**Correct - Simple Analyses**

**Full Sample 2 (without outlier)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 49) = 6468.73, p < .001, np2 = .99

2 group F(1, 49) = 1.96, p = .167, np2 = .04

3 volat F(2, 98) = 38.44, p < .001, np2 = .44

4 cond F(1, 49) = 1.90, p = .175, np2 = .04

5 group:volat F(2, 98) = 1.40, p = .252, np2 = .03

6 group:cond F(1, 49) = 0.20, p = .660, np2 < .01

7 volat:cond F(2, 98) = 1.13, p = .321, np2 = .02

8 group:volat:cond F(2, 98) = 1.96, p = .154, np2 = .04

**Full Sample 1 (with outliers)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 54) = 3172.51, p < .001, np2 = .98

2 group F(1, 54) = 3.96, p = .052, np2 = .07

3 volat F(2, 108) = 34.25, p < .001, np2 = .39

4 cond F(1, 54) = 1.01, p = .319, np2 = .02

5 group:volat F(2, 108) = 1.17, p = .309, np2 = .02

6 group:cond F(1, 54) = 0.59, p = .446, np2 = .01

7 volat:cond F(2, 108) = 2.03, p = .144, np2 = .04

8 group:volat:cond F(2, 108) = 2.69, p = .082, np2 = .05

**Covariates Age + School\_Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 47) = 2788.53, p < .001, np2 = .98

2 group F(1, 47) = 0.46, p = .499, np2 = .01

3 volat F(2, 94) = 32.83, p < .001, np2 = .41

4 cond F(1, 47) = 0.44, p = .511, np2 = .01

5 group:volat F(2, 94) = 2.25, p = .120, np2 = .05

6 group:cond F(1, 47) = 0.77, p = .385, np2 = .02

7 volat:cond F(2, 94) = 1.51, p = .228, np2 = .03

8 group:volat:cond F(2, 94) = 3.23, p = .053, np2 = .06

**HC Sample/Covariates Age + School\_Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 27) = 1925.61, p < .001, np2 = .99

2 volat F(2, 54) = 28.39, p < .001, np2 = .51

3 cond F(1, 27) = 1.23, p = .278, np2 = .04

4 volat:cond F(2, 54) = 0.46, p = .632, np2 = .02

**Correct - Hierarchical Analyses (only HC)**

**Model Comparison**

mod0.HC.correct: Correct ~ (1 | sub\_idx)

mod0a.HC.correct: Correct ~ (1 | sub\_idx) + school\_yrs + age

mod1.HC.correct: Correct ~ Cond + volat + (1 | sub\_idx) + school\_yrs + age

mod2.HC.correct.upd: Correct ~ Cond \* volat + (1 | sub\_idx) + school\_yrs + age

npar AIC BIC logLik deviance Chisq Df Pr(>Chisq)

mod0.HC.correct 2 10337 10351 -5166.4 10333

mod0a.HC.correct 4 10339 10368 -5165.6 10331 1.6672 2 0.4345

mod1.HC.correct 7 10101 10151 -5043.4 10087 244.3748 3 <2e-16

mod2.HC.correct.upd 9 10104 10168 -5043.0 10086 0.7197 2 0.6978

**Fixed Effect Estimates**

Fixed effects:

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

(Intercept) -0.164328 1.014801 -0.162 0.8714

Cond1 -0.116530 0.048998 -2.378 0.0174 \*

volatc1 0.870982 0.059491 14.641 <2e-16 \*\*\*

volatc2 0.731600 0.069652 10.504 <2e-16 \*\*\*

school\_yrs 0.089525 0.069993 1.279 0.2009

age 0.007919 0.013214 0.599 0.5490

---

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

**Confidence Intervals**

2.5 % 97.5 %

.sig01 0.32621213 0.57540598

(Intercept) -2.22342581 1.89483799

Cond1 -0.21262363 -0.02052661

volatc1 0.75494522 0.98821719

volatc2 0.59523072 0.86836026

school\_yrs -0.05235893 0.23163056

age -0.01888036 0.03468381

**Variance-Covariance Matrix**

(Intercept) Cond1 volatc1 volatc2 school\_yrs age

(Intercept) 1.029822e+00 6.367452e-06 1.532151e-04 -2.502413e-04 -6.639233e-02 -7.808911e-03

