 0.2264 3.865 0.000111 \*\*\*

Q102906Yes -0.2287 0.1988 -1.150 0.250018

Q108343Yes -0.1183 0.2020 -0.585 0.558251

Q108855Yes! 0.4500 0.1973 2.281 0.022527 \*

Q108856Space -0.3612 0.2136 -1.691 0.090836 .

Q113181Yes 0.2179 0.1905 1.144 0.252778

Q114961Yes -0.2539 0.1919 -1.323 0.185801

Q116197P.M. -0.4763 0.2005 -2.375 0.017527 \*

Q116441Yes 0.2705 0.1935 1.398 0.162238

Q118237Yes -1.0946 0.1956 -5.597 2.18e-08 \*\*\*

Q119334Yes 0.3999 0.1915 2.088 0.036763 \*

Q120014Yes 0.3598 0.1938 1.857 0.063330 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 816.04 on 596 degrees of freedom

Residual deviance: 683.14 on 583 degrees of freedom

AIC: 711.14

Number of Fisher Scoring iterations: 4

[1] "Clusters: 5 Media: 0.746761"

# 6 Clusters

## [1] "Cluster: 1 AUC: 0.704187"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2735 -0.9500 0.5211 0.7695 1.9136

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.3026 0.6338 2.055 0.039870 \*

Q102089Rent -0.7276 0.6292 -1.156 0.247494

Q102289Yes 0.6077 0.4167 1.458 0.144722

Q102906Yes -0.4564 0.3587 -1.273 0.203186

Q108343Yes 0.6151 0.4035 1.524 0.127427

Q108855Yes! 0.2538 0.3586 0.708 0.479141

Q108856Space -0.8220 0.4185 -1.964 0.049538 \*

Q113181Yes 0.5489 0.3432 1.599 0.109769

Q114961Yes -0.3472 0.3534 -0.982 0.325889

Q116197P.M. -0.2756 0.3362 -0.820 0.412398

Q116441Yes -0.2477 0.3505 -0.707 0.479840

Q118237Yes -1.5202 0.3943 -3.856 0.000115 \*\*\*

Q119334Yes 0.4252 0.3492 1.217 0.223453

Q120014Yes 0.2599 0.3488 0.745 0.456203

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 267.57 on 213 degrees of freedom

Residual deviance: 224.89 on 200 degrees of freedom

AIC: 252.89

Number of Fisher Scoring iterations: 4

[1] "Cluster: 2 AUC: 0.787010"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1330 -1.0364 0.5646 0.9645 1.7624

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.59722 0.40443 1.477 0.13976

Q102089Rent -0.56173 0.20787 -2.702 0.00689 \*\*

Q102289Yes 0.48471 0.23359 2.075 0.03798 \*

Q102906Yes -0.14911 0.21331 -0.699 0.48453

Q108343Yes -0.08548 0.21200 -0.403 0.68680

Q108855Yes! 0.37560 0.21245 1.768 0.07707 .

Q108856Space -0.07464 0.21923 -0.340 0.73352

Q113181Yes 0.27014 0.20321 1.329 0.18373

Q114961Yes -0.14757 0.20521 -0.719 0.47208

Q116197P.M. -0.40604 0.21654 -1.875 0.06077 .

Q116441Yes 0.26159 0.20453 1.279 0.20089

Q118237Yes -1.12427 0.20430 -5.503 3.73e-08 \*\*\*

Q119334Yes 0.41845 0.20507 2.041 0.04130 \*

Q120014Yes 0.25019 0.20635 1.212 0.22535

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 697.93 on 510 degrees of freedom

Residual deviance: 609.72 on 497 degrees of freedom

AIC: 637.72

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 3 AUC: 0.797784"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2313 -0.9373 0.4553 0.9098 1.9769

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.342480 0.413283 0.829 0.407285

Q102089Rent -0.732887 0.271054 -2.704 0.006854 \*\*

Q102289Yes 0.898121 0.238601 3.764 0.000167 \*\*\*

Q102906Yes -0.443305 0.215320 -2.059 0.039512 \*

Q108343Yes -0.518147 0.230410 -2.249 0.024525 \*

Q108855Yes! 0.462053 0.216652 2.133 0.032950 \*

Q108856Space -0.556707 0.243256 -2.289 0.022105 \*

Q113181Yes 0.188303 0.215625 0.873 0.382507

Q114961Yes -0.171758 0.214454 -0.801 0.423183

Q116197P.M. 0.008235 0.212410 0.039 0.969076

Q116441Yes 0.317534 0.218763 1.451 0.146641

Q118237Yes -0.779665 0.221309 -3.523 0.000427 \*\*\*

Q119334Yes 0.536097 0.216998 2.471 0.013492 \*

Q120014Yes 0.524243 0.216832 2.418 0.015617 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 668.44 on 486 degrees of freedom

Residual deviance: 544.57 on 473 degrees of freedom

AIC: 572.57

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.693039"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1638 -0.9738 0.4707 0.9127 2.1966

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.67945 0.47507 1.430 0.152655

Q102089Rent 0.09509 0.40205 0.237 0.813032

Q102289Yes 0.94894 0.29539 3.213 0.001316 \*\*

Q102906Yes -0.65719 0.27251 -2.412 0.015881 \*

Q108343Yes -0.43231 0.27457 -1.574 0.115380

Q108855Yes! 0.11156 0.27740 0.402 0.687565

Q108856Space -0.06775 0.30930 -0.219 0.826607

Q113181Yes -0.05267 0.26980 -0.195 0.845217

Q114961Yes -0.48500 0.27276 -1.778 0.075385 .

Q116197P.M. -0.37135 0.26161 -1.419 0.155763

Q116441Yes 0.03712 0.26603 0.140 0.889024

Q118237Yes -0.96901 0.27153 -3.569 0.000359 \*\*\*

Q119334Yes 0.42055 0.27320 1.539 0.123717

Q120014Yes 0.46631 0.26231 1.778 0.075451 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 435.93 on 315 degrees of freedom

Residual deviance: 365.63 on 302 degrees of freedom

AIC: 393.63

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 5 AUC: 0.724939"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2969 -1.0549 0.5648 1.0225 1.8885

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.156864 0.379429 3.049 0.00230 \*\*

Q102089Rent 0.007049 0.185210 0.038 0.96964

Q102289Yes 0.579823 0.192850 3.007 0.00264 \*\*

Q102906Yes -0.566436 0.172976 -3.275 0.00106 \*\*

Q108343Yes -0.511456 0.246736 -2.073 0.03818 \*

Q108855Yes! 0.103375 0.177761 0.582 0.56088

Q108856Space -0.322300 0.194178 -1.660 0.09695 .

