SKIPPING PROBABILITY

> skiplmer1 = glmer(depvar ~ frequency \* linked + (1|pp) + (1|stim), datafile, family=binomial)

> summary(skiplmer1)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: depvar ~ frequency \* linked + (1 | pp) + (1 | stim)

Data: datafile

AIC BIC logLik deviance df.resid

3008.8 3043.8 -1498.4 2996.8 2538

Scaled residuals:

Min 1Q Median 3Q Max

-4.1081 -0.7094 -0.3995 0.8383 3.5248

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.2198 0.4689

pp (Intercept) 1.3222 1.1499

Number of obs: 2544, groups: stim, 80; pp, 32

Fixed effects:

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

(Intercept) -0.32159 0.22919 -1.403 0.161

frequencylow -0.13738 0.12893 -1.065 0.287

linkedunlinked 0.13813 0.12800 1.079 0.281

frequencylow:linkedunlinked -0.02861 0.18161 -0.158 0.875

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.279

linkednlnkd -0.281 0.499

frqncylw:ln 0.198 -0.709 -0.704

FIRST FIX

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 16383.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.9793 -0.6397 -0.1182 0.4831 6.1589

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 75.46 8.687

pp (Intercept) 645.12 25.399

frequencylow 485.97 22.045 0.44

linkedunlinked 605.07 24.598 -0.44 0.36

frequencylow:linkedunlinked 496.43 22.281 -0.31 -0.49 -0.67

Residual 4867.82 69.770

Number of obs: 1438, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 213.1644 5.9956 35.55

frequencylow 20.8148 6.5522 3.18

linkedunlinked 0.9243 7.0129 0.13

frequencylow:linkedunlinked -4.2017 8.4839 -0.50

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.152

linkednlnkd -0.550 0.445

frqncylw:ln 0.158 -0.624 -0.688

LOGGED

> lmer2 = lmer(log(depvar) ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer2)

Linear mixed model fit by REML ['lmerMod']

Formula: log(depvar) ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 712.4

Scaled residuals:

Min 1Q Median 3Q Max

-3.3888 -0.6184 0.0227 0.6142 3.1949

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 0.001262 0.03552

pp (Intercept) 0.015963 0.12634

frequencylow 0.005873 0.07664 0.07

linkedunlinked 0.013161 0.11472 -0.51 0.64

frequencylow:linkedunlinked 0.013130 0.11459 -0.04 -0.51 -0.78

Residual 0.087347 0.29554

Number of obs: 1438, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 5.319564 0.028068 189.52

frequencylow 0.074796 0.026088 2.87

linkedunlinked -0.002760 0.031007 -0.09

frequencylow:linkedunlinked -0.005268 0.037951 -0.14

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.315

linkednlnkd -0.569 0.544

frqncylw:ln 0.216 -0.638 -0.734

SINGLE FIX

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 11920.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.4325 -0.6296 -0.0975 0.4978 3.9183

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 261.7 16.18

pp (Intercept) 612.7 24.75

frequencylow 537.5 23.18 0.30

linkedunlinked 230.9 15.20 -0.15 0.41

frequencylow:linkedunlinked 128.3 11.33 -0.42 -0.02 -0.19

Residual 4252.4 65.21

Number of obs: 1055, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 213.242 6.253 34.10

frequencylow 35.783 7.185 4.98

linkedunlinked 3.464 6.345 0.55

frequencylow:linkedunlinked -14.020 8.470 -1.66

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.224

linkednlnkd -0.442 0.442

frqncylw:ln 0.213 -0.553 -0.620

LOGGED

> lmer1 = lmer(log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1 | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 421.4

Scaled residuals:

Min 1Q Median 3Q Max

-3.4000 -0.6297 0.0369 0.6121 2.9127

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.003842 0.06198

pp (Intercept) 0.016827 0.12972

Residual 0.077775 0.27888

Number of obs: 1055, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 5.32023 0.02960 179.73

frequencylow 0.13985 0.02463 5.68

linkedunlinked 0.01270 0.02418 0.53

frequencylow:linkedunlinked -0.05174 0.03485 -1.48

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.380

linkednlnkd -0.389 0.468

frqncylw:ln 0.267 -0.706 -0.692

GAZE

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 16798.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.4896 -0.6509 -0.1307 0.4825 6.3152

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 438.0 20.93

pp (Intercept) 601.7 24.53

frequencylow 392.1 19.80 0.59

linkedunlinked 176.7 13.29 -0.07 0.75

frequencylow:linkedunlinked 217.6 14.75 -0.84 -0.08 0.54

Residual 6940.2 83.31

Number of obs: 1428, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 221.877 6.732 32.96

frequencylow 37.392 7.188 5.20

linkedunlinked 4.870 6.831 0.71

frequencylow:linkedunlinked -13.822 9.311 -1.48

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.217

linkednlnkd -0.451 0.536

frqncylw:ln 0.153 -0.587 -0.580

LOGGED

> lmer1 = lmer(log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1 | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 980.1