Cond1 6.367452e-06 2.400822e-03 -2.199520e-05 -1.803718e-05 -2.720658e-06 -2.725892e-07

volatc1 1.532151e-04 -2.199520e-05 3.539147e-03 2.346227e-03 1.629443e-05 1.668866e-06

volatc2 -2.502413e-04 -1.803718e-05 2.346227e-03 4.851372e-03 1.366001e-05 1.435937e-06

school\_yrs -6.639233e-02 -2.720658e-06 1.629443e-05 1.366001e-05 4.899024e-03 2.464545e-04

age -7.808911e-03 -2.725892e-07 1.668866e-06 1.435937e-06 2.464545e-04 1.746079e-04

**Recommended Way to Report**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| parameter name | | beta | lower-95 | upper-95 | random effect (SD) |
| Intercept | -0.164328 | -2.22342581 | 1.89483799 | 0.1812 (0.4257) |
| Cond1 | -0.116530 | -0.21262363 | -0.02052661 |  |
| volatc1 | 0.870982 | 0.75494522 | 0.98821719 |
| volatc2 | 0.731600 | 0.59523072 | 0.86836026 |
| school\_yrs | 0.089525 | -0.05235893 | 0.23163056 |
| age | 0.007919 | -0.01888036 | 0.03468381 |

**Winstay - Simple Analyses**

**Full Sample 2 (without outlier)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 49) = 8438.85, p < .001, np2 = .99

2 group F(1, 49) = 0.00, p = .999, np2 < .01

3 volat F(2, 98) = 5.02, p = .028, np2 = .09

4 cond F(1, 49) = 2.32, p = .134, np2 = .05

5 group:volat F(2, 98) = 0.04, p = .859, np2 < .01

6 group:cond F(1, 49) = 1.88, p = .177, np2 = .04

7 volat:cond F(2, 98) = 0.27, p = .620, np2 = .01

8 group:volat:cond F(2, 98) = 1.69, p = .200, np2 = .03

**Full Sample 1 (with outliers)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 54) = 2340.63, p < .001, np2 = .98

2 group F(1, 54) = 1.52, p = .222, np2 = .03

3 volat F(2, 108) = 3.50, p = .065, np2 = .06

4 cond F(1, 54) = 0.95, p = .335, np2 = .02

5 group:volat F(2, 108) = 0.16, p = .703, np2 < .01

6 group:cond F(1, 54) = 0.39, p = .536, np2 = .01

7 volat:cond F(2, 108) = 0.06, p = .819, np2 < .01

8 group:volat:cond F(2, 108) = 5.42, p = .022, np2 = .09

**Covariate Age + School Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 47) = 2036.24, p < .001, np2 = .98

2 group F(1, 47) = 0.27, p = .606, np2 = .01

3 volat F(2, 94) = 3.31, p = .073, np2 = .07

4 cond F(1, 47) = 1.21, p = .277, np2 = .03

5 group:volat F(2, 94) = 0.02, p = .891, np2 < .01

6 group:cond F(1, 47) = 0.17, p = .685, np2 < .01

7 volat:cond F(2, 94) = 0.01, p = .915, np2 < .01

8 group:volat:cond F(2, 94) = 3.23, p = .077, np2 = .06

**HC Sample/Covariates Age + School\_Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 27) = 1637.30, p < .001, np2 = .98

2 volat F(2, 54) = 3.01, p = .092, np2 = .10

3 cond F(1, 27) = 0.32, p = .579, np2 = .01

4 volat:cond F(2, 54) = 2.23, p = .147, np2 = .08

**Winstay - Hierarchical Analyses (only HC)**

**Model Comparison**

mod0.HC.wstay: w\_stay ~ (1 | sub\_idx)

mod0a.HC.wstay: w\_stay ~ (1 | sub\_idx) + school\_yrs + age

mod1.HC.wstay.upd: w\_stay ~ Cond + volat + (1 | sub\_idx) + school\_yrs + age

mod2.HC.wstay.upd: w\_stay ~ Cond \* volat + (1 | sub\_idx) + school\_yrs + age

npar AIC BIC logLik deviance Chisq Df Pr(>Chisq)

mod0.HC.wstay 2 12116 12131 -6056.2 12112

mod0a.HC.wstay 4 12120 12148 -6055.9 12112 0.5408 2 0.7631

mod1.HC.wstay.upd 7 12038 12088 -6012.2 12024 87.4505 3 <2e-16

mod2.HC.wstay.upd 9 12042 12106 -6012.1 12024 0.0888 2 0.9566

mod1a.correct <- glmer(Correct~Group\*Cond\*volat+(1|sub\_idx), data=data\_new,family=binomial, nAGQ = 0)