Q113181Yes 0.079695 0.186521 0.427 0.66918

Q114961Yes -0.169170 0.178496 -0.948 0.34325

Q116197P.M. -0.461714 0.222426 -2.076 0.03791 \*

Q116441Yes 0.177778 0.278504 0.638 0.52326

Q118237Yes -1.071929 0.175162 -6.120 9.38e-10 \*\*\*

Q119334Yes 0.502550 0.175447 2.864 0.00418 \*\*

Q120014Yes -0.036461 0.187045 -0.195 0.84545

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 917.66 on 662 degrees of freedom

Residual deviance: 813.69 on 649 degrees of freedom

AIC: 841.69

Number of Fisher Scoring iterations: 4

[1] "Cluster: 6 AUC: 0.710332"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1744 -1.0430 0.5539 0.9630 2.0010

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.14297 0.38297 0.373 0.708912

Q102089Rent -0.13764 0.18924 -0.727 0.467004

Q102289Yes 0.75988 0.20514 3.704 0.000212 \*\*\*

Q102906Yes -0.43879 0.19918 -2.203 0.027598 \*

Q108343Yes 0.03512 0.19673 0.179 0.858321

Q108855Yes! 0.51151 0.19765 2.588 0.009653 \*\*

Q108856Space -0.01525 0.19925 -0.077 0.938976

Q113181Yes 0.37696 0.19827 1.901 0.057275 .

Q114961Yes -0.28616 0.19154 -1.494 0.135187

Q116197P.M. -0.55412 0.21106 -2.625 0.008655 \*\*

Q116441Yes 0.16715 0.19579 0.854 0.393252

Q118237Yes -0.70555 0.19507 -3.617 0.000298 \*\*\*

Q119334Yes 0.38374 0.19088 2.010 0.044395 \*

Q120014Yes 0.49412 0.19022 2.598 0.009386 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 790.65 on 579 degrees of freedom

Residual deviance: 688.41 on 566 degrees of freedom

AIC: 716.41

Number of Fisher Scoring iterations: 3

[1] "Clusters: 6 Media: 0.736215"

# 7 Clusters

## [1] "Cluster: 1 AUC: 0.788776"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2403 -1.0053 0.5245 0.9410 1.8435

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.7371 0.4155 1.774 0.07607 .

Q102089Rent -0.5336 0.2278 -2.342 0.01919 \*

Q102289Yes 0.7568 0.2635 2.872 0.00407 \*\*

Q102906Yes -0.1280 0.2255 -0.568 0.57021

Q108343Yes -0.1026 0.2272 -0.452 0.65142

Q108855Yes! 0.3819 0.2260 1.690 0.09106 .

Q108856Space -0.3196 0.2357 -1.356 0.17517

Q113181Yes 0.2192 0.2163 1.013 0.31091

Q114961Yes -0.2998 0.2181 -1.375 0.16915

Q116197P.M. -0.5664 0.2329 -2.432 0.01502 \*

Q116441Yes 0.4385 0.2191 2.001 0.04536 \*

Q118237Yes -1.0701 0.2193 -4.880 1.06e-06 \*\*\*

Q119334Yes 0.4105 0.2191 1.873 0.06102 .

Q120014Yes 0.2936 0.2210 1.328 0.18406

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 628.18 on 458 degrees of freedom

Residual deviance: 534.79 on 445 degrees of freedom

AIC: 562.79

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 2 AUC: 0.693039"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1638 -0.9738 0.4707 0.9127 2.1966

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.67945 0.47507 1.430 0.152655

Q102089Rent 0.09509 0.40205 0.237 0.813032

Q102289Yes 0.94894 0.29539 3.213 0.001316 \*\*

Q102906Yes -0.65719 0.27251 -2.412 0.015881 \*

Q108343Yes -0.43231 0.27457 -1.574 0.115380

Q108855Yes! 0.11156 0.27740 0.402 0.687565

Q108856Space -0.06775 0.30930 -0.219 0.826607

Q113181Yes -0.05267 0.26980 -0.195 0.845217

Q114961Yes -0.48500 0.27276 -1.778 0.075385 .

Q116197P.M. -0.37135 0.26161 -1.419 0.155763

Q116441Yes 0.03712 0.26603 0.140 0.889024

Q118237Yes -0.96901 0.27153 -3.569 0.000359 \*\*\*

Q119334Yes 0.42055 0.27320 1.539 0.123717

Q120014Yes 0.46631 0.26231 1.778 0.075451 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 435.93 on 315 degrees of freedom

Residual deviance: 365.63 on 302 degrees of freedom

AIC: 393.63

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 3 AUC: 0.739283"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1362 -1.0523 0.5961 0.9474 1.6500

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.51377 0.46148 1.113 0.2656

Q102089Rent -0.25935 0.22026 -1.177 0.2390

Q102289Yes 0.41390 0.23699 1.746 0.0807 .

Q102906Yes -0.33228 0.24109 -1.378 0.1681

Q108343Yes -0.14486 0.22682 -0.639 0.5231

Q108855Yes! 0.56879 0.23379 2.433 0.0150 \*

Q108856Space -0.03925 0.23628 -0.166 0.8681

Q113181Yes 0.36707 0.23437 1.566 0.1173

Q114961Yes -0.06554 0.23166 -0.283 0.7772

Q116197P.M. -0.41362 0.24212 -1.708 0.0876 .

Q116441Yes 0.33013 0.22444 1.471 0.1413

Q118237Yes -1.03396 0.22492 -4.597 4.29e-06 \*\*\*

Q119334Yes 0.15155 0.22557 0.672 0.5017

Q120014Yes 0.38716 0.22356 1.732 0.0833 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 567.67 on 423 degrees of freedom

Residual deviance: 503.79 on 410 degrees of freedom

AIC: 531.79

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.791470"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3264 -0.9502 0.4450 0.9039 1.9498

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.24600 0.44880 0.548 0.583600

Q102089Rent -0.79011 0.28684 -2.755 0.005878 \*\*

Q102289Yes 0.86205 0.24714 3.488 0.000486 \*\*\*

Q102906Yes -0.51127 0.22590 -2.263 0.023618 \*

Q108343Yes -0.50515 0.24187 -2.089 0.036750 \*

Q108855Yes! 0.49584 0.22913 2.164 0.030465 \*

Q108856Space -0.48921 0.25748 -1.900 0.057437 .

