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

Notes:

- In a model with only main effects (and indiv as random), none of

the stance predictors are significant.

- There is a big interaction with matrix subject and investment:

low investment + "I" favours zero (more than "I" alone), but

low investment + other favours overt.

- There are several minor/marginal interactions with investment and

hierarchy with matrix verb, e.g. same-level hierarchy + 'know'

favours zero, but these are less robust and don't show up when

other interactions are included.

- When the stance predictors are included in the model, the event

type predictor becomes only marginally significant (p ~= 0.07).

- Our current interpretation:

-> Stance has complex, multidirectional effects and depends

crucially on the context, both lexical and grammatical

- But unsure about how or if to report, further investigate the less

robust effects.

In this document I’ve given a base model with no interactions and a model with some investment interactions, as well as a random forest conditional variable importance plot which indicates investment is the most important stance predictor.

(But it also selects matrix tense as important and I haven’t been able to find any effect of tense in the data, so I’m not sure exactly what’s going on there.)

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

Base model:

Generalized linear mixed model fit by maximum likelihood (Laplace

Approximation) [glmerMod]

Family: binomial ( logit )

Formula: dep.var ~ affect + alignment + intervening.elsewhere + hierarchy +

investment + event.type.generic + intervening.verbal + matrix.verb +

matrix.subj.simp + (1 | speaker)

Data: df

Control: glmerControl(optimizer = "bobyqa", optCtrl = list(maxfun = 1e+08))

AIC BIC logLik deviance df.resid

703.5 781.7 -334.7 669.5 717

Scaled residuals:

Min 1Q Median 3Q Max

-2.5075 -0.5180 -0.2225 0.5794 6.1139

Random effects:

Groups Name Variance Std.Dev.

speaker (Intercept) 0.5821 0.7629

Number of obs: 734, groups: speaker, 8

Fixed effects:

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

(Intercept) 0.60190 0.56776 1.060 0.289081

affectneutral -0.14986 0.27651 -0.542 0.587837

affectpositive 0.02335 0.32274 0.072 0.942313

alignmentalign -0.07736 0.34690 -0.223 0.823522

alignmentneutral 0.03750 0.36761 0.102 0.918749

intervening.elsewherepresent 0.92676 0.26864 3.450 0.000561 \*\*\*

hierarchyexpert 0.27201 0.22254 1.222 0.221589

investmentsome -0.08328 0.28605 -0.291 0.770936

event.type.genericformal 0.53301 0.29668 1.797 0.072401 .

event.type.genericmedium -0.16077 0.25421 -0.632 0.527120

intervening.verbalpresent 1.07764 0.50479 2.135 0.032776 \*

matrix.verbknow -0.37199 0.34834 -1.068 0.285565

matrix.verbmake-sure -0.50002 0.45436 -1.100 0.271118

matrix.verbsay -1.37753 0.30390 -4.533 5.82e-06 \*\*\*

matrix.verbthink -1.93569 0.28700 -6.745 1.53e-11 \*\*\*

matrix.subj.simpI -1.45471 0.24437 -5.953 2.63e-09 \*\*\*

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

Model with all interactions:

Generalized linear mixed model fit by maximum likelihood (Laplace

Approximation) [glmerMod]

Family: binomial ( logit )

Formula: dep.var ~ affect + alignment + intervening.elsewhere + hierarchy +

investment + event.type.generic + intervening.verbal + matrix.verb +

matrix.subj.simp + investment:matrix.subj.simp + investment:matrix.verb +

(1 | speaker)

Data: df

Control: glmerControl(optimizer = "bobyqa", optCtrl = list(maxfun = 1e+08))

AIC BIC logLik deviance df.resid

693.4 790.0 -325.7 651.4 713

Scaled residuals:

Min 1Q Median 3Q Max

-2.6235 -0.5202 -0.2213 0.5508 11.7118

Random effects:

Groups Name Variance Std.Dev.

speaker (Intercept) 0.5733 0.7572

Number of obs: 734, groups: speaker, 8

Fixed effects:

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

(Intercept) 1.15910 0.73242 1.583 0.113519

affectneutral -0.20019 0.27916 -0.717 0.473302

affectpositive -0.08328 0.32800 -0.254 0.799561

alignmentalign -0.08108 0.35312 -0.230 0.818394

alignmentneutral 0.07467 0.37051 0.202 0.840282

intervening.elsewherepresent 1.05482 0.27758 3.800 0.000145 \*\*\*

hierarchyexpert 0.35371 0.22930 1.543 0.122932

investmentsome -0.74412 0.59969 -1.241 0.214666

event.type.genericformal 0.55699 0.30473 1.828 0.067574 .

event.type.genericmedium -0.18341 0.25742 -0.712 0.476157

intervening.verbalpresent 1.19714 0.50908 2.352 0.018693 \*

matrix.verbknow 0.62140 1.01086 0.615 0.538737

matrix.verbmake-sure -0.48875 0.45466 -1.075 0.282378

matrix.verbsay -0.12077 0.87387 -0.138 0.890082

matrix.verbthink -2.43284 0.62921 -3.867 0.000110 \*\*\*

matrix.subj.simpI -2.67651 0.57946 -4.619 3.86e-06 \*\*\*

investmentsome:matrix.subj.simpI 1.44733 0.62233 2.326 0.020037 \*

investmentsome:matrix.verbknow -1.06351 1.06617 -0.998 0.318519

investmentsome:matrix.verbsay -1.52115 0.93947 -1.619 0.105414

investmentsome:matrix.verbthink 0.71779 0.70818 1.014 0.310787

---

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

Correlation matrix not shown by default, as p = 20 > 12.

Use print(x, correlation=TRUE) or

vcov(x) if you need it

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

Random forest:

