A.4.3.2 Multivariate Goldvarb analysis ICE-GB vs. ICE-EA

A.4.3.2.1. Original model

CELL CREATION

=============

Name of token file: C:\Dokumente und Einstellungen\Thomas Hoffmann\Desktop\Goldvarb\_EA\_GB\GB\_EA\_1907\_interact\_GBstyle.tkn

Name of condition file: Untitled.cnd

(

(1 (NIL (COL 2 N))

(NIL (COL 2 ?))

(NIL (COL 6 ?))

(NIL (COL 2 o))

(NIL (COL 2 r))

(NIL (COL 2 T))

(NIL (COL 2 E))

(NIL (COL 2 C))

(NIL (COL 2 P))

(NIL (COL 2 p))

(NIL (COL 3 t))

(NIL (COL 3 z))

(NIL (COL 3 H))

(NIL (COL 3 n))

(NIL (COL 3 R))

(NIL (COL 3 A))

(NIL (COL 3 W))

(NIL (COL 4 0))

(NIL (COL 4 O))

(NIL (COL 2 p))

(NIL (COL 6 W))

(NIL (COL 6 B))

(NIL (COL 6 g))

(NIL (COL 6 n))

(NIL (COL 6 r))

(NIL (COL 7 T))

(NIL (COL 6 a)))

(4)

(6 (M (COL 6 m))

(P (COL 6 p))

(M (COL 6 o))

(c (COL 6 c))

(A (COL 6 t))

(A (COL 6 f))

(P (COL 6 z))

(A (COL 6 k))

(I (COL 6 i))

(c (COL 6 b))

(I (COL 6 y))

(A (COL 6 s))

(A (COL 6 l))

(A (COL 6 d)))

(7)

(8 (E (and (COL 2 F) (COL 5 p) ))

(E (and (COL 2 F) (Col 5 b) ))

(E (and (COL 2 F) (Col 5 u) ))

(E (and (COL 2 F) (Col 5 s) ))

(E (and (COL 2 F) (Col 5 m) ))

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(E (and (COL 2 F) (Col 5 d) ))

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(E (and (COL 2 F) (Col 5 r) ))

(E (and (COL 2 F) (Col 5 i) ))

(E (and (COL 2 F) (Col 5 e) ))

(E (and (COL 2 F) (Col 5 t) ))

(E (and (COL 2 F) (Col 5 l) ))

(E (and (COL 2 F) (Col 5 w) ))

(r (and (COL 2 R) (COL 5 p) ))

(R (and (COL 2 R) (Col 5 b) ))

(R (and (COL 2 R) (Col 5 u) ))

(R (and (COL 2 R) (Col 5 s) ))

(R (and (COL 2 R) (Col 5 m) ))

(R (and (COL 2 R) (Col 5 n) ))

(r (and (COL 2 R) (Col 5 c) ))

(R (and (COL 2 R) (Col 5 d) ))

(R (and (COL 2 R) (Col 5 a) ))

(R (and (COL 2 R) (Col 5 o) ))

(R (and (COL 2 R) (Col 5 r) ))

(R (and (COL 2 R) (Col 5 i) ))

(R (and (COL 2 R) (Col 5 e) ))

(R (and (COL 2 R) (Col 5 t) ))

(R (and (COL 2 R) (Col 5 l) ))

(R (and (COL 2 R) (Col 5 w) ))

(E (and (COL 2 I) (COL 5 p) ))

(E (and (COL 2 I) (Col 5 b) ))

(E (and (COL 2 I) (Col 5 u) ))

(E (and (COL 2 I) (Col 5 s) ))

(E (and (COL 2 I) (Col 5 m) ))

(E (and (COL 2 I) (Col 5 n) ))

(E (and (COL 2 I) (Col 5 c) ))

(E (and (COL 2 I) (Col 5 d) ))

(E (and (COL 2 I) (Col 5 a) ))

(E (and (COL 2 I) (Col 5 o) ))