Q113181Yes 0.25996 0.22870 1.137 0.255667

Q114961Yes -0.09327 0.22813 -0.409 0.682667

Q116197P.M. 0.03655 0.22186 0.165 0.869141

Q116441Yes 0.12822 0.22930 0.559 0.576032

Q118237Yes -0.77430 0.23216 -3.335 0.000853 \*\*\*

Q119334Yes 0.57967 0.22656 2.559 0.010509 \*

Q120014Yes 0.64619 0.22752 2.840 0.004509 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 610.57 on 444 degrees of freedom

Residual deviance: 492.71 on 431 degrees of freedom

AIC: 520.71

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 5 AUC: 0.704187"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2735 -0.9500 0.5211 0.7695 1.9136

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.3026 0.6338 2.055 0.039870 \*

Q102089Rent -0.7276 0.6292 -1.156 0.247494

Q102289Yes 0.6077 0.4167 1.458 0.144722

Q102906Yes -0.4564 0.3587 -1.273 0.203186

Q108343Yes 0.6151 0.4035 1.524 0.127427

Q108855Yes! 0.2538 0.3586 0.708 0.479141

Q108856Space -0.8220 0.4185 -1.964 0.049538 \*

Q113181Yes 0.5489 0.3432 1.599 0.109769

Q114961Yes -0.3472 0.3534 -0.982 0.325889

Q116197P.M. -0.2756 0.3362 -0.820 0.412398

Q116441Yes -0.2477 0.3505 -0.707 0.479840

Q118237Yes -1.5202 0.3943 -3.856 0.000115 \*\*\*

Q119334Yes 0.4252 0.3492 1.217 0.223453

Q120014Yes 0.2599 0.3488 0.745 0.456203

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 267.57 on 213 degrees of freedom

Residual deviance: 224.89 on 200 degrees of freedom

AIC: 252.89

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 6 AUC: 0.729439"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3935 -1.0431 0.5503 1.0491 1.8045

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.21960 0.43970 2.774 0.00554 \*\*

Q102089Rent 0.02618 0.22459 0.117 0.90721

Q102289Yes 0.70256 0.22088 3.181 0.00147 \*\*

Q102906Yes -0.58165 0.19877 -2.926 0.00343 \*\*

Q108343Yes -0.59458 0.31038 -1.916 0.05541 .

Q108855Yes! 0.06846 0.20513 0.334 0.73856

Q108856Space -0.36072 0.22168 -1.627 0.10370

Q113181Yes 0.07868 0.21446 0.367 0.71372

Q114961Yes -0.10432 0.20503 -0.509 0.61087

Q116197P.M. -0.56254 0.25768 -2.183 0.02903 \*

Q116441Yes 0.46113 0.37213 1.239 0.21529

Q118237Yes -0.98443 0.20091 -4.900 9.6e-07 \*\*\*

Q119334Yes 0.30482 0.20367 1.497 0.13448

Q120014Yes -0.02955 0.21505 -0.137 0.89069

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 702.28 on 506 degrees of freedom

Residual deviance: 624.91 on 493 degrees of freedom

AIC: 652.91

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 7 AUC: 0.707421"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.0663 -1.0049 0.5205 0.9891 1.9466

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.11089 0.46799 0.237 0.81269

Q102089Rent -0.04240 0.22682 -0.187 0.85170

Q102289Yes 0.71357 0.24574 2.904 0.00369 \*\*

Q102906Yes -0.46376 0.22813 -2.033 0.04206 \*

Q108343Yes -0.05849 0.25031 -0.234 0.81525

Q108855Yes! 0.27687 0.23164 1.195 0.23198

Q108856Space 0.07557 0.24377 0.310 0.75655

Q113181Yes 0.26180 0.24032 1.089 0.27598

Q114961Yes -0.46047 0.22827 -2.017 0.04367 \*

Q116197P.M. -0.27994 0.26324 -1.063 0.28759

Q116441Yes -0.31394 0.25738 -1.220 0.22256

Q118237Yes -0.71400 0.23612 -3.024 0.00250 \*\*

Q119334Yes 0.90421 0.22357 4.045 5.24e-05 \*\*\*

Q120014Yes 0.22736 0.23260 0.977 0.32834

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 561.17 on 405 degrees of freedom

Residual deviance: 484.56 on 392 degrees of freedom

AIC: 512.56

Number of Fisher Scoring iterations: 4

[1] "Clusters: 7 Media: 0.736231"

# 8 Clusters

## [1] "Cluster: 1 AUC: 0.693039"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1638 -0.9738 0.4707 0.9127 2.1966

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.67945 0.47507 1.430 0.152655

Q102089Rent 0.09509 0.40205 0.237 0.813032

Q102289Yes 0.94894 0.29539 3.213 0.001316 \*\*

Q102906Yes -0.65719 0.27251 -2.412 0.015881 \*

Q108343Yes -0.43231 0.27457 -1.574 0.115380

Q108855Yes! 0.11156 0.27740 0.402 0.687565

Q108856Space -0.06775 0.30930 -0.219 0.826607

Q113181Yes -0.05267 0.26980 -0.195 0.845217

Q114961Yes -0.48500 0.27276 -1.778 0.075385 .

Q116197P.M. -0.37135 0.26161 -1.419 0.155763

Q116441Yes 0.03712 0.26603 0.140 0.889024

Q118237Yes -0.96901 0.27153 -3.569 0.000359 \*\*\*

Q119334Yes 0.42055 0.27320 1.539 0.123717

Q120014Yes 0.46631 0.26231 1.778 0.075451 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 435.93 on 315 degrees of freedom

Residual deviance: 365.63 on 302 degrees of freedom

AIC: 393.63

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 2 AUC: 0.774085"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2368 -1.0172 0.5574 0.9988 1.8088

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.51199 0.44310 1.155 0.24790

Q102089Rent -0.54215 0.24436 -2.219 0.02651 \*

Q102289Yes 0.88795 0.27205 3.264 0.00110 \*\*

Q102906Yes -0.16511 0.23264 -0.710 0.47787

Q108343Yes 0.09432 0.24274 0.389 0.69762

Q108855Yes! 0.43194 0.23961 1.803 0.07144 .

Q108856Space -0.19608 0.24663 -0.795 0.42660

Q113181Yes 0.12836 0.22659 0.567 0.57105

Q114961Yes -0.21216 0.22956 -0.924 0.35537

Q116197P.M. -0.67050 0.24279 -2.762 0.00575 \*\*

Q116441Yes 0.40191 0.22952 1.751 0.07994 .

Q118237Yes -0.93480 0.23685 -3.947 7.92e-05 \*\*\*

Q119334Yes 0.38851 0.22874 1.699 0.08941 .

Q120014Yes 0.17193 0.23223 0.740 0.45910

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 554.81 on 403 degrees of freedom

Residual deviance: 480.26 on 390 degrees of freedom

AIC: 508.26

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 3 AUC: 0.770077"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3525 -0.9138 0.4168 0.8585 2.0462

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.30317 0.48281 0.628 0.53006

Q102089Rent -1.00111 0.31414 -3.187 0.00144 \*\*

Q102289Yes 0.77679 0.26894 2.888 0.00387 \*\*

Q102906Yes -0.53003 0.24463 -2.167 0.03026 \*

Q108343Yes -0.68264 0.25748 -2.651 0.00802 \*\*

Q108855Yes! 0.43191 0.24646 1.752 0.07969 .

Q108856Space -0.45431 0.27752 -1.637 0.10162

Q113181Yes 0.31054 0.24589 1.263 0.20662

Q114961Yes -0.14339 0.24748 -0.579 0.56230

Q116197P.M. 0.06616 0.23913 0.277 0.78204

Q116441Yes 0.13166 0.24560 0.536 0.59191

Q118237Yes -0.75680 0.24728 -3.061 0.00221 \*\*

Q119334Yes 0.53983 0.24642 2.191 0.02848 \*

Q120014Yes 0.72810 0.24493 2.973 0.00295 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 544.48 on 394 degrees of freedom

Residual deviance: 427.89 on 381 degrees of freedom

AIC: 455.89

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.718371"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.9906 -0.9903 0.5370 0.9968 1.9370

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.07881 0.45783 0.172 0.86333

Q102089Rent -0.07012 0.22175 -0.316 0.75183

Q102289Yes 0.63913 0.23746 2.691 0.00711 \*\*

Q102906Yes -0.43648 0.22217 -1.965 0.04946 \*

Q108343Yes -0.10739 0.24306 -0.442 0.65862

Q108855Yes! 0.31248 0.22620 1.381 0.16713

Q108856Space -0.01498 0.23773 -0.063 0.94977

Q113181Yes 0.33383 0.23271 1.435 0.15142

Q114961Yes -0.45233 0.22322 -2.026 0.04273 \*

Q116197P.M. -0.22970 0.25745 -0.892 0.37229

Q116441Yes -0.22073 0.24917 -0.886 0.37570

Q118237Yes -0.65502 0.23128 -2.832 0.00462 \*\*

Q119334Yes 0.90856 0.21898 4.149 3.34e-05 \*\*\*

Q120014Yes 0.20493 0.22573 0.908 0.36395

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 580.87 on 419 degrees of freedom

Residual deviance: 506.62 on 406 degrees of freedom

AIC: 534.62

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 5 AUC: 0.726296"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3963 -1.0440 0.5459 1.0500 1.8117

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.22628 0.43700 2.806 0.00501 \*\*

Q102089Rent 0.06477 0.22331 0.290 0.77179

Q102289Yes 0.70688 0.22042 3.207 0.00134 \*\*

Q102906Yes -0.57107 0.19801 -2.884 0.00393 \*\*

Q108343Yes -0.63069 0.30951 -2.038 0.04158 \*

Q108855Yes! 0.07591 0.20457 0.371 0.71058

Q108856Space -0.35032 0.22140 -1.582 0.11358

Q113181Yes 0.07661 0.21314 0.359 0.71928

Q114961Yes -0.10998 0.20377 -0.540 0.58938

Q116197P.M. -0.56944 0.25712 -2.215 0.02678 \*

Q116441Yes 0.44816 0.36746 1.220 0.22262

Q118237Yes -1.00951 0.20045 -5.036 4.75e-07 \*\*\*

Q119334Yes 0.32082 0.20343 1.577 0.11478

Q120014Yes -0.04180 0.21457 -0.195 0.84555

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 707.69 on 510 degrees of freedom

Residual deviance: 627.82 on 497 degrees of freedom

AIC: 655.82

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 6 AUC: 0.819256"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3010 -0.9660 0.5618 0.8749 1.6903

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.28416 0.68033 1.888 0.0591 .

Q102089Rent -0.16308 0.34679 -0.470 0.6382

Q102289Yes 0.44186 0.37859 1.167 0.2432

Q102906Yes -0.05634 0.37603 -0.150 0.8809

Q108343Yes -0.22954 0.35108 -0.654 0.5132

Q108855Yes! 0.22135 0.37037 0.598 0.5501

Q108856Space -0.64983 0.38398 -1.692 0.0906 .

Q113181Yes 0.34985 0.36760 0.952 0.3412

Q114961Yes -0.15187 0.34653 -0.438 0.6612

Q116197P.M. -0.04201 0.36326 -0.116 0.9079

Q116441Yes 0.12362 0.34186 0.362 0.7177

Q118237Yes -1.40746 0.33469 -4.205 2.61e-05 \*\*\*

Q119334Yes 0.10112 0.36459 0.277 0.7815

Q120014Yes 0.32337 0.34655 0.933 0.3508

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 268.13 on 204 degrees of freedom

Residual deviance: 230.45 on 191 degrees of freedom

AIC: 258.45

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 7 AUC: 0.704187"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2735 -0.9500 0.5211 0.7695 1.9136

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.3026 0.6338 2.055 0.039870 \*

Q102089Rent -0.7276 0.6292 -1.156 0.247494

Q102289Yes 0.6077 0.4167 1.458 0.144722

Q102906Yes -0.4564 0.3587 -1.273 0.203186

Q108343Yes 0.6151 0.4035 1.524 0.127427

Q108855Yes! 0.2538 0.3586 0.708 0.479141

Q108856Space -0.8220 0.4185 -1.964 0.049538 \*

Q113181Yes 0.5489 0.3432 1.599 0.109769

Q114961Yes -0.3472 0.3534 -0.982 0.325889

Q116197P.M. -0.2756 0.3362 -0.820 0.412398

Q116441Yes -0.2477 0.3505 -0.707 0.479840

Q118237Yes -1.5202 0.3943 -3.856 0.000115 \*\*\*

Q119334Yes 0.4252 0.3492 1.217 0.223453

Q120014Yes 0.2599 0.3488 0.745 0.456203

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 267.57 on 213 degrees of freedom

Residual deviance: 224.89 on 200 degrees of freedom

AIC: 252.89

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 8 AUC: 0.692491"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2308 -0.9703 0.5601 0.8892 1.7138

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.44362 0.55540 0.799 0.424449

Q102089Rent -0.40119 0.26855 -1.494 0.135199

Q102289Yes 0.50672 0.28882 1.754 0.079354 .

