Supplement A

Reward sensitivity and internalizing symptoms during the transition to puberty: An examination of 9- and 10-year-olds in the ABCD Study.

Contents

Results for Sample 1

1 —Internalizing~Puberty—

1.1 Model: CBCL internalizing factor ~ PDS

Females

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 3.364047   1.858610   1.810 0.070413 .
## PDS_score                   0.599362   0.157687   3.801 0.000147 ***
## race.ethnicity.5levelBlack  0.135086   0.792591   0.170 0.864681
## race.ethnicity.5levelMixed  1.837143   0.789510   2.327 0.020044 *
## race.ethnicity.5levelOther  2.439633   0.901292   2.707 0.006837 **
## race.ethnicity.5levelWhite  1.354995   0.742020   1.826 0.067950 .
## interview_age              -0.005834   0.014591  -0.400 0.689307
## demo_race_hispanic1         0.216061   0.316107   0.684 0.494348
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0121
## lmer.REML =  16403  Scale est. = 13.201    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 2.2809201  1.7753641   1.285  0.19898
## PDS_score                   0.8365766  0.1977954   4.230 2.42e-05 ***
## race.ethnicity.5levelBlack  1.3712129  0.7410409   1.850  0.06436 .
## race.ethnicity.5levelMixed  2.0935551  0.7424989   2.820  0.00484 **
## race.ethnicity.5levelOther  1.9518383  0.8504461   2.295  0.02180 *
## race.ethnicity.5levelWhite  1.5430121  0.6950591   2.220  0.02650 *
## interview_age              -0.0002827  0.0139368  -0.020  0.98382
## demo_race_hispanic1         0.2406567  0.2999262   0.802  0.42240
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00686
## lmer.REML =  17796  Scale est. = 15.403    n = 2863
```

1.2 Model: CBCL Anxious-Depressed ~ PDS

Females

```
##
```

```
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ PDS_score + race.ethnicity.5level + interview_age +
##     demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.738267   1.046826   1.661   0.0969 .
## PDS_score                  0.192989   0.088633   2.177   0.0295 *
## race.ethnicity.5levelBlack 0.034518   0.442769   0.078   0.9379
## race.ethnicity.5levelMixed 0.899818   0.441294   2.039   0.0415 *
## race.ethnicity.5levelOther 0.960117   0.504377   1.904   0.0571 .
## race.ethnicity.5levelWhite 0.798545   0.414637   1.926   0.0542 .
## interview_age             -0.002110   0.008232  -0.256   0.7977
## demo_race_hispanic1        0.024025   0.176180   0.136   0.8915
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00724
## lmer.REML =  13376  Scale est. = 4.9862    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ PDS_score + race.ethnicity.5level + interview_age +
##     demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.330887   0.992219   1.341 0.179922
## PDS_score                  0.417375   0.110221   3.787 0.000156 ***
## race.ethnicity.5levelBlack 0.617362   0.412907   1.495 0.134983
## race.ethnicity.5levelMixed 1.145515   0.414049   2.767 0.005701 **
## race.ethnicity.5levelOther 1.105289   0.473273   2.335 0.019591 *
## race.ethnicity.5levelWhite 1.049243   0.387670   2.707 0.006839 **
## interview_age             -0.003445   0.007791  -0.442 0.658426
## demo_race_hispanic1        0.095636   0.165991   0.576 0.564557
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00662
## lmer.REML =  14478  Scale est. = 6.4889    n = 2863
```

1.3 Model: CBCL Withdrawn-Depressed ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.560842   0.544323   1.030   0.3029
## PDS_score                  0.192902   0.046013   4.192 2.85e-05 ***
## race.ethnicity.5levelBlack 0.185794   0.228387   0.814   0.4160
## race.ethnicity.5levelMixed 0.401589   0.227843   1.763   0.0781 .
## race.ethnicity.5levelOther 0.569861   0.260772   2.185   0.0290 *
## race.ethnicity.5levelWhite 0.218364   0.213975   1.021   0.3076
## interview_age             -0.002093   0.004288  -0.488   0.6254
## demo_race_hispanic1        0.175618   0.090490   1.941   0.0524 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0126
## lmer.REML = 9937.2  Scale est. = 1.6344    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.4374992  0.5584173   0.783  0.43342
## PDS_score                  0.1834951  0.0623571   2.943  0.00328 **
## race.ethnicity.5levelBlack 0.5724725  0.2315140   2.473  0.01347 *
## race.ethnicity.5levelMixed 0.6113634  0.2333716   2.620  0.00885 **
## race.ethnicity.5levelOther 0.4633966  0.2670815   1.735  0.08284 .
## race.ethnicity.5levelWhite 0.3815731  0.2174408   1.755  0.07939 .
## interview_age             -0.0003452  0.0043968  -0.079  0.93743
## demo_race_hispanic1        0.0289864  0.0888073   0.326  0.74415
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00609
## lmer.REML =  11239  Scale est. = 2.0316    n = 2863
```