(E (and (COL 2 I) (Col 5 r) ))

(E (and (COL 2 I) (Col 5 i) ))

(E (and (COL 2 I) (Col 5 e) ))

(E (and (COL 2 I) (Col 5 t) ))

(E (and (COL 2 I) (Col 5 l) ))

(E (and (COL 2 I) (Col 5 w) ))

(E (and (COL 2 Q) (COL 5 p) ))

(E (and (COL 2 Q) (Col 5 b) ))

(E (and (COL 2 Q) (Col 5 u) ))

(E (and (COL 2 Q) (Col 5 s) ))

(E (and (COL 2 Q) (Col 5 m) ))

(E (and (COL 2 Q) (Col 5 n) ))

(E (and (COL 2 Q) (Col 5 c) ))

(E (and (COL 2 Q) (Col 5 d) ))

(E (and (COL 2 Q) (Col 5 a) ))

(E (and (COL 2 Q) (Col 5 o) ))

(E (and (COL 2 Q) (Col 5 r) ))

(E (and (COL 2 Q) (Col 5 i) ))

(E (and (COL 2 Q) (Col 5 e) ))

(E (and (COL 2 Q) (Col 5 t) ))

(E (and (COL 2 Q) (Col 5 l) ))

(E (and (COL 2 Q) (Col 5 w) ))

(r (and (COL 2 L) (COL 5 p) ))

(R (and (COL 2 L) (Col 5 b) ))

(R (and (COL 2 L) (Col 5 u) ))

(R (and (COL 2 L) (Col 5 s) ))

(R (and (COL 2 L) (Col 5 m) ))

(R (and (COL 2 L) (Col 5 n) ))

(r (and (COL 2 L) (Col 5 c) ))

(R (and (COL 2 L) (Col 5 d) ))

(R (and (COL 2 L) (Col 5 a) ))

(R (and (COL 2 L) (Col 5 o) ))

(R (and (COL 2 L) (Col 5 r) ))

(R (and (COL 2 L) (Col 5 i) ))

(R (and (COL 2 L) (Col 5 e) ))

(R (and (COL 2 L) (Col 5 t) ))

(R (and (COL 2 L) (Col 5 l) ))

(R (and (COL 2 L) (Col 5 w) )))

)

Number of cells: 56

Application value(s): sp

Total no. of factors: 13

Group s p Total %

---------------------------------

1 (4)

v N 534 698 1232 91

% 43 56

n N 13 55 68 5

% 19 80

a N 27 26 53 3

% 50 49

Total N 574 779 1353

% 42 57

---------------------------------

2 (6)

c N 235 209 444 32

% 52 47

P N 235 93 328 24

% 71 28

M N 69 48 117 8

% 58 41

A N 19 291 310 22

% 6 93

I N 16 138 154 11

% 10 89

Total N 574 779 1353

% 42 57

---------------------------------

3 (7)

K N 246 277 523 38

% 47 52

G N 328 502 830 61

% 39 60

Total N 574 779 1353

% 42 57

---------------------------------

4 (8)

r N 36 18 54 3

% 66 33

R N 93 732 825 60

% 11 88

E N 445 29 474 35

% 93 6

Total N 574 779 1353

% 42 57

---------------------------------

Total N 574 779 1353

% 42 57

BEST MODEL:

Run # 9, 31 cells:

Convergence at Iteration 10

Input 0.364

Group # 1 -- v: 0.515, n: 0.254, a: 0.498

Group # 2 -- c: 0.712, P: 0.828, M: 0.671, A: 0.074, I: 0.195

Group # 4 -- r: 0.761, R: 0.136, E: 0.957

Log likelihood = -337.901 Significance = 0.036

Maximum possible likelihood = -325.891

Fit: X-square(23) = 24.020, accepted, p = 0.3318

A:4.3.2.2 Revised models

(i) Variety interaction effects

#2: PP types like final GB model (V.2)

c = obligatory complements + optional PP complements

M = movement & accompaniment PPs

#3: Clause\*Formality across British and Kenyan E

E = free relatives, questions, embedded interrogatives

k = less formal\*RC in Kenyan E

K = more formal\*Rc in Kenyan E

g = less formal\*RC in Brtish E

K = more formal\*Rc in British E

Run # 7, 47 cells:

Convergence at Iteration 10

Input 0.362

Group # 1 -- v: 0.514, n: 0.251, a: 0.535

Group # 2 -- c: 0.727, P: 0.828, M: 0.658, A: 0.071, I: 0.182

Group # 3 -- k: 0.461, K: 0.188, E: 0.958, g: 0.904, G: 0.110

Log likelihood = -332.947 Significance = 0.031

Maximum possible likelihood = -309.347

Fit: X-square(37) = 47.201, rejected, p = 0.0101

=> better model (log likelihood = -332.947, 10df)  
than simpler model (V.3.1) (log likelihood = -337.901, 8df):

G2(2df) = 2\*(-332.947+337.901) = 9.908 > 5.59 / p<0.05)

(ii) Variety interaction effects: PP types recoded

#2 b = obligatory complements in Kenyan E

B = obligatory complements in Brtish E

I → A

Group # 1 -- v: 0.515, n: 0.253, a: 0.505

Group # 2 -- M: 0.720, P: 0.830, A: 0.097, b: 0.505, B: 0.628

Group # 3 -- k: 0.478, K: 0.193, E: 0.957, g: 0.915, G: 0.107

Log likelihood = -329.656 Significance = 0.034

Maximum possible likelihood = -315.274

Fit: X-square(29) = 28.764, accepted, p = 0.1867

=> better model (log likelihood = -329.656, 10df)  
than model (i) (log likelihood = -332.947, 10df):

-329.656 > -332.947 [same nr. of dfs]

(iii) Revision: #2 b = obligatory complements in Kenyan and British E

Run # 7, 39 cells:

Convergence at Iteration 10

Input 0.361

Group # 1 -- v: 0.515, n: 0.254, a: 0.505

Group # 2 -- M: 0.720, P: 0.830. A: 0.097, B: 0.552

Group # 3 -- k: 0.473, K: 0.192, E: 0.957, g: 0.916, G: 0.108

Log likelihood = -329.730 Significance = 0.035

Maximum possible likelihood = -315.274

Fit: X-square(30) = 28.912, accepted, p = 0.1837

()

=> as good a model (log likelihood = -329.730. 9df)  
than more complex model (ii) (log likelihood = -329.656, 10df):

G2(1df) = 2\*(-329.656+329.730) = 0.148 << 3.84 / p>>0.05)

(iv) Test: #3 G + K → R

Convergence at Iteration 10

Input 0.364

Group # 1 -- v: 0.514, n: 0.262, a: 0.497

Group # 2 -- M: 0.717, P: 0.830, A: 0.098, B: 0.575

Group # 3 -- k: 0.467, R: 0.134, E: 0.956, g: 0.914

Log likelihood = -333.578 Significance = 0.044

Maximum possible likelihood = -324.083

Fit: X-square(21) = 18.989, accepted, p = 0.5449

=> worse model (log likelihood = -333.578, 8df) than previous, more complex G vs. K model (iii) (Log likelihood = 329.730. 9df):

X-square(1df) = 2\*(-329.730+333.578) = 7.696 >> 3.84 / p<0.05

(v) Test: #1 v + a → V [BEST OVERALL MODEL]

Run # 7, 29 cells:

Convergence at Iteration 10

Input 0.361

Group # 1 -- V: 0.514, n: 0.254

Group # 2 -- M: 0.720, P: 0.830, A: 0.097, B: 0.553

Group # 3 -- k: 0.473, K: 0.192, E: 0.957, g: 0.916, G: 0.108

Log likelihood = -329.734 Significance = 0.009

Maximum possible likelihood = -320.017

Fit: X-square(21) = 19.433, accepted, p = 0.5250

=> as good a model (log likelihood = -329.734, 8df) as   
model (iii) (Log likelihood = 329.730, 9df):