Q102906Yes -0.55694 0.29320 -1.900 0.057494 .

Q108343Yes -0.16361 0.27322 -0.599 0.549279

Q108855Yes! 0.66844 0.27684 2.415 0.015754 \*

Q108856Space 0.15085 0.28378 0.532 0.595038

Q113181Yes 0.40936 0.28132 1.455 0.145631

Q114961Yes -0.09466 0.27786 -0.341 0.733352

Q116197P.M. -0.65973 0.29474 -2.238 0.025199 \*

Q116441Yes 0.36135 0.27262 1.325 0.185027

Q118237Yes -0.95420 0.27017 -3.532 0.000413 \*\*\*

Q119334Yes 0.26644 0.26894 0.991 0.321848

Q120014Yes 0.55744 0.26642 2.092 0.036408 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 408.97 on 305 degrees of freedom

Residual deviance: 349.74 on 292 degrees of freedom

AIC: 377.74

Number of Fisher Scoring iterations: 4

[1] "Clusters: 8 Media: 0.737225"

# 9 Clusters

## [1] "Cluster: 1 AUC: 0.788278"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1371 -0.9710 0.4799 0.9261 2.0354

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.34171 0.49839 0.686 0.49294

Q102089Rent -0.40828 0.34184 -1.194 0.23234

Q102289Yes 0.63050 0.28213 2.235 0.02543 \*

Q102906Yes -0.77020 0.25636 -3.004 0.00266 \*\*

Q108343Yes -0.89831 0.27624 -3.252 0.00115 \*\*

Q108855Yes! 0.29977 0.26130 1.147 0.25129

Q108856Space -0.40349 0.28829 -1.400 0.16164

Q113181Yes 0.09093 0.26029 0.349 0.72683

Q114961Yes -0.23437 0.26128 -0.897 0.36970

Q116197P.M. 0.25946 0.25652 1.011 0.31178

Q116441Yes 0.52284 0.26654 1.962 0.04981 \*

Q118237Yes -0.50612 0.26615 -1.902 0.05722 .

Q119334Yes 0.45573 0.26324 1.731 0.08341 .

Q120014Yes 0.46511 0.25707 1.809 0.07041 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 454.19 on 328 degrees of freedom

Residual deviance: 378.03 on 315 degrees of freedom

AIC: 406.03

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 2 AUC: 0.763342"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2944 -1.0697 0.5935 0.9573 1.9175

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.91770 0.50102 1.832 0.066999 .

Q102089Rent -0.36432 0.25496 -1.429 0.153019

Q102289Yes 0.35005 0.28459 1.230 0.218683

Q102906Yes -0.21255 0.25714 -0.827 0.408476

Q108343Yes -0.44510 0.26211 -1.698 0.089486 .

Q108855Yes! 0.52075 0.25406 2.050 0.040396 \*

Q108856Space -0.02476 0.26954 -0.092 0.926802

Q113181Yes 0.35264 0.24742 1.425 0.154077

Q114961Yes -0.41250 0.25199 -1.637 0.101632

Q116197P.M. -0.55670 0.27514 -2.023 0.043038 \*

Q116441Yes 0.20431 0.25109 0.814 0.415819

Q118237Yes -0.95590 0.24638 -3.880 0.000105 \*\*\*

Q119334Yes 0.28714 0.25152 1.142 0.253619

Q120014Yes 0.29966 0.25415 1.179 0.238370

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 474.16 on 349 degrees of freedom

Residual deviance: 414.73 on 336 degrees of freedom

AIC: 442.73

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 3 AUC: 0.838305"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.9882 -0.8939 0.3977 0.8410 2.1019

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.53868 0.50922 1.058 0.290124

Q102089Rent -1.00510 0.30365 -3.310 0.000933 \*\*\*

Q102289Yes 1.21258 0.31285 3.876 0.000106 \*\*\*

Q102906Yes -0.24175 0.27313 -0.885 0.376100

Q108343Yes 0.21085 0.28490 0.740 0.459249

Q108855Yes! 0.34684 0.27488 1.262 0.207027

Q108856Space -0.64326 0.29505 -2.180 0.029242 \*

Q113181Yes 0.25988 0.26610 0.977 0.328746

Q114961Yes 0.08958 0.27223 0.329 0.742117

Q116197P.M. -0.44446 0.26852 -1.655 0.097874 .

Q116441Yes 0.21482 0.26554 0.809 0.418521

Q118237Yes -1.31113 0.28549 -4.593 4.38e-06 \*\*\*

Q119334Yes 0.50588 0.27094 1.867 0.061885 .