1.4 Model: CBCL Depressed DSM-5 ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.500757   0.632217   0.792 0.428394
## PDS_score                  0.191889   0.053684   3.574 0.000357 ***
## race.ethnicity.5levelBlack 0.220848   0.266590   0.828 0.407508
## race.ethnicity.5levelMixed 0.677402   0.266390   2.543 0.011051 *
## race.ethnicity.5levelOther 0.837469   0.304982   2.746 0.006075 **
## race.ethnicity.5levelWhite 0.519547   0.249759   2.080 0.037604 *
## interview_age             -0.001794   0.004979  -0.360 0.718640
## demo_race_hispanic1        0.107590   0.104881   1.026 0.305064
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0102
## lmer.REML =  10738  Scale est. = 1.7625    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.492148   0.681833   0.722  0.47048
## PDS_score                  0.224419   0.075947   2.955  0.00315 **
## race.ethnicity.5levelBlack 0.494325   0.283505   1.744  0.08133 .
## race.ethnicity.5levelMixed 0.666470   0.284770   2.340  0.01933 *
## race.ethnicity.5levelOther 0.585783   0.325805   1.798  0.07229 .
## race.ethnicity.5levelWhite 0.503771   0.266178   1.893  0.05851 .
## interview_age              0.000558   0.005360   0.104  0.91709
## demo_race_hispanic1       -0.046977   0.112531  -0.417  0.67637
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00221
## lmer.REML =  12347  Scale est. = 2.8477    n = 2863
```

1.5 Model: CBCL internalizing factor ~ Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ pds_p_ss_category + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 4.19492    1.89422   2.215 0.026873 *
## pds_p_ss_categoryEarly      1.04585    0.28906   3.618 0.000302 ***
## pds_p_ss_categoryLate       1.70710    0.71494   2.388 0.017023 *
## pds_p_ss_categoryMid        1.20889    0.27421   4.409 1.08e-05 ***
## race.ethnicity.5levelBlack  0.19295    0.79221   0.244 0.807589
## race.ethnicity.5levelMixed  1.90499    0.78883   2.415 0.015805 *
## race.ethnicity.5levelOther  2.49651    0.89969   2.775 0.005562 **
## race.ethnicity.5levelWhite  1.42253    0.74138   1.919 0.055123 .
## interview_age              -0.01158    0.01481  -0.782 0.434254
## demo_race_hispanic1         0.14868    0.31697   0.469 0.639063
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0143
## lmer.REML =  16394  Scale est. = 13.028    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ pds_p_ss_category + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                2.790351   1.791324   1.558  0.11941
## pds_p_ss_categoryEarly     0.692142   0.246778   2.805  0.00507 **
## pds_p_ss_categoryLate      0.399464   1.458693   0.274  0.78422
## pds_p_ss_categoryMid       1.178074   0.494928   2.380  0.01736 *
## race.ethnicity.5levelBlack 1.452171   0.742233   1.956  0.05051 .
## race.ethnicity.5levelMixed 2.137389   0.743411   2.875  0.00407 **
## race.ethnicity.5levelOther 1.994357   0.851793   2.341  0.01928 *
## race.ethnicity.5levelWhite 1.580709   0.695941   2.271  0.02320 *
## interview_age              0.002656   0.013927   0.191  0.84879
## demo_race_hispanic1        0.222230   0.301085   0.738  0.46052
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
## 
## 
## R-sq.(adj) =  0.00485
## lmer.REML =  17799  Scale est. = 15.679    n = 2863
```

1.6 Model: CBCL Anxious-Depressed ~ Pubertal category

Females

```
## 
## Family: gaussian 
## Link function: identity 
## 
## Formula:
## cbcl_scr_syn_anxdep_r ~ pds_p_ss_category + race.ethnicity.5level + 
##     interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)    
## (Intercept)                1.915933   1.067993   1.794  0.07293 .  
## pds_p_ss_categoryEarly     0.483184   0.163247   2.960  0.00311 ** 
## pds_p_ss_categoryLate      0.412744   0.403926   1.022  0.30696    
## pds_p_ss_categoryMid       0.404799   0.154202   2.625  0.00871 ** 
## race.ethnicity.5levelBlack 0.084441   0.442742   0.191  0.84876    
## race.ethnicity.5levelMixed 0.937872   0.441088   2.126  0.03357 *  
## race.ethnicity.5levelOther 0.990706   0.503685   1.967  0.04930 *  
## race.ethnicity.5levelWhite 0.830010   0.414449   2.003  0.04531 *  
## interview_age             -0.003648   0.008362  -0.436  0.66271    
## demo_race_hispanic1        0.006521   0.176760   0.037  0.97058    
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.00866
## lmer.REML =  13371  Scale est. = 4.9568    n = 2640
```

Males

```
## 
## Family: gaussian 
## Link function: identity 
## 
## Formula:
## cbcl_scr_syn_anxdep_r ~ pds_p_ss_category + race.ethnicity.5level + 
##     interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)    
## (Intercept)                1.614082   1.000348   1.614  0.10674    
## pds_p_ss_categoryEarly     0.439962   0.137774   3.193  0.00142 ** 
## pds_p_ss_categoryLate      0.348194   0.816709   0.426  0.66989    
## pds_p_ss_categoryMid       0.435000   0.275220   1.581  0.11409    
## race.ethnicity.5levelBlack 0.657875   0.413354   1.592  0.11160    
## race.ethnicity.5levelMixed 1.172391   0.414333   2.830  0.00469 ** 
## race.ethnicity.5levelOther 1.138695   0.473780   2.403  0.01631 *  
```

```
## race.ethnicity.5levelWhite   1.070465   0.387972   2.759   0.00583 **
## interview_age                -0.002383   0.007777  -0.306   0.75929
## demo_race_hispanic1           0.085058   0.166620   0.510   0.60975
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00522
## lmer.REML =  14480  Scale est. = 6.5751    n = 2863
```

1.7 Model: CBCL Withdrawn-Depressed ~ Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ pds_p_ss_category + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.983908   0.554434   1.775  0.07608 .
## pds_p_ss_categoryEarly     0.254666   0.084977   2.997  0.00275 **
## pds_p_ss_categoryLate      0.905884   0.210356   4.306 1.72e-05 ***
## pds_p_ss_categoryMid       0.374417   0.079913   4.685 2.94e-06 ***
## race.ethnicity.5levelBlack 0.180349   0.227835   0.792  0.42868
## race.ethnicity.5levelMixed 0.414586   0.227277   1.824  0.06824 .
## race.ethnicity.5levelOther 0.568592   0.259949   2.187  0.02881 *
## race.ethnicity.5levelWhite 0.236442   0.213381   1.108  0.26793
## interview_age             -0.005017   0.004349  -1.154  0.24877
## demo_race_hispanic1        0.140478   0.090445   1.553  0.12050
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0172
## lmer.REML =   9927  Scale est. = 1.6132    n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ pds_p_ss_category + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.5565464  0.5628504   0.989  0.32284
## pds_p_ss_categoryEarly     0.1336213  0.0780413   1.712  0.08697 .
```

```
## pds_p_ss_categoryLate      0.0223448  0.4634322   0.048  0.96155
## pds_p_ss_categoryMid       0.3988227  0.1560753   2.555  0.01066 *
## race.ethnicity.5levelBlack 0.5787781  0.2317015   2.498  0.01255 *
## race.ethnicity.5levelMixed 0.6172272  0.2334494   2.644  0.00824 **
## race.ethnicity.5levelOther 0.4623218  0.2672974   1.730  0.08381 .
## race.ethnicity.5levelWhite 0.3887382  0.2175459   1.787  0.07406 .
## interview_age              0.0002541  0.0043870   0.058  0.95382
## demo_race_hispanic1        0.0215693  0.0892130   0.242  0.80897
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00556
## lmer.REML =  11240  Scale est. = 2.0434     n = 2863
```

1.8 Model: CBCL Depressed DSM-5 ~ Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ pds_p_ss_category + race.ethnicity.5level +
##      interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.861575   0.644696   1.336  0.18153
## pds_p_ss_categoryEarly      0.256133   0.098889   2.590  0.00965 **
## pds_p_ss_categoryLate       0.731980   0.244492   2.994  0.00278 **
## pds_p_ss_categoryMid        0.380329   0.093369   4.073 4.77e-05 ***
## race.ethnicity.5levelBlack  0.216245   0.266521   0.811  0.41723
## race.ethnicity.5levelMixed  0.687983   0.266189   2.585  0.00980 **
## race.ethnicity.5levelOther  0.840944   0.304487   2.762  0.00579 **
## race.ethnicity.5levelWhite  0.535046   0.249565   2.144  0.03213 *
## interview_age              -0.004198   0.005054  -0.831  0.40625
## demo_race_hispanic1         0.079854   0.105192   0.759  0.44785
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0122
## lmer.REML =  10734  Scale est. = 1.7498     n = 2640
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ pds_p_ss_category + race.ethnicity.5level +
##      interview_age + demo_race_hispanic
```

```
##
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.6734292  0.6869407   0.980   0.3270
## pds_p_ss_categoryEarly      0.2219863  0.0948566   2.340   0.0193 *
## pds_p_ss_categoryLate      -0.0676606  0.5620808  -0.120   0.9042
## pds_p_ss_categoryMid        0.4770340  0.1897216   2.514   0.0120 *
## race.ethnicity.5levelBlack  0.4945426  0.2836059   1.744   0.0813 .
## race.ethnicity.5levelMixed  0.6740106  0.2847557   2.367   0.0180 *
## race.ethnicity.5levelOther  0.5872294  0.3259433   1.802   0.0717 .
## race.ethnicity.5levelWhite  0.5138833  0.2661769   1.931   0.0536 .
## interview_age               0.0008821  0.0053471   0.165   0.8690
## demo_race_hispanic1        -0.0588658  0.1128725  -0.522   0.6020
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00245
## lmer.REML =  12346  Scale est. = 2.8531    n = 2863
```

1.9 Model: CBCL internalizing factor ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.777154   1.897510   0.937  0.34907
## hormone_scr_ert_mean       0.005443   0.007058   0.771  0.44066
## race.ethnicity.5levelBlack 0.356154   0.793854   0.449  0.65373
## race.ethnicity.5levelMixed 1.827132   0.793913   2.301  0.02145 *
## race.ethnicity.5levelOther 2.642245   0.908951   2.907  0.00368 **
## race.ethnicity.5levelWhite 1.441831   0.745211   1.935  0.05313 .
## interview_age              0.013505   0.014891   0.907  0.36452
## demo_race_hispanic1        0.107062   0.326216   0.328  0.74279
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00669
## lmer.REML =  15258  Scale est. = 13.026    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
```

```
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                           Estimate Std. Error t value Pr(>|t|)
## (Intercept)               2.174379   1.861568   1.168  0.24290
## hormone_scr_ert_mean      0.002705   0.007283   0.371  0.71036
## race.ethnicity.5levelBlack 1.726569  0.770669   2.240  0.02515 *
## race.ethnicity.5levelMixed 2.136632  0.773300   2.763  0.00577 **
## race.ethnicity.5levelOther 1.857803  0.891175   2.085  0.03720 *
## race.ethnicity.5levelWhite 1.581041  0.723588   2.185  0.02898 *
## interview_age             0.008942   0.014652   0.610  0.54171
## demo_race_hispanic1       0.375750   0.312215   1.203  0.22889
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000861
## lmer.REML =  16615  Scale est. = 16.118    n = 2657
```

1.10 Model: CBCL Anxious-Depressed ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.183409   1.072832   1.103   0.2701
## hormone_scr_ert_mean       0.004823   0.003988   1.209   0.2266
## race.ethnicity.5levelBlack 0.034266   0.445232   0.077   0.9387
## race.ethnicity.5levelMixed 0.857746   0.445476   1.925   0.0543 .
## race.ethnicity.5levelOther 1.034142   0.510581   2.025   0.0429 *
## race.ethnicity.5levelWhite 0.850951   0.418116   2.035   0.0419 *
## interview_age              0.003577   0.008433   0.424   0.6714
## demo_race_hispanic1       -0.027670   0.182744  -0.151   0.8797
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00676
## lmer.REML =  12461  Scale est. = 4.9188    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
```

```
## 
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.4218717  1.0392651   1.368  0.17138
## hormone_scr_ert_mean      -0.0003565  0.0040628  -0.088  0.93008
## race.ethnicity.5levelBlack 0.8134972  0.4291594   1.896  0.05813 .
## race.ethnicity.5levelMixed 1.1558481  0.4311201   2.681  0.00738 **
## race.ethnicity.5levelOther 1.0635030  0.4957070   2.145  0.03201 *
## race.ethnicity.5levelWhite 1.0366888  0.4034749   2.569  0.01024 *
## interview_age              0.0005892  0.0081758   0.072  0.94256
## demo_race_hispanic1        0.1581214  0.1726363   0.916  0.35979
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.00149
## lmer.REML =  13533  Scale est. = 6.9708    n = 2657
```

1.11 Model: CBCL Withdrawn-Depressed ~ Testosterone

Females

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.133412   0.551030   0.242   0.8087
## hormone_scr_ert_mean       0.001354   0.002047   0.661   0.5084
## race.ethnicity.5levelBlack 0.276842   0.226348   1.223   0.2214
## race.ethnicity.5levelMixed 0.433104   0.226779   1.910   0.0563 .
## race.ethnicity.5levelOther 0.595871   0.260391   2.288   0.0222 *
## race.ethnicity.5levelWhite 0.254142   0.212744   1.195   0.2324
## interview_age              0.003477   0.004341   0.801   0.4232
## demo_race_hispanic1        0.143812   0.092509   1.555   0.1202
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.00431
## lmer.REML =   9205  Scale est. = 1.635     n = 2453
```

Males

```
## 
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)              0.328077   0.576912   0.569  0.56962
## hormone_scr_ert_mean     0.001616   0.002242   0.721  0.47105
## race.ethnicity.5levelBlack 0.677266 0.237103   2.856  0.00432 **
## race.ethnicity.5levelMixed 0.652777 0.239598   2.724  0.00648 **
## race.ethnicity.5levelOther 0.450078 0.275817   1.632  0.10284
## race.ethnicity.5levelWhite 0.416027 0.223112   1.865  0.06234 .
## interview_age            0.001890   0.004552   0.415  0.67798
## demo_race_hispanic1      0.061100   0.091155   0.670  0.50274
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00357
## lmer.REML =  10457  Scale est. = 2.1924    n = 2657
```

1.12 Model: CBCL Depressed DSM-5 ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)              0.062803   0.644415   0.097  0.92237
## hormone_scr_ert_mean     0.001558   0.002399   0.650  0.51607
## race.ethnicity.5levelBlack 0.289625 0.265904   1.089  0.27617
## race.ethnicity.5levelMixed 0.689545 0.267077   2.582  0.00989 **
## race.ethnicity.5levelOther 0.886527 0.306968   2.888  0.00391 **
## race.ethnicity.5levelWhite 0.552485 0.249976   2.210  0.02719 *
## interview_age            0.003890   0.005076   0.766  0.44361
## demo_race_hispanic1      0.066325   0.107696   0.616  0.53805
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00535
## lmer.REML =   9990  Scale est. = 1.7521    n = 2453
```

Males

```
##
```

```
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               0.4514186  0.7132208   0.633   0.5268
## hormone_scr_ert_mean      0.0007203  0.0027845   0.259   0.7959
## race.ethnicity.5levelBlack 0.5928270 0.2941411   2.015   0.0440 *
## race.ethnicity.5levelMixed 0.7062827 0.2960744   2.385   0.0171 *
## race.ethnicity.5levelOther 0.5335909 0.3409543   1.565   0.1177
## race.ethnicity.5levelWhite 0.5157093 0.2765090   1.865   0.0623 .
## interview_age             0.0032092  0.0056205   0.571   0.5681
## demo_race_hispanic1      -0.0174978  0.1167357  -0.150   0.8809
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000414
## lmer.REML =  11549  Scale est. = 2.8489    n = 2657
```

1.13 Model: CBCL internalizing factor ~ Testosterone + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + PDS_score +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               2.5126736  1.9039529   1.320 0.187054
## hormone_scr_ert_mean     -0.0007324  0.0072485  -0.101 0.919525
## PDS_score                 0.6083923  0.1697666   3.584 0.000345 ***
## race.ethnicity.5levelBlack -0.0375505 0.7994683 -0.047 0.962542
## race.ethnicity.5levelMixed 1.6444446 0.7935891   2.072 0.038355 *
## race.ethnicity.5levelOther 2.4066014 0.9091006   2.647 0.008167 **
## race.ethnicity.5levelWhite 1.3496082 0.7437925   1.814 0.069724 .
## interview_age             0.0018428  0.0152063   0.121 0.903555
## demo_race_hispanic1       0.0937585  0.3253881   0.288 0.773261
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.011
## lmer.REML =  15247  Scale est. = 12.976    n = 2453
```

Males

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + PDS_score +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               2.3709776  1.8555190   1.278  0.20143
## hormone_scr_ert_mean     -0.0009005  0.0073023  -0.123  0.90187
## PDS_score                 0.9529928  0.2113352   4.509 6.78e-06 ***
## race.ethnicity.5levelBlack 1.3538308 0.7724959   1.753  0.07980 .
## race.ethnicity.5levelMixed 2.0452510 0.7708660   2.653  0.00802 **
## race.ethnicity.5levelOther 1.7301231 0.8885748   1.947  0.05163 .
## race.ethnicity.5levelWhite 1.5442637 0.7211488   2.141  0.03233 *
## interview_age            -0.0016688  0.0147908  -0.113  0.91018
## demo_race_hispanic1       0.2976654  0.3118623   0.954  0.33993
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.00719
## lmer.REML =  16596  Scale est. = 15.844    n = 2657
```

1.14 Model: CBCL internalizing factor ~ Testosterone + Pubertal category

Females

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               3.1911880  1.9388316   1.646  0.09991 .
## hormone_scr_ert_mean      0.0004012  0.0071781   0.056  0.95543
## pds_p_ss_categoryEarly    0.9264288  0.2982685   3.106  0.00192 **
## pds_p_ss_categoryLate     1.0992131  0.7741539   1.420  0.15577
## pds_p_ss_categoryMid      1.2225403  0.2890843   4.229 2.43e-05 ***
## race.ethnicity.5levelBlack 0.0056281 0.7994747   0.007  0.99438
## race.ethnicity.5levelMixed 1.6934486 0.7931990   2.135  0.03286 *
## race.ethnicity.5levelOther 2.4769969 0.9078018   2.729  0.00641 **
## race.ethnicity.5levelWhite 1.4036386 0.7433801   1.888  0.05912 .
## interview_age            -0.0024913  0.0154099  -0.162  0.87158
## demo_race_hispanic1       0.0477434  0.3264159   0.146  0.88372
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
##
## R-sq.(adj) =  0.0123
## lmer.REML =  15239  Scale est. = 12.821    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                2.9980644  1.8719038   1.602  0.10936
## hormone_scr_ert_mean       0.0006441  0.0072938   0.088  0.92964
## pds_p_ss_categoryEarly     0.8229022  0.2600052   3.165  0.00157 **
## pds_p_ss_categoryLate      0.8426341  1.5938785   0.529  0.59708
## pds_p_ss_categoryMid       1.2752179  0.5244864   2.431  0.01511 *
## race.ethnicity.5levelBlack 1.4275812  0.7742208   1.844  0.06531 .
## race.ethnicity.5levelMixed 2.0913423  0.7721266   2.709  0.00680 **
## race.ethnicity.5levelOther 1.7921220  0.8903265   2.013  0.04423 *
## race.ethnicity.5levelWhite 1.5885911  0.7222452   2.200  0.02793 *
## interview_age              0.0008531  0.0147952   0.058  0.95403
## demo_race_hispanic1        0.2679471  0.3131870   0.856  0.39232
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00488
## lmer.REML =  16599  Scale est. = 16.155    n = 2657
```

1.15 Model: CBCL Anxious-Depressed ~ Testosterone + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 1.3963972  1.0785158   1.295  0.1955
## hormone_scr_ert_mean        0.0030115  0.0041066   0.733  0.4634
## PDS_score                   0.1760253  0.0959901   1.834  0.0668 .
## race.ethnicity.5levelBlack -0.0801965  0.4493329  -0.178  0.8584
## race.ethnicity.5levelMixed  0.8045575  0.4461652   1.803  0.0715 .
## race.ethnicity.5levelOther  0.9650993  0.5116810   1.886  0.0594 .
```

```
## race.ethnicity.5levelWhite   0.8238669  0.4181297   1.970   0.0489 *
## interview_age                0.0002133  0.0086250   0.025   0.9803
## demo_race_hispanic1         -0.0314620  0.1826377  -0.172   0.8632
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0077
## lmer.REML =  12460  Scale est. = 4.9271    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                1.531077   1.036855   1.477   0.1399
## hormone_scr_ert_mean      -0.002185   0.004077  -0.536   0.5920
## PDS_score                  0.481584   0.117807   4.088 4.48e-05 ***
## race.ethnicity.5levelBlack 0.622626   0.430606   1.446   0.1483
## race.ethnicity.5levelMixed 1.107991   0.430101   2.576   0.0100 *
## race.ethnicity.5levelOther 0.999585   0.494614   2.021   0.0434 *
## race.ethnicity.5levelWhite 1.016581   0.402449   2.526   0.0116 *
## interview_age             -0.004849   0.008263  -0.587   0.5573
## demo_race_hispanic1        0.119342   0.172687   0.691   0.4896
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00668
## lmer.REML =  13519  Scale est. = 6.8724    n = 2657
```

1.16 Model: CBCL Anxious-Depressed ~ Testosterone + Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)              1.508191   1.098965   1.372  0.17007
## hormone_scr_ert_mean     0.003622   0.004068   0.890  0.37332
## pds_p_ss_categoryEarly   0.453347   0.169177   2.680  0.00742 **
```

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```
## pds_p_ss_categoryLate       0.098787   0.440211   0.224  0.82246
## pds_p_ss_categoryMid        0.398897   0.163385   2.441  0.01470 *
## race.ethnicity.5levelBlack -0.039410   0.449379  -0.088  0.93012
## race.ethnicity.5levelMixed  0.832990   0.445977   1.868  0.06191 .
## race.ethnicity.5levelOther  0.999761   0.510972   1.957  0.05051 .
## race.ethnicity.5levelWhite  0.849123   0.417941   2.032  0.04229 *
## interview_age              -0.001035   0.008746  -0.118  0.90579
## demo_race_hispanic1        -0.040163   0.183275  -0.219  0.82656
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00886
## lmer.REML =  12456  Scale est. = 4.8884    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_anxdep_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 1.856624   1.045330   1.776 0.075829 .
## hormone_scr_ert_mean       -0.001367   0.004071  -0.336 0.737038
## pds_p_ss_categoryEarly      0.486662   0.145262   3.350 0.000819 ***
## pds_p_ss_categoryLate       0.596890   0.894166   0.668 0.504486
## pds_p_ss_categoryMid        0.489517   0.291678   1.678 0.093411 .
## race.ethnicity.5levelBlack  0.668549   0.431377   1.550 0.121309
## race.ethnicity.5levelMixed  1.139697   0.430611   2.647 0.008176 **
## race.ethnicity.5levelOther  1.045581   0.495386   2.111 0.034897 *
## race.ethnicity.5levelWhite  1.044481   0.402907   2.592 0.009584 **
## interview_age              -0.003800   0.008257  -0.460 0.645377
## demo_race_hispanic1         0.103756   0.173443   0.598 0.549748
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00481
## lmer.REML =  13522  Scale est. = 6.9729    n = 2657
```

1.17 Model: CBCL Withdrawn-Depressed ~ Testosterone + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + PDS_score + race.ethnicity.5level +
```

```
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                3.556e-01  5.525e-01   0.644 0.519837
## hormone_scr_ert_mean      -5.752e-04  2.105e-03  -0.273 0.784659
## PDS_score                  1.833e-01  4.913e-02   3.731 0.000195 ***
## race.ethnicity.5levelBlack 1.587e-01  2.279e-01   0.696 0.486274
## race.ethnicity.5levelMixed 3.788e-01  2.266e-01   1.672 0.094735 .
## race.ethnicity.5levelOther 5.243e-01  2.604e-01   2.013 0.044193 *
## race.ethnicity.5levelWhite 2.268e-01  2.122e-01   1.069 0.285173
## interview_age             -1.613e-05  4.427e-03  -0.004 0.997094
## demo_race_hispanic1        1.384e-01  9.207e-02   1.503 0.132878
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00942
## lmer.REML = 9195.4  Scale est. = 1.6114    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + PDS_score + race.ethnicity.5level +
##     interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                0.3823656  0.5760694   0.664 0.506909
## hormone_scr_ert_mean       0.0007474  0.0022536   0.332 0.740167
## PDS_score                  0.2171114  0.0658141   3.299 0.000984 ***
## race.ethnicity.5levelBlack 0.5852792  0.2382952   2.456 0.014109 *
## race.ethnicity.5levelMixed 0.6297226  0.2392506   2.632 0.008536 **
## race.ethnicity.5levelOther 0.4230631  0.2754286   1.536 0.124654
## race.ethnicity.5levelWhite 0.4076924  0.2227011   1.831 0.067262 .
## interview_age             -0.0005751  0.0046044  -0.125 0.900613
## demo_race_hispanic1        0.0408794  0.0911663   0.448 0.653898
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0071
## lmer.REML =  10450  Scale est. = 2.1781    n = 2657
```

1.18 Model: CBCL Withdrawn-Depressed ~ Testosterone + Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
```

```
## 
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.686454   0.562795   1.220  0.22269
## hormone_scr_ert_mean       -0.000543   0.002084  -0.261  0.79440
## pds_p_ss_categoryEarly      0.223344   0.086901   2.570  0.01023 *
## pds_p_ss_categoryLate       0.686797   0.226687   3.030  0.00247 **
## pds_p_ss_categoryMid        0.353466   0.083518   4.232  2.4e-05 ***
## race.ethnicity.5levelBlack  0.155767   0.227619   0.684  0.49383
## race.ethnicity.5levelMixed  0.389973   0.226276   1.723  0.08494 .
## race.ethnicity.5levelOther  0.529753   0.259864   2.039  0.04160 *
## race.ethnicity.5levelWhite  0.241722   0.211807   1.141  0.25388
## interview_age              -0.002133   0.004488  -0.475  0.63468
## demo_race_hispanic1         0.112749   0.092161   1.223  0.22130
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.0118
## lmer.REML = 9191.5  Scale est. = 1.5977    n = 2453
```

Males

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_withdep_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
## 
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.5225870  0.5804921   0.900  0.36807
## hormone_scr_ert_mean        0.0010258  0.0022480   0.456  0.64820
## pds_p_ss_categoryEarly      0.1540443  0.0812467   1.896  0.05807 .
## pds_p_ss_categoryLate       0.0556087  0.5010104   0.111  0.91163
## pds_p_ss_categoryMid        0.4616353  0.1633129   2.827  0.00474 **
## race.ethnicity.5levelBlack  0.5880566  0.2386004   2.465  0.01378 *
## race.ethnicity.5levelMixed  0.6328162  0.2393964   2.643  0.00826 **
## race.ethnicity.5levelOther  0.4221566  0.2757194   1.531  0.12586
## race.ethnicity.5levelWhite  0.4137396  0.2228383   1.857  0.06347 .
## interview_age               0.0001025  0.0045979   0.022  0.98221
## demo_race_hispanic1         0.0317665  0.0915884   0.347  0.72874
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.00635
## lmer.REML =  10452  Scale est. = 2.1988    n = 2657
```

1.19 Model: CBCL Depressed DSM-5 ~ Testosterone + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + PDS_score +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               0.2843730  0.6470054   0.440  0.66032
## hormone_scr_ert_mean     -0.0003191  0.0024663  -0.129  0.89707
## PDS_score                 0.1832904  0.0577771   3.172  0.00153 **
## race.ethnicity.5levelBlack 0.1673917 0.2681722   0.624  0.53256
## race.ethnicity.5levelMixed 0.6327813 0.2671638   2.369  0.01794 *
## race.ethnicity.5levelOther 0.8149754 0.3072112   2.653  0.00803 **
## race.ethnicity.5levelWhite 0.5234749 0.2496598   2.097  0.03612 *
## interview_age             0.0003987  0.0051849   0.077  0.93870
## demo_race_hispanic1       0.0621108  0.1074870   0.578  0.56342
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00875
## lmer.REML = 9983.8  Scale est. = 1.7485    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + PDS_score +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               0.5091340  0.7122854   0.715  0.47480
## hormone_scr_ert_mean     -0.0003101  0.0027980  -0.111  0.91177
## PDS_score                 0.2664053  0.0812155   3.280  0.00105 **
## race.ethnicity.5levelBlack 0.4850931 0.2955215   1.641  0.10082
## race.ethnicity.5levelMixed 0.6794914 0.2956917   2.298  0.02164 *
## race.ethnicity.5levelOther 0.4986867 0.3405495   1.464  0.14321
## race.ethnicity.5levelWhite 0.5050363 0.2760952   1.829  0.06748 .
## interview_age             0.0002337  0.0056852   0.041  0.96721
## demo_race_hispanic1      -0.0396152  0.1168844  -0.339  0.73469
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
```

```
## R-sq.(adj) =  0.00257
## lmer.REML =  11542  Scale est. = 2.8311    n = 2657
```

1.20 Model: CBCL Depressed DSM-5 ~ Testosterone + Pubertal category

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               0.5842775  0.6591968   0.886  0.37552
## hormone_scr_ert_mean     -0.0002682  0.0024428  -0.110  0.91259
## pds_p_ss_categoryEarly    0.2207987  0.1019876   2.165  0.03049 *
## pds_p_ss_categoryLate     0.4844084  0.2650177   1.828  0.06770 .
## pds_p_ss_categoryMid      0.3871347  0.0983396   3.937 8.49e-05 ***
## race.ethnicity.5levelBlack  0.1527621  0.2682545   0.569  0.56909
## race.ethnicity.5levelMixed  0.6344235  0.2670693   2.376  0.01760 *
## race.ethnicity.5levelOther  0.8202047  0.3068257   2.673  0.00756 **
## race.ethnicity.5levelWhite  0.5327023  0.2495551   2.135  0.03289 *
## interview_age            -0.0015013  0.0052556  -0.286  0.77516
## demo_race_hispanic1       0.0432026  0.1078722   0.400  0.68882
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0101
## lmer.REML = 9980.8  Scale est. = 1.7325    n = 2453
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_dsm5_depress_r ~ hormone_scr_ert_mean + pds_p_ss_category +
##     race.ethnicity.5level + interview_age + demo_race_hispanic
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               0.7207506  0.7175297   1.004  0.31523
## hormone_scr_ert_mean     -0.0000134  0.0027906  -0.005  0.99617
## pds_p_ss_categoryEarly    0.2567907  0.0999886   2.568  0.01028 *
## pds_p_ss_categoryLate     0.0654564  0.6145153   0.107  0.91518
## pds_p_ss_categoryMid      0.5312572  0.2012644   2.640  0.00835 **
## race.ethnicity.5levelBlack  0.4816105  0.2958099   1.628  0.10362
## race.ethnicity.5levelMixed  0.6851008  0.2957893   2.316  0.02062 *
## race.ethnicity.5levelOther  0.5039559  0.3408333   1.479  0.13937
```

```
## race.ethnicity.5levelWhite  0.5155168  0.2761546   1.867  0.06204 .
## interview_age              0.0006121  0.0056775   0.108  0.91416
## demo_race_hispanic1       -0.0546391  0.1172914  -0.466  0.64137
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0025
## lmer.REML =  11541  Scale est. = 2.8236    n = 2657
```

2—Reward~Puberty—

2.1 Model: BIS-BAS-RR ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## bisbas_ss_basm_rr_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.395004   0.306222   1.290  0.19719
## PDS_score     0.074620   0.027064   2.757  0.00587 **
## interview_age -0.004768   0.002628  -1.814  0.06972 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00449
## lmer.REML = 7547.8  Scale est. = 0.75326   n = 2690
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## bisbas_ss_basm_rr_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.151113   0.289140   0.523  0.60127
## PDS_score     0.091019   0.033898   2.685  0.00729 **
## interview_age -0.001715   0.002449  -0.700  0.48382
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00282
```

```
## lmer.REML = 8064.5  Scale est. = 0.72377   n = 2913
```

2.2 Model : Reaction Time ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_neutral_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.571405   0.316653  -1.805   0.0713 .
## PDS_score     -0.020896   0.028544  -0.732   0.4642
## interview_age  0.005458   0.002729   2.000   0.0456 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00104
## lmer.REML = 5939.4  Scale est. = 0.67983   n = 2201

##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_small_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.347747   0.318216  -1.093    0.275
## PDS_score     -0.026961   0.028607  -0.942    0.346
## interview_age  0.003429   0.002742   1.250    0.211
##
##
## R-sq.(adj) =  0.000134
## lmer.REML = 5963.6  Scale est. = 0.77204   n = 2201
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_neutral_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.1377074  0.2925250   0.471   0.6379
## PDS_score     -0.0677145  0.0353646  -1.915   0.0556 .
```

```
## interview_age -0.0004923  0.0024809  -0.198    0.8427
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00137
## lmer.REML = 5951.9  Scale est. = 0.66838    n = 2303

##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_small_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.0768939  0.2956572   0.260    0.795
## PDS_score     -0.0336634  0.0356570  -0.944    0.345
## interview_age -0.0002174  0.0025086  -0.087    0.931
##
##
## R-sq.(adj) =  -0.000241
## lmer.REML = 6019.1  Scale est. = 0.70251    n = 2303
```

2.3 Model: Caudate Anticipation ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.483420   0.318838  -1.516   0.1296
## PDS_score     -0.049471   0.028595  -1.730   0.0838 .
## interview_age  0.004869   0.002743   1.775   0.0760 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00193
## lmer.REML = 5350.3  Scale est. = 0.77536    n = 2044
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
```

```
## caudate_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.209124   0.340919  -0.613    0.540
## PDS_score     -0.003916   0.041426  -0.095    0.925
## interview_age  0.001764   0.002892   0.610    0.542
##
##
## R-sq.(adj) =  -0.000702
## lmer.REML = 5743.7  Scale est. = 0.74176   n = 2067
```

2.4 Model B: Putamen Anticipation ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.372726   0.310423  -1.201  0.23001
## PDS_score     -0.077949   0.027849  -2.799  0.00517 **
## interview_age  0.004245   0.002670   1.590  0.11202
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00378
## lmer.REML = 5233.6  Scale est. = 0.73005   n = 2041
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.475074   0.329473  -1.442    0.149
## PDS_score      0.015271   0.040212   0.380    0.704
## interview_age  0.003848   0.002798   1.375    0.169
##
##
## R-sq.(adj) =  0.000503
## lmer.REML = 5589.5  Scale est. = 0.75739   n = 2064
```

2.5 Model: Accumbens Anticipation ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.0968160  0.2446591  -0.396    0.692
## PDS_score     -0.0008552  0.0219117  -0.039    0.969
## interview_age  0.0009134  0.0021051   0.434    0.664
##
##
## R-sq.(adj) =  -0.000795
## lmer.REML = 4276.4  Scale est. = 0.44122   n = 2044
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.318694   0.255800   1.246    0.213
## PDS_score     0.006030   0.030835   0.196    0.845
## interview_age -0.002683   0.002173  -1.235    0.217
##
##
## R-sq.(adj) =  -0.000226
## lmer.REML = 4583.4  Scale est. = 0.50525   n = 2066
```

2.6 Model: Caudate Feedback ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.879700   0.304751   2.887  0.00394 **
## PDS_score    -0.021140   0.027194  -0.777  0.43703
## interview_age -0.007289   0.002625  -2.777  0.00553 **
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00389
## lmer.REML = 5192.5  Scale est. = 0.73778   n = 2042
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.031564   0.307208  -0.103   0.9182
## PDS_score     -0.078845   0.036926  -2.135   0.0329 *
## interview_age  0.001472   0.002611   0.564   0.5729
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0013
## lmer.REML = 5332.8  Scale est. = 0.76745   n = 2065
```

2.7 Model: Putamen Feedback ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.553835   0.291446   1.900   0.0575 .
## PDS_score      0.005590   0.026008   0.215   0.8298
## interview_age -0.005130   0.002509  -2.044   0.0410 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00101
## lmer.REML = 5000.7  Scale est. = 0.67013   n = 2042
```