X-square(1df) = 0.008 << 3.84 / p>0.05

(vi) Collapsing #2 P & M → P

Run # 7, 21 cells:

Convergence at Iteration 10

Input 0.360

Group # 1 -- V: 0.517, n: 0.222

Group # 2 -- P: 0.766, A: 0.098, B: 0.552

Group # 3 -- k: 0.457, K: 0.195, E: 0.956, g: 0.913, G: 0.108

Log likelihood = -333.390 Significance = 0.003

Maximum possible likelihood = -327.90

Fit: X-square(14) = 12.600. accepted, p = 0.8201

=> worse model (log likelihood = -333.390, 7df) than previous, more complex model (v) (log likelihood = -329.734, 8df):

X-square(1df) = 2\*(-329.734+333.390) = 7.312 >> 3.84 / p<0.05

A.4.3.2.3 Final Goldvarb model

CELL CREATION

=============

Name of token file: C:\Dokumente und Einstellungen\Thomas Hoffmann\Desktop\Goldvarb\_EA\_GB\GB\_EA\_1907\_interact\_PP\_GBstyle.tkn

Name of condition file: Untitled

(

(1 (NIL (COL 2 N))

(NIL (COL 2 ?))

(NIL (COL 6 ?))

(NIL (COL 2 o))

(NIL (COL 2 r))

(NIL (COL 2 T))

(NIL (COL 2 E))

(NIL (COL 2 C))

(NIL (COL 2 P))

(NIL (COL 2 p))

(NIL (COL 3 t))

(NIL (COL 3 z))

(NIL (COL 3 H))

(NIL (COL 3 n))

(NIL (COL 3 R))

(NIL (COL 3 A))

(NIL (COL 3 W))

(NIL (COL 4 0))

(NIL (COL 4 O))

(NIL (COL 2 p))

(NIL (COL 6 W))

(NIL (COL 6 B))

(NIL (COL 6 g))

(NIL (COL 6 n))

(NIL (COL 6 r))

(NIL (COL 7 T))

(NIL (COL 6 a)))

(4 (n (COL 4 n))

(V (COL 4 a))

(V (COL 4 v)))

(6 (M (and (COL 7 K) (COL 6 m) ))

(P (and (COL 7 K) (COL 6 p) ))

(M (and (COL 7 K) (COL 6 o) ))

(M (and (COL 7 K) (COL 6 c) ))

(A (and (COL 7 K) (COL 6 t) ))

(A (and (COL 7 K) (COL 6 f) ))

(P (and (COL 7 K) (COL 6 z) ))

(A (and (COL 7 K) (COL 6 k) ))

(A (and (COL 7 K) (COL 6 i) ))

(B (and (COL 7 K) (COL 6 b) ))

(A (and (COL 7 K) (COL 6 y) ))

(A (and (COL 7 K) (COL 6 s) ))

(A (and (COL 7 K) (COL 6 l) ))

(A (and (COL 7 K) (COL 6 d) ))

(M (and (COL 7 G) (COL 6 m) ))

(P (and (COL 7 G) (COL 6 p) ))

(M (and (COL 7 G) (COL 6 o) ))

(M (and (COL 7 G) (COL 6 c) ))

(A (and (COL 7 G) (COL 6 t) ))

(A (and (COL 7 G) (COL 6 f) ))

(P (and (COL 7 G) (COL 6 z) ))

(A (and (COL 7 G) (COL 6 k) ))

(A (and (COL 7 G) (COL 6 i) ))

(B (and (COL 7 G) (COL 6 b) ))

(A (and (COL 7 G) (COL 6 y) ))

(A (and (COL 7 G) (COL 6 s) ))

(A (and (COL 7 G) (COL 6 l) ))

(A (and (COL 7 G) (COL 6 d) )))

(8 (K (COL 8 K))