Q120014Yes 0.39940 0.26672 1.497 0.134273

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 461.54 on 334 degrees of freedom

Residual deviance: 362.05 on 321 degrees of freedom

AIC: 390.05

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.702920"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.1629 -0.9803 0.4846 0.9595 1.9028

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.14200 0.51502 2.217 0.02660 \*

Q102089Rent -0.08236 0.26265 -0.314 0.75384

Q102289Yes 0.86854 0.26879 3.231 0.00123 \*\*

Q102906Yes -0.68979 0.23988 -2.876 0.00403 \*\*

Q108343Yes -0.34256 0.34632 -0.989 0.32259

Q108855Yes! 0.33561 0.25240 1.330 0.18362

Q108856Space -0.21001 0.26224 -0.801 0.42323

Q113181Yes -0.22535 0.26427 -0.853 0.39382

Q114961Yes 0.02953 0.25571 0.115 0.90807

Q116197P.M. -0.63271 0.31416 -2.014 0.04401 \*

Q116441Yes -0.17963 0.41408 -0.434 0.66442

Q118237Yes -1.21908 0.24791 -4.918 8.76e-07 \*\*\*

Q119334Yes 0.65803 0.24834 2.650 0.00806 \*\*

Q120014Yes -0.05153 0.26061 -0.198 0.84325

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 495.65 on 358 degrees of freedom

Residual deviance: 427.36 on 345 degrees of freedom

AIC: 455.36

Number of Fisher Scoring iterations: 3

## [1] "Cluster: 5 AUC: 0.667601"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2282 -0.9283 0.4650 0.9273 2.1614

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.66961 0.52004 1.288 0.197877

Q102089Rent -0.13312 0.46381 -0.287 0.774102

Q102289Yes 1.04438 0.32371 3.226 0.001254 \*\*

Q102906Yes -0.34796 0.30242 -1.151 0.249908

Q108343Yes -0.22899 0.30072 -0.761 0.446369

Q108855Yes! 0.12135 0.30576 0.397 0.691463

Q108856Space -0.24941 0.33695 -0.740 0.459170

Q113181Yes 0.08424 0.29401 0.287 0.774471

Q114961Yes -0.39277 0.29611 -1.326 0.184692

Q116197P.M. -0.52919 0.28846 -1.835 0.066570 .

Q116441Yes -0.11081 0.28973 -0.382 0.702108

Q118237Yes -1.12872 0.30282 -3.727 0.000193 \*\*\*

Q119334Yes 0.45252 0.30858 1.466 0.142525

Q120014Yes 0.51648 0.28942 1.785 0.074340 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 366.53 on 266 degrees of freedom

Residual deviance: 305.43 on 253 degrees of freedom

AIC: 333.43

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 6 AUC: 0.709729"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.608 -1.009 0.435 1.025 1.834

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.47556 0.70638 2.089 0.03672 \*

Q102089Rent 0.29426 0.33902 0.868 0.38541

Q102289Yes 0.18939 0.34546 0.548 0.58354

Q102906Yes -0.42357 0.30145 -1.405 0.15999

Q108343Yes -1.13524 0.47167 -2.407 0.01609 \*

Q108855Yes! -0.15572 0.29947 -0.520 0.60309

Q108856Space -0.82190 0.35690 -2.303 0.02129 \*

Q113181Yes 0.59425 0.31827 1.867 0.06189 .

Q114961Yes -0.19625 0.30413 -0.645 0.51874

Q116197P.M. -0.56273 0.38030 -1.480 0.13895

Q116441Yes 0.98134 0.53022 1.851 0.06419 .

Q118237Yes -0.79557 0.30445 -2.613 0.00897 \*\*

Q119334Yes 0.34945 0.30103 1.161 0.24570

Q120014Yes -0.06734 0.33135 -0.203 0.83897

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 325.74 on 234 degrees of freedom

Residual deviance: 283.60 on 221 degrees of freedom

AIC: 311.6

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 7 AUC: 0.686083"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3142 -0.9539 0.5321 0.7517 1.8805

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.2684 0.6685 1.897 0.057783 .

Q102089Rent -0.3334 0.7220 -0.462 0.644279

Q102289Yes 0.6901 0.4437 1.555 0.119924

Q102906Yes -0.5421 0.3694 -1.467 0.142281

Q108343Yes 0.6479 0.4210 1.539 0.123787

Q108855Yes! 0.2966 0.3765 0.788 0.430865

Q108856Space -0.7625 0.4622 -1.649 0.099050 .

Q113181Yes 0.4661 0.3609 1.292 0.196467

Q114961Yes -0.4326 0.3747 -1.155 0.248230

Q116197P.M. -0.2966 0.3539 -0.838 0.401885

Q116441Yes -0.2006 0.3686 -0.544 0.586296

Q118237Yes -1.4536 0.4030 -3.607 0.000309 \*\*\*

Q119334Yes 0.5420 0.3700 1.465 0.142987

Q120014Yes 0.2913 0.3696 0.788 0.430583

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 244.55 on 197 degrees of freedom

Residual deviance: 204.36 on 184 degrees of freedom

AIC: 232.36

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 8 AUC: 0.679941"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.9982 -0.9877 0.5008 1.0123 1.9381

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -0.22682 0.48936 -0.463 0.64301

Q102089Rent -0.03050 0.24354 -0.125 0.90033

Q102289Yes 0.79693 0.25528 3.122 0.00180 \*\*

Q102906Yes -0.33719 0.24433 -1.380 0.16756

Q108343Yes -0.01369 0.26305 -0.052 0.95850

Q108855Yes! 0.35213 0.24862 1.416 0.15668

Q108856Space 0.20509 0.25524 0.804 0.42167

Q113181Yes 0.36585 0.25178 1.453 0.14620

Q114961Yes -0.49399 0.24385 -2.026 0.04278 \*

Q116197P.M. -0.13324 0.27310 -0.488 0.62564

Q116441Yes -0.15404 0.26539 -0.580 0.56164

Q118237Yes -0.72601 0.25593 -2.837 0.00456 \*\*

Q119334Yes 0.75719 0.24136 3.137 0.00171 \*\*

Q120014Yes 0.13818 0.24738 0.559 0.57645

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 490.02 on 353 degrees of freedom

Residual deviance: 427.67 on 340 degrees of freedom

AIC: 455.67

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 9 AUC: 0.732236"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2606 -1.0051 0.5685 0.9273 1.7715

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.376405 0.520245 0.724 0.46936

Q102089Rent -0.248265 0.249002 -0.997 0.31875

Q102289Yes 0.670785 0.272683 2.460 0.01390 \*

Q102906Yes -0.371251 0.278276 -1.334 0.18217

Q108343Yes 0.040585 0.256554 0.158 0.87431

Q108855Yes! 0.600651 0.267412 2.246 0.02469 \*

Q108856Space -0.148664 0.271291 -0.548 0.58370

Q113181Yes 0.300939 0.268464 1.121 0.26230

Q114961Yes 0.003337 0.263988 0.013 0.98991

Q116197P.M. -0.448936 0.270155 -1.662 0.09656 .

Q116441Yes 0.195399 0.253920 0.770 0.44158

Q118237Yes -0.999114 0.252246 -3.961 7.47e-05 \*\*\*

Q119334Yes 0.016619 0.253663 0.066 0.94776

Q120014Yes 0.721911 0.249036 2.899 0.00375 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 457.15 on 343 degrees of freedom

Residual deviance: 397.99 on 330 degrees of freedom

AIC: 425.99

Number of Fisher Scoring iterations: 4

[1] "Clusters: 9 Media: 0.729826"

# 10 Clusters

## [1] "Cluster: 1 AUC: 0.706863"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.0987 -0.9933 0.4750 0.9268 1.6013

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.41057 0.66803 0.615 0.53882

Q102089Rent -0.98216 0.36523 -2.689 0.00716 \*\*

Q102289Yes 1.34857 0.44168 3.053 0.00226 \*\*

Q102906Yes -0.13684 0.34706 -0.394 0.69338

Q108343Yes -0.46037 0.34879 -1.320 0.18687

Q108855Yes! 0.65503 0.34333 1.908 0.05641 .

Q108856Space 0.32251 0.39153 0.824 0.41010

Q113181Yes -0.00711 0.33273 -0.021 0.98295

Q114961Yes -0.25422 0.33917 -0.750 0.45353

Q116197P.M. -0.40845 0.33505 -1.219 0.22282

Q116441Yes 0.45428 0.34681 1.310 0.19024

Q118237Yes -0.88357 0.35390 -2.497 0.01254 \*

Q119334Yes 0.19712 0.34307 0.575 0.56558

Q120014Yes 0.05279 0.35685 0.148 0.88240

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 270.74 on 199 degrees of freedom

Residual deviance: 226.42 on 186 degrees of freedom

AIC: 254.42

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 2 AUC: 0.702541"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.0226 -0.9901 0.5396 0.9738 1.7827

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -0.52185 0.50042 -1.043 0.297029

Q102089Rent 0.15353 0.23876 0.643 0.520196

Q102289Yes 0.90139 0.25451 3.542 0.000398 \*\*\*

Q102906Yes -0.28225 0.24448 -1.154 0.248297

Q108343Yes -0.04908 0.24892 -0.197 0.843698

Q108855Yes! 0.65820 0.24565 2.679 0.007374 \*\*

Q108856Space 0.27569 0.24758 1.114 0.265475

Q113181Yes 0.19441 0.24308 0.800 0.423834

Q114961Yes -0.47570 0.24046 -1.978 0.047895 \*

Q116197P.M. -0.16430 0.26331 -0.624 0.532652

Q116441Yes 0.07962 0.24421 0.326 0.744404

Q118237Yes -0.69947 0.24953 -2.803 0.005061 \*\*

Q119334Yes 0.52393 0.24058 2.178 0.029424 \*

Q120014Yes 0.24649 0.24103 1.023 0.306456

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 511.38 on 370 degrees of freedom

Residual deviance: 445.98 on 357 degrees of freedom

AIC: 473.98

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 3 AUC: 0.761103"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2178 -1.0153 0.4975 1.0064 2.0925

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.75645 0.75257 2.334 0.0196 \*

Q102089Rent 0.35881 0.35928 0.999 0.3179

Q102289Yes 0.38734 0.37002 1.047 0.2952

Q102906Yes -0.69160 0.34472 -2.006 0.0448 \*

Q108343Yes -0.85277 0.47397 -1.799 0.0720 .

Q108855Yes! -0.49550 0.34527 -1.435 0.1513

Q108856Space -0.88198 0.38756 -2.276 0.0229 \*

Q113181Yes 0.51502 0.36167 1.424 0.1544

Q114961Yes -0.27303 0.33459 -0.816 0.4145

Q116197P.M. -0.46481 0.42821 -1.085 0.2777

Q116441Yes -0.03583 0.44018 -0.081 0.9351

Q118237Yes -0.82305 0.33497 -2.457 0.0140 \*

Q119334Yes 0.32142 0.33488 0.960 0.3371

Q120014Yes -0.07886 0.34891 -0.226 0.8212

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 272.97 on 196 degrees of freedom

Residual deviance: 236.86 on 183 degrees of freedom

AIC: 264.86

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 4 AUC: 0.685122"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.0668 -0.9946 0.5184 0.9870 1.9407

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.89571 0.54413 1.646 0.09973 .

Q102089Rent 0.01811 0.26023 0.070 0.94450

Q102289Yes 0.80585 0.27960 2.882 0.00395 \*\*

Q102906Yes -0.35427 0.26232 -1.350 0.17686

Q108343Yes 0.05262 0.32672 0.161 0.87206

Q108855Yes! 0.34265 0.26407 1.298 0.19442

Q108856Space -0.30143 0.29344 -1.027 0.30430

Q113181Yes -0.47495 0.29840 -1.592 0.11146

Q114961Yes -0.37244 0.26921 -1.383 0.16653

Q116197P.M. -0.19512 0.32957 -0.592 0.55383

Q116441Yes 0.41547 0.38721 1.073 0.28329

Q118237Yes -1.28798 0.26774 -4.810 1.51e-06 \*\*\*

Q119334Yes 0.44437 0.26309 1.689 0.09121 .

Q120014Yes 0.11350 0.26656 0.426 0.67026

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 422.62 on 305 degrees of freedom

Residual deviance: 369.57 on 292 degrees of freedom

AIC: 397.57

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 5 AUC: 0.686083"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3142 -0.9539 0.5321 0.7517 1.8805

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.2684 0.6685 1.897 0.057783 .

Q102089Rent -0.3334 0.7220 -0.462 0.644279

Q102289Yes 0.6901 0.4437 1.555 0.119924

Q102906Yes -0.5421 0.3694 -1.467 0.142281

Q108343Yes 0.6479 0.4210 1.539 0.123787

Q108855Yes! 0.2966 0.3765 0.788 0.430865

Q108856Space -0.7625 0.4622 -1.649 0.099050 .

Q113181Yes 0.4661 0.3609 1.292 0.196467

Q114961Yes -0.4326 0.3747 -1.155 0.248230

Q116197P.M. -0.2966 0.3539 -0.838 0.401885

Q116441Yes -0.2006 0.3686 -0.544 0.586296

Q118237Yes -1.4536 0.4030 -3.607 0.000309 \*\*\*

Q119334Yes 0.5420 0.3700 1.465 0.142987

Q120014Yes 0.2913 0.3696 0.788 0.430583

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 244.55 on 197 degrees of freedom

Residual deviance: 204.36 on 184 degrees of freedom

AIC: 232.36

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 6 AUC: 0.783310"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3449 -0.9731 0.4703 0.9674 1.8354

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.6681 0.5648 1.183 0.23680

Q102089Rent -0.4567 0.3238 -1.411 0.15839

Q102289Yes 0.7355 0.3381 2.175 0.02960 \*

Q102906Yes -0.2100 0.2999 -0.700 0.48373

Q108343Yes 0.2232 0.3209 0.695 0.48681

Q108855Yes! 0.3475 0.3029 1.147 0.25127

Q108856Space -0.5142 0.3150 -1.632 0.10259

Q113181Yes 0.3826 0.2929 1.306 0.19152

Q114961Yes -0.2949 0.2924 -1.009 0.31317

Q116197P.M. -0.6407 0.3261 -1.965 0.04946 \*

Q116441Yes 0.3597 0.2890 1.245 0.21319

Q118237Yes -1.0704 0.3035 -3.527 0.00042 \*\*\*

Q119334Yes 0.3780 0.2936 1.287 0.19798

Q120014Yes 0.2616 0.2916 0.897 0.36965

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 356.11 on 257 degrees of freedom

Residual deviance: 300.57 on 244 degrees of freedom

AIC: 328.57

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 7 AUC: 0.692432"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2028 -0.9313 0.4549 0.9443 2.1551

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.78161 0.48666 1.606 0.10826

Q102089Rent -0.12048 0.41958 -0.287 0.77400

Q102289Yes 0.89453 0.29857 2.996 0.00273 \*\*

Q102906Yes -0.50943 0.28362 -1.796 0.07247 .

Q108343Yes -0.35584 0.28170 -1.263 0.20652

Q108855Yes! 0.04817 0.28629 0.168 0.86638

Q108856Space -0.33474 0.31979 -1.047 0.29521

Q113181Yes 0.10568 0.27584 0.383 0.70162

Q114961Yes -0.41535 0.27630 -1.503 0.13278

Q116197P.M. -0.36696 0.26837 -1.367 0.17152

Q116441Yes -0.03873 0.27251 -0.142 0.88697

Q118237Yes -1.08528 0.28067 -3.867 0.00011 \*\*\*

Q119334Yes 0.37402 0.28612 1.307 0.19114

Q120014Yes 0.53529 0.27326 1.959 0.05012 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 413.63 on 299 degrees of freedom

Residual deviance: 346.00 on 286 degrees of freedom

AIC: 374

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 8 AUC: 0.756203"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.2919 -0.9628 0.4533 0.9114 1.9784

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.35108 0.47833 0.734 0.46296

Q102089Rent -0.86066 0.32176 -2.675 0.00748 \*\*

Q102289Yes 0.67446 0.27030 2.495 0.01259 \*

Q102906Yes -0.64079 0.24439 -2.622 0.00874 \*\*

Q108343Yes -0.69392 0.25794 -2.690 0.00714 \*\*

Q108855Yes! 0.22885 0.24877 0.920 0.35761

Q108856Space -0.38312 0.26954 -1.421 0.15521

Q113181Yes 0.19807 0.24762 0.800 0.42377

Q114961Yes -0.07828 0.24890 -0.314 0.75315

Q116197P.M. 0.15845 0.24089 0.658 0.51067

Q116441Yes 0.06509 0.24665 0.264 0.79187

Q118237Yes -0.62295 0.25002 -2.492 0.01272 \*

Q119334Yes 0.60948 0.24967 2.441 0.01464 \*

Q120014Yes 0.71401 0.24180 2.953 0.00315 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 518.17 on 375 degrees of freedom

Residual deviance: 421.27 on 362 degrees of freedom

AIC: 449.27

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 9 AUC: 0.771759"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.3384 -0.9271 0.5242 0.8518 1.7527

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.24617 0.51816 2.405 0.0162 \*

Q102089Rent -0.54559 0.25600 -2.131 0.0331 \*

Q102289Yes 0.28666 0.28584 1.003 0.3159

Q102906Yes -0.43216 0.29200 -1.480 0.1389

Q108343Yes -0.14816 0.27084 -0.547 0.5844

Q108855Yes! 0.38331 0.27837 1.377 0.1685

Q108856Space -0.32774 0.28919 -1.133 0.2571

Q113181Yes 0.40078 0.28022 1.430 0.1526

Q114961Yes -0.04325 0.26706 -0.162 0.8713

Q116197P.M. -0.56223 0.27996 -2.008 0.0446 \*

Q116441Yes 0.36089 0.26604 1.357 0.1749

Q118237Yes -1.34658 0.25942 -5.191 2.09e-07 \*\*\*

Q119334Yes 0.15554 0.26426 0.589 0.5561

Q120014Yes 0.54393 0.26054 2.088 0.0368 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 451.21 on 341 degrees of freedom

Residual deviance: 379.26 on 328 degrees of freedom

AIC: 407.26

Number of Fisher Scoring iterations: 4

## [1] "Cluster: 10 AUC: 0.690294"

Call:

glm(formula = modelFormula, family = binomial, data = trainSet)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.0914 -1.0222 0.4571 0.9316 2.0852

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.57304 0.68832 0.833 0.40512

Q102089Rent 0.06302 0.38706 0.163 0.87066

Q102289Yes 0.55070 0.36052 1.528 0.12663

Q102906Yes -0.83802 0.31513 -2.659 0.00783 \*\*

Q108343Yes -0.92882 0.54194 -1.714 0.08655 .

Q108855Yes! 0.35063 0.32090 1.093 0.27454

Q108856Space 0.07613 0.33598 0.227 0.82075

Q113181Yes 0.71877 0.32623 2.203 0.02758 \*

Q114961Yes 0.07160 0.33247 0.215 0.82949

Q116197P.M. -0.82511 0.39941 -2.066 0.03885 \*

Q116441Yes -0.50943 0.80443 -0.633 0.52655

Q118237Yes -0.96345 0.32736 -2.943 0.00325 \*\*

Q119334Yes 0.71011 0.33137 2.143 0.03212 \*

Q120014Yes 0.12819 0.36932 0.347 0.72852

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 308.39 on 222 degrees of freedom

Residual deviance: 261.99 on 209 degrees of freedom

AIC: 289.99

Number of Fisher Scoring iterations: 4

[1] "Clusters: 10 Media: 0.723571"