**Fixed Effect Estimates**

Fixed effects:

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

(Intercept) -0.466007 1.147720 -0.406 0.685

Cond1 -0.066607 0.043620 -1.527 0.127

volatc1 0.450141 0.050035 8.997 < 2e-16 \*\*\*

volatc2 0.353315 0.060292 5.860 4.63e-09 \*\*\*

school\_yrs 0.051894 0.078975 0.657 0.511

age 0.007238 0.014771 0.490 0.624

---

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

**Confidence Intervals**

2.5 % 97.5 %

.sig01 0.37270095 0.64934927

(Intercept) -2.76342796 1.83439595

Cond1 -0.15211218 0.01887697

volatc1 0.35221818 0.54835282

volatc2 0.23515044 0.47149337

school\_yrs -0.10664091 0.21023267

age -0.02259845 0.03705349

**Variance-Covariance Matrix**

(Intercept) Cond1 volatc1 volatc2 school\_yrs age

(Intercept) 1.345741e+00 -7.077404e-06 4.253537e-05 -3.311994e-04 -8.675888e-02 -1.019226e-02

Cond1 -7.077404e-06 1.902678e-03 -6.534350e-06 -5.088560e-06 1.299045e-07 -3.914857e-09

volatc1 4.253537e-05 -6.534350e-06 2.503368e-03 1.455344e-03 5.733188e-06 8.338700e-07

volatc2 -3.311994e-04 -5.088560e-06 1.455344e-03 3.635059e-03 5.488841e-06 7.869669e-07

school\_yrs -8.675888e-02 1.299045e-07 5.733188e-06 5.488841e-06 6.357018e-03 3.397462e-04

age -1.019226e-02 -3.914857e-09 8.338700e-07 7.869669e-07 3.397462e-04 2.197244e-04

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| parameter name | | beta | lower-95 | upper-95 | random effect (SD) |
| Intercept | -0.466007 | -2.76342796 | 1.83439595 | 0.233 (0.4827) |
| Cond1 | -0.066607 | -0.15211218 | 0.01887697 |  |
| volatc1 | 0.450141 | 0.35221818 | 0.54835282 |
| volatc2 | 0.353315 | 0.23515044 | 0.47149337 |
| school\_yrs | 0.051894 | -0.10664091 | 0.21023267 |
| age | 0.007238 | -0.02259845 | 0.03705349 |