(G (COL 8 G))

(k (COL 8 k))

(g (COL 8 g))

(E (COL 8 E)))

)

Number of cells: 29

Application value(s): sp

Total no. of factors: 11

Group s p Total %

---------------------------------

1 (4)

V N 561 724 1285 94

% 43 56

n N 13 55 68 5

% 19 80

Total N 574 779 1353

% 42 57

---------------------------------

2 (6)

M N 300 238 538 39

% 55 44

P N 235 93 328 24

% 71 28

A N 35 429 464 34

% 7 92

B N 4 19 23 1

% 17 82

Total N 574 779 1353

% 42 57

---------------------------------

3 (8)

k N 9 11 20 1

% 45 55

K N 43 251 294 21

% 14 85

E N 445 29 474 35

% 93 6

g N 27 7 34 2

% 79 20

G N 50 481 531 39

% 9 90

Total N 574 779 1353

% 42 57

---------------------------------

Total N 574 779 1353

% 42 57

Binomial Varbrul

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Name of cell file: Untitled.cel

Using fast, less accurate method.

Averaging by weighting factors.

Threshold, step-up/down: 0.050001

# Stepping up:

# Stepping up:

---------- Level # 0 ----------

Run # 1, 1 cells:

Convergence at Iteration 2

Input 0.424

Log likelihood = -922.238

---------- Level # 1 ----------

Run # 2, 2 cells:

Convergence at Iteration 5

Input 0.422

Group # 1 -- V: 0.515, n: 0.245

Log likelihood = -913.507 Significance = 0.000

Run # 3, 4 cells:

Convergence at Iteration 6

Input 0.362

Group # 2 -- M: 0.690, P: 0.817, A: 0.126, B: 0.271

Log likelihood = -699.638 Significance = 0.000

Run # 4, 5 cells:

Convergence at Iteration 6

Input 0.429

Group # 3 -- k: 0.521, K: 0.186, E: 0.953, g: 0.837, G: 0.121

Log likelihood = -428.225 Significance = 0.000

Add Group # 3 with factors kKEgG

---------- Level # 2 ----------

Run # 5, 10 cells:

Convergence at Iteration 7

Input 0.429

Group # 1 -- V: 0.506, n: 0.386

Group # 3 -- k: 0.539, K: 0.187, E: 0.953, g: 0.843, G: 0.122

Log likelihood = -427.522 Significance = 0.242

Maximum possible likelihood = -423.726

Fit: X-square(5) = 7.592, accepted, p = 0.1844

Run # 6, 19 cells:

Convergence at Iteration 10

Input 0.362

Group # 2 -- M: 0.706, P: 0.836, A: 0.101, B: 0.578

Group # 3 -- k: 0.429, K: 0.187, E: 0.958, g: 0.910, G: 0.108

Log likelihood = -333.187 Significance = 0.000

Maximum possible likelihood = -329.256

Fit: X-square(12) = 7.861, accepted, p = 0.9498

Add Group # 2 with factors MPAB

---------- Level # 3 ----------

[BEST MODEL]

Run # 7, 29 cells:

Convergence at Iteration 10

Input 0.361

Group # 1 -- V: 0.514, n: 0.254

Group # 2 -- M: 0.720, P: 0.830, A: 0.097, B: 0.553

Group # 3 -- k: 0.473, K: 0.192, E: 0.957, g: 0.916, G: 0.108

Log likelihood = -329.734 Significance = 0.009

Maximum possible likelihood = -320.017

Fit: X-square(21) = 19.433, accepted, p = 0.5250

Add Group # 1 with factors Vn

Best stepping up run: #7

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# Stepping down:

# Stepping down:

---------- Level # 3 ----------

Run # 8, 29 cells:

Convergence at Iteration 10

Input 0.361

Group # 1 -- V: 0.514, n: 0.254

Group # 2 -- M: 0.720. P: 0.830, A: 0.097, B: 0.553

Group # 3 -- k: 0.473, K: 0.192, E: 0.957, g: 0.916, G: 0.108

Log likelihood = -329.734

Maximum possible likelihood = -320.017

Fit: X-square(21) = 19.433, accepted, p = 0.5250

---------- Level # 2 ----------

Run # 9, 19 cells:

Convergence at Iteration 10

Input 0.362

Group # 2 -- M: 0.706, P: 0.836, A: 0.101, B: 0.578

Group # 3 -- k: 0.429, K: 0.187, E: 0.958, g: 0.910, G: 0.108

Log likelihood = -333.187 Significance = 0.009

Maximum possible likelihood = -329.256

Fit: X-square(12) = 7.861, accepted, p = 0.9498

Run # 10. 10 cells:

Convergence at Iteration 7

Input 0.429

Group # 1 -- V: 0.506, n: 0.386

Group # 3 -- k: 0.539, K: 0.187, E: 0.953, g: 0.843, G: 0.122

Log likelihood = -427.522 Significance = 0.000

Maximum possible likelihood = -423,726

Fit: X-square(5) = 7.592, accepted, p = 0.1844

Run # 11, 7 cells:

Convergence at Iteration 7

Input 0.359

Group # 1 -- V: 0.522, n: 0.162

Group # 2 -- M: 0.709, P: 0.808, A: 0.119, B: 0.256

Log likelihood = -682.133 Significance = 0.000

Maximum possible likelihood = -682.013

Fit: X-square(3) = 0.240. accepted, p = 0.9701

All remaining groups significant

Groups eliminated while stepping down: None

Best stepping up run: #7

Best stepping down run: #8

Binomial Varbrul, 1 step

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Name of cell file: Untitled

Using fast, less accurate method.

Averaging by weighting factors.

- One-level analysis only:One-level binomial analysis:

Run # 1, 29 cells:

Convergence at Iteration 10

Input 0,361

Group Factor Weight App/Total Input&Weight

1: V 0.514 0.44 0.37

n 0.254 0.19 0.16

2: M 0.720 0.56 0.59

P 0.830 0.72 0.73

A 0.097 0.08 0.06

B 0.553 0.17 0.41

3: k 0.473 0.45 0.34

K 0.192 0.15 0.12

E 0.957 0.94 0.93

g 0.916 0.79 0.86

G 0.108 0.09 0.06

Cell Total App'ns Expected Error

nPk 1 0 0.456 0.838

nPK 1 0 0.182 0.222

nPG 1 1 0.102 8.848

nMk 3 0 0.921 1.330

nMg 4 2 3.372 3.557

nMK 17 3 1.789 0.916

nMG 28 3 1.580 1.352

nME 5 4 4.579 0.872

nAK 4 0 0.020 0.020

nAG 4 0 0.010 0.010

VPk 2 1 1.446 0.496

VPg 6 6 5.816 0.190

VPK 46 18 18.814 0.060

VPG 81 22 21.082 0.054

VPE 190 187 187.080 0.002

VMk 9 7 5.218 1.448

VMg 14 13 13.210 0.059

VMK 69 20 18.496 0.167

VMG 156 21 24.488 0.589

VME 233 227 226.324 0.071

VBk 2 1 0.796 0.087

VBg 1 1 0.889 0.125

VBK 10 1 1.493 0.191

VBG 10 1 0.819 0.043

VAk 3 0 0.164 0.173

VAg 9 5 3.706 0.768

VAK 147 1 2.220 0.681

VAG 251 2 1.942 0.002

VAE 46 27 26.987 0.000

Total Chi-square = 23.1687

Chi-square/cell = 0.7989

Log likelihood = -329.734

Maximum possible likelihood = -320.017

Fit: X-square(21) = 19.433, accepted, p = 0.5250

A.4.3.2.4 Final Rbrul model

STEP-UP AND STEP-DOWN MATCH!

STEPPING DOWN:

$VNA

fixed logodds tokens strand/strand+piped uncentered weight

V 0.569 1285 0.437 0.514

n -0.569 68 0.191 0.253

$PP

fixed logodds tokens strand/strand+piped uncentered weight

P 1.456 328 0.716 0.83

M 0.819 538 0.558 0.721

B 0.085 23 0.174 0.553

A -2.360 464 0.075 0.097

$CL\_F\_V

fixed logodds tokens strand/strand+piped uncentered weight

E 2.731 474 0.939 0.957

g 2.025 34 0.794 0.916

k -0.475 20 0.450 0.472

K -1.802 294 0.146 0.192

G -2.479 531 0.094 0.108

$misc

deviance df intercept grand.mean uncentered input prob Nagelkerke.R2

659.468 9 -0.591 0.424 0.361 0.784

Current model file is: unsaved model

CL\_F\_V (3.19e-151) + PP (3.81e-42) + VNA (0.0086) [D]

A.4.3.2.5 Cross-validation of final model in R

> strand.glm <- glm(Pplace ~ VNA+PP+CL\_F\_V, family=binomial, data=strand)

> summary(strand.glm)

Call:

glm(formula = Pplace ~ VNA + PP + CL\_F\_V, family = binomial,

data = strand)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.8916 -0.4709 -0.1242 0.2405 3.1205

Coefficients:

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

(Intercept) -0.7902 0.5451 -1.450 0.147102

VNAV 1.1388 0.4693 2.427 0.015229 \*

PPB 2.4450 0.6984 3.501 0.000464 \*\*\*

PPM 3.1798 0.3271 9.721 < 2e-16 \*\*\*

PPP 3.8167 0.3518 10.848 < 2e-16 \*\*\*

CL\_F\_Vg -0.7057 0.5662 -1.246 0.212648

CL\_F\_VG -5.2096 0.3109 -16.754 < 2e-16 \*\*\*

CL\_F\_Vk -3.2059 0.5715 -5.609 2.03e-08 \*\*\*

CL\_F\_VK -4.5329 0.3219 -14.083 < 2e-16 \*\*\*

---

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

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1844.48 on 1352 degrees of freedom

Residual deviance: 659.47 on 1344 degrees of freedom

AIC: 677.47

Number of Fisher Scoring iterations: 6

> cv.binary(strand.glm)

Fold: 7 10 6 3 1 5 2 4 8 9

Internal estimate of accuracy = 0.901

Cross-validation estimate of accuracy = 0.9

A.4.3.2.6 Model including factor group displaced element

[BEST MODEL]

Run # 11, 34 cells:

Convergence at Iteration 10

Input 0.360

Group # 1 -- 1: 0.496 [= other fillers], S: 0.834 [= whose]

Group # 2 -- V: 0.514, n: 0.251

Group # 3 -- M: 0.715, P: 0.823, A: 0.104, B: 0.519

Group # 4 -- k: 0.465, K: 0.192, E: 0.956, g: 0.910, G: 0.111

Log likelihood = -331.306 Significance = 0.009

Maximum possible likelihood = -312.475

Fit: X-square(25) = 37.662, accepted. p = 0.0507

NOT ACCEPTED SINCE:

* COMPARISON WITH FINAL MODEL [4.3.2.3: Log likelihood = -329,734, 8df]:  
  G2 = 2\*(-329.734+331.306) = 3.144 for 1df [9-8df] => p > 0.076  
  => simpler model in [4.3.2.3] better
* PRECISE “Fit: X-square” [CALCULATED IN R] < 0.05:  
   > a = 2\*(-312.475+331.306)  
   > pchisq(a, 25, lower.tail=F)  
   [1] 0.04989421
* BINOMIAL ONE-LEVEL ANALYSIS  
  - HIGH “Chi-square/cell” VALUE= 3,3432  
  - 2 CELLS WITH ERROR >> 3.81:  
   Cell Total App'ns Expected Error  
   SVME 2 1 1.988 81.106
* 1nPG 1 1 0.097 9.277