Scaled residuals:

Min 1Q Median 3Q Max

-3.1585 -0.6604 0.0072 0.6506 3.8697

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.006187 0.07866

pp (Intercept) 0.015616 0.12496

Residual 0.105665 0.32506

Number of obs: 1428, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 5.34582 0.02982 179.28

frequencylow 0.14147 0.02427 5.83

linkedunlinked 0.01812 0.02488 0.73

frequencylow:linkedunlinked -0.04644 0.03467 -1.34

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.415

linkednlnkd -0.405 0.497

frqncylw:ln 0.290 -0.699 -0.716

GO PAST

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 18985.3

Scaled residuals:

Min 1Q Median 3Q Max

-1.9518 -0.4601 -0.1765 0.2074 11.8321

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 2473 49.73

pp (Intercept) 5626 75.01

frequencylow 2883 53.69 -0.18

linkedunlinked 5259 72.52 -0.75 0.21

frequencylow:linkedunlinked 1884 43.40 0.39 -0.16 -0.90

Residual 41009 202.51

Number of obs: 1403, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 288.798 18.427 15.673

frequencylow 64.985 18.206 3.570

linkedunlinked 4.597 20.675 0.222

frequencylow:linkedunlinked -49.472 23.314 -2.122

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.438

linkednlnkd -0.675 0.394

frqncylw:ln 0.379 -0.577 -0.716

LOGGED

> lmer1 = lmer(log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1 | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 1709.1

Scaled residuals:

Min 1Q Median 3Q Max

-2.8962 -0.6484 -0.0923 0.5131 5.5153

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.01958 0.1399

pp (Intercept) 0.01892 0.1375

Residual 0.17735 0.4211

Number of obs: 1403, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 5.50247 0.03730 147.52

frequencylow 0.22947 0.03169 7.24

linkedunlinked 0.03471 0.03267 1.06

frequencylow:linkedunlinked -0.15087 0.04541 -3.32

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.439

linkednlnkd -0.426 0.500

frqncylw:ln 0.306 -0.697 -0.716

TOTAL TIME

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 18053.2

Scaled residuals:

Min 1Q Median 3Q Max

-2.2555 -0.6361 -0.1710 0.3692 7.6672

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 2590.3 50.90

pp (Intercept) 1425.3 37.75

frequencylow 736.3 27.13 0.36

linkedunlinked 1021.2 31.96 -0.28 -0.30

frequencylow:linkedunlinked 241.1 15.53 -0.36 0.57 -0.57

Residual 16396.8 128.05

Number of obs: 1427, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 259.224 11.298 22.943

frequencylow 62.029 10.818 5.734

linkedunlinked 8.656 11.530 0.751

frequencylow:linkedunlinked -31.936 14.034 -2.276

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.292

linkednlnkd -0.454 0.307

frqncylw:ln 0.253 -0.549 -0.661

LOGGED

> lmer1 = lmer(log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: log(depvar) ~ frequency \* linked + (1 + frequency \* linked) + (1 | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 1499.6

Scaled residuals:

Min 1Q Median 3Q Max

-2.7710 -0.6723 -0.0547 0.5731 3.7543

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.02157 0.1469

pp (Intercept) 0.01767 0.1329

Residual 0.14823 0.3850

Number of obs: 1427, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 5.45963 0.03578 152.59

frequencylow 0.20905 0.02880 7.26

linkedunlinked 0.03145 0.02958 1.06

frequencylow:linkedunlinked -0.10307 0.04117 -2.50

Correlation of Fixed Effects:

(Intr) frqncy lnkdnl

frequencylw -0.414

linkednlnkd -0.404 0.499

frqncylw:ln 0.289 -0.698 -0.716

RELEVELLED ONES

SKIPPING

> skiplmer1 = glmer(depvar ~ frequency \* linked + (1|pp) + (1|stim), datafile, family=binomial)

> summary(skiplmer1)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: depvar ~ frequency \* linked + (1 | pp) + (1 | stim)

Data: datafile

AIC BIC logLik deviance df.resid

3008.8 3043.8 -1498.4 2996.8 2538

Scaled residuals:

Min 1Q Median 3Q Max

-4.1081 -0.7094 -0.3995 0.8383 3.5248

Random effects:

Groups Name Variance Std.Dev.

stim (Intercept) 0.2199 0.4689

pp (Intercept) 1.3222 1.1499

Number of obs: 2544, groups: stim, 80; pp, 32

Fixed effects:

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

(Intercept) -0.18346 0.22893 -0.801 0.423

frequencylow -0.16598 0.12799 -1.297 0.195

linkedlinked -0.13814 0.12801 -1.079 0.280

frequencylow:linkedlinked 0.02863 0.18162 0.158 0.875

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.278

linkedlinkd -0.278 0.497

frqncylw:ln 0.195 -0.704 -0.705

FIRST FIX

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 16383.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.9793 -0.6397 -0.1182 0.4831 6.1589

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 75.46 8.687

pp (Intercept) 700.41 26.465

frequencylow 500.57 22.373 -0.17

linkedlinked 605.07 24.598 -0.51 0.30

frequencylow:linkedlinked 496.43 22.281 0.92 -0.51 -0.67

Residual 4867.82 69.770

Number of obs: 1438, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 214.0887 6.2370 34.33

frequencylow 16.6131 6.7473 2.46

linkedlinked -0.9243 7.0129 -0.13

frequencylow:linkedlinked 4.2017 8.4839 0.50

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.437

linkedlinkd -0.596 0.433

frqncylw:ln 0.621 -0.651 -0.688

SINGLE FIX

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 11920.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.4325 -0.6296 -0.0975 0.4978 3.9183

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 261.7 16.18

pp (Intercept) 728.7 26.99

frequencylow 654.3 25.58 0.24

linkedlinked 230.9 15.20 -0.42 -0.29

frequencylow:linkedlinked 128.3 11.33 0.50 -0.42 -0.19

Residual 4252.4 65.21

Number of obs: 1055, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 216.706 6.657 32.55

frequencylow 21.762 7.488 2.91

linkedlinked -3.464 6.345 -0.55

frequencylow:linkedlinked 14.020 8.470 1.66

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.239

linkedlinkd -0.538 0.277

frqncylw:ln 0.391 -0.601 -0.620

GAZE

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 16798.7

Scaled residuals:

Min 1Q Median 3Q Max

-2.4896 -0.6509 -0.1307 0.4825 6.3152

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 438.0 20.93

pp (Intercept) 735.7 27.12

frequencylow 564.6 23.76 0.45

linkedlinked 176.7 13.29 -0.43 -0.96

frequencylow:linkedlinked 217.6 14.75 0.49 -0.56 0.54

Residual 6940.2 83.31

Number of obs: 1428, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 226.747 7.105 31.91

frequencylow 23.569 7.734 3.05

linkedlinked -4.870 6.831 -0.71

frequencylow:linkedlinked 13.822 9.311 1.48

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.209

linkedlinkd -0.534 0.200

frqncylw:ln 0.413 -0.659 -0.580

GO PAST

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 18985.3

Scaled residuals:

Min 1Q Median 3Q Max

-1.9518 -0.4601 -0.1765 0.2074 11.8321

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 2473 49.73

pp (Intercept) 2733 52.27

frequencylow 4043 63.58 -0.45

linkedlinked 5259 72.52 -0.31 0.44

frequencylow:linkedlinked 1884 43.40 0.69 -0.55 -0.90

Residual 41009 202.51

Number of obs: 1403, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 293.395 15.905 18.447

frequencylow 15.514 19.633 0.790

linkedlinked -4.597 20.675 -0.222

frequencylow:linkedlinked 49.472 23.314 2.122

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.580

linkedlinkd -0.518 0.485

frqncylw:ln 0.491 -0.653 -0.716

TOTAL TIME

> lmer1 = lmer(depvar ~ frequency \* linked + (1 + frequency \* linked|pp) + (1|stim), datafile)

> summary(lmer1)

Linear mixed model fit by REML ['lmerMod']

Formula: depvar ~ frequency \* linked + (1 + frequency \* linked | pp) + (1 | stim)

Data: datafile

REML criterion at convergence: 18053.2

Scaled residuals:

Min 1Q Median 3Q Max

-2.2555 -0.6361 -0.1710 0.3692 7.6672

Random effects:

Groups Name Variance Std.Dev. Corr

stim (Intercept) 2590.3 50.90

pp (Intercept) 1764.4 42.01

frequencylow 1460.2 38.21 -0.24

linkedlinked 1021.2 31.96 -0.51 0.44

frequencylow:linkedlinked 241.1 15.53 0.76 -0.81 -0.57

Residual 16396.8 128.05

Number of obs: 1427, groups: stim, 80; pp, 32

Fixed effects:

Estimate Std. Error t value

(Intercept) 267.879 11.928 22.458

frequencylow 30.093 12.139 2.479

linkedlinked -8.656 11.530 -0.751

frequencylow:linkedlinked 31.936 14.034 2.276

Correlation of Fixed Effects:

(Intr) frqncy lnkdln

frequencylw -0.444

linkedlinkd -0.536 0.490

frqncylw:ln 0.399 -0.667 -0.661