**Loseswitch - Simple Analyses**

**Full Sample 2 (without outlier)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 49) = 233.35, p < .001, np2 = .83

2 group F(1, 49) = 0.26, p = .616, np2 = .01

3 volat F(2, 98) = 105.91, p < .001, np2 = .68

4 cond F(1, 49) = 0.19, p = .664, np2 < .01

5 group:volat F(2, 98) = 1.75, p = .188, np2 = .03

6 group:cond F(1, 49) = 1.54, p = .221, np2 = .03

7 volat:cond F(2, 98) = 1.08, p = .345, np2 = .02

8 group:volat:cond F(2, 98) = 2.14, p = .124, np2 = .04

**Full Sample 1 (with outliers)**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 54) = 267.85, p < .001, np2 = .83

2 group F(1, 54) = 0.92, p = .341, np2 = .02

3 volat F(2, 108) = 86.99, p < .001, np2 = .62

4 cond F(1, 54) = 0.01, p = .910, np2 < .01

5 group:volat F(2, 108) = 0.86, p = .395, np2 = .02

6 group:cond F(1, 54) = 3.69, p = .060, np2 = .06

7 volat:cond F(2, 108) = 0.92, p = .403, np2 = .02

8 group:volat:cond F(2, 108) = 2.14, p = .123, np2 = .04

**Covariates Age + School Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 47) = 208.30, p < .001, np2 = .82

2 group F(1, 47) = 0.00, p = .974, np2 < .01

3 volat F(2, 94) = 76.63, p < .001, np2 = .62

4 cond F(1, 47) = 1.00, p = .322, np2 = .02

5 group:volat F(2, 94) = 1.54, p = .223, np2 = .03

6 group:cond F(1, 47) = 1.42, p = .239, np2 = .03

7 volat:cond F(2, 94) = 0.06, p = .939, np2 < .01

8 group:volat:cond F(2, 94) = 1.40, p = .252, np2 = .03

**HC Sample/Covariates Age + School\_Years**

$`--- FORMATTED RESULTS ------------------------------------`

Effect Text

1 (Intercept) F(1, 27) = 103.29, p < .001, np2 = .79

2 volat F(2, 54) = 46.25, p < .001, np2 = .63

3 cond F(1, 27) = 2.40, p = .133, np2 = .08

4 volat:cond F(2, 54) = 0.65, p = .524, np2 = .02

**Loseswitch - Hierarchical Analyses (only HC)**

**Model Comparison**

mod0.HC.lswitch: l\_switch ~ (1 | sub\_idx)

mod0a.HC.lswitch: l\_switch ~ (1 | sub\_idx) + school\_yrs + age

mod1.HC.lswitch: l\_switch ~ Cond + volat + (1 | sub\_idx) + school\_yrs + age

mod2.HC.lswitch: l\_switch ~ Cond \* volat + (1 | sub\_idx) + school\_yrs + age

npar AIC BIC logLik deviance Chisq Df Pr(>Chisq)

mod0.HC.lswitch 2 8123.0 8137.3 -4059.5 8119.0

mod0a.HC.lswitch 4 8126.1 8154.6 -4059.1 8118.1 0.8937 2 0.6396

mod1.HC.lswitch 7 8081.2 8131.1 -4033.6 8067.2 50.8879 3 5.169e-11 \*\*\*

mod2.HC.lswitch 9 8085.1 8149.3 -4033.6 8067.1 0.0879 2 0.9570

**Fixed Effect Estimates**

Fixed effects:

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

(Intercept) -0.717071 1.158317 -0.619 0.536

Cond1 0.045213 0.056716 0.797 0.425

volatc1 -0.450566 0.066928 -6.732 1.67e-11 \*\*\*

volatc2 -0.403378 0.079547 -5.071 3.96e-07 \*\*\*

school\_yrs -0.076051 0.080004 -0.951 0.342

age -0.002177 0.015232 -0.143 0.886

**Confidence Intervals**

2.5 % 97.5 %

.sig01 0.36709655 0.66975200

(Intercept) -3.08827323 1.65853771

Cond1 -0.06606545 0.15653950

volatc1 -0.58253560 -0.31975083

volatc2 -0.55940770 -0.24699690

school\_yrs -0.24051247 0.08700122

age -0.03307896 0.02898051

**Variance-Covariance Matrix**

(Intercept) Cond1 volatc1 volatc2 school\_yrs age

(Intercept) 1.341697e+00 -1.070229e-05 3.313963e-04 -2.822096e-04 -8.644794e-02 -1.019850e-02

Cond1 -1.070229e-05 3.216668e-03 -4.666929e-06 -4.145036e-06 -9.521100e-07 -7.410237e-08

volatc1 3.313963e-04 -4.666929e-06 4.479321e-03 2.823600e-03 5.207288e-06 2.792797e-07

volatc2 -2.822096e-04 -4.145036e-06 2.823600e-03 6.327727e-03 4.829441e-06 2.834268e-07

school\_yrs -8.644794e-02 -9.521100e-07 5.207288e-06 4.829441e-06 6.400664e-03 3.124361e-04

age -1.019850e-02 -7.410237e-08 2.792797e-07 2.834268e-07 3.124361e-04 2.320266e-04

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| parameter name | beta | lower-95 | upper-95 | random effect (SD) |
| Intercept | -0.717071 | -3.08827323 | 1.65853771 | 0.2386 (0.4885) |
| Cond1 | 0.045213 | -0.06606545 | 0.15653950 |  |
| volatc1 | -0.450566 | -0.58253560 | -0.31975083 |
| volatc2 | -0.403378 | -0.55940770 | -0.24699690 |
| school\_yrs | -0.076051 | -0.24051247 | 0.08700122 |
| age | -0.002177 | -0.03307896 | 0.02898051 |