Males

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## putamen_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.2672445  0.3067924   0.871    0.384
## PDS_score    -0.0619678  0.0369846  -1.676    0.094 .
## interview_age -0.0008925  0.0026000  -0.343    0.731
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000443
## lmer.REML = 5304.4  Scale est. = 0.74767   n = 2068
```

2.8 Model: Accumbens Feedback ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.457768  0.230801   1.983   0.0475 *
## PDS_score    -0.001013  0.020566  -0.049   0.9607
## interview_age -0.003938  0.001988  -1.981   0.0477 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00106
## lmer.REML = 4078.6  Scale est. = 0.42369   n = 2050
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -0.066775  0.248298  -0.269    0.788
## PDS_score    -0.041154  0.030143  -1.365    0.172
## interview_age 0.001413  0.002106   0.671    0.502
##
```

```
##
## R-sq.(adj) =  -2.21e-05
## lmer.REML = 4403.4  Scale est. = 0.40091   n = 2061
```

2.9 Model: OFC Anticipation ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.0590386  0.2040969   0.289    0.772
## PDS_score      0.0037308  0.0182241   0.205    0.838
## interview_age -0.0004418  0.0017592  -0.251    0.802
##
##
## R-sq.(adj) =  -0.000933
## lmer.REML = 3536.8  Scale est. = 0.29608   n = 2038
```

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.039678   0.234446   0.169    0.866
## PDS_score      0.008097   0.020912   0.387    0.699
## interview_age -0.000431   0.002020  -0.213    0.831
##
##
## R-sq.(adj) =  -0.000901
## lmer.REML = 4110.5  Scale est. = 0.43526   n = 2039
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.242985   0.216367  -1.123    0.262
## PDS_score      0.031944   0.026501   1.205    0.228
```

```
## interview_age  0.001747   0.001839   0.950     0.342
##
##
## R-sq.(adj) =  0.00126
## lmer.REML = 3846.2  Scale est. = 0.29898   n = 2060

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_rvsn_ant_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.1174623  0.2355002  -0.499  0.61799
## PDS_score      0.0776498  0.0286198   2.713  0.00672 **
## interview_age  0.0001156  0.0020019   0.058  0.95395
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00338
## lmer.REML = 4197.2  Scale est. = 0.37935   n = 2055
```

2.10 Model: OFC Feedback ~ PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.250497   0.179292   1.397    0.163
## PDS_score     0.009944   0.016003   0.621    0.534
## interview_age -0.002448   0.001545  -1.585    0.113
##
##
## R-sq.(adj) =  0.000286
## lmer.REML = 3018.9  Scale est. = 0.22332   n = 2039

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.0649137  0.2204114   0.295    0.768
```

```
## PDS_score       0.0101010  0.0197079   0.513    0.608
## interview_age -0.0007488  0.0018984  -0.394    0.693
##
##
## R-sq.(adj) =  -0.000837
## lmer.REML = 3842.5  Scale est. = 0.34392   n = 2040
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.255465   0.194367  -1.314    0.189
## PDS_score      0.008297   0.023443   0.354    0.723
## interview_age  0.002312   0.001652   1.399    0.162
##
##
## R-sq.(adj) =   0.000168
## lmer.REML = 3469.7  Scale est. = 0.30665   n = 2070
```

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_posvsneg_feedback_z ~ PDS_score + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.0389465  0.2241386  -0.174    0.862
## PDS_score      0.0047312  0.0273317   0.173    0.863
## interview_age  0.0005657  0.0019042   0.297    0.766
##
##
## R-sq.(adj) =  -0.000974
## lmer.REML =   4032  Scale est. = 0.29495   n = 2068
```

2.11 Model: Caudate Anticipation ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
```

```
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -0.531423   0.328131  -1.620   0.1055
## hormone_scr_ert_mean -0.001464   0.001304  -1.122   0.2618
## interview_age        0.004989   0.002807   1.777   0.0757 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0012
## lmer.REML = 5021.6  Scale est. = 0.79211   n = 1912
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -0.0897165  0.3452219  -0.260    0.795
## hormone_scr_ert_mean 0.0005601  0.0014396   0.389    0.697
## interview_age        0.0005903  0.0029176   0.202    0.840
##
##
## R-sq.(adj) =  -0.000855
## lmer.REML = 5204.4  Scale est. = 0.63795   n = 1909
```

2.12 Model B: Putamen Anticipation ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -0.3478527  0.3189046  -1.091    0.276
## hormone_scr_ert_mean -0.0009987  0.0012676  -0.788    0.431
## interview_age        0.0031484  0.0027281   1.154    0.249
##
##
## R-sq.(adj) =  -5.42e-05
## lmer.REML = 4908.4  Scale est. = 0.74226   n = 1910
```

Males

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## putamen_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -0.398567   0.342070  -1.165    0.244
## hormone_scr_ert_mean 0.002031   0.001432   1.418    0.156
## interview_age        0.002873   0.002888   0.995    0.320
##
##
## R-sq.(adj) =  0.00128
## lmer.REML = 5164.5  Scale est. = 0.67683   n = 1909
```

2.13 Model: Accumbens Anticipation ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -0.1829273  0.2500379  -0.732   0.4645
## hormone_scr_ert_mean -0.0016855  0.0009949  -1.694   0.0904 .
## interview_age         0.0021275  0.0021417   0.993   0.3207
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000853
## lmer.REML = 3998.8  Scale est. = 0.43208   n = 1913
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          3.178e-01  2.689e-01   1.182    0.238
## hormone_scr_ert_mean -7.346e-05  1.112e-03  -0.066    0.947
## interview_age        -2.577e-03  2.272e-03  -1.134    0.257
##
##
## R-sq.(adj) =  -0.000356
```

```
## lmer.REML = 4285.7  Scale est. = 0.48893   n = 1912
```

2.14 Model: Caudate Feedback ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.964423   0.313893   3.072 0.002153 **
## hormone_scr_ert_mean 0.002594   0.001242   2.089 0.036870 *
## interview_age       -0.009086   0.002692  -3.375 0.000753 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00588
## lmer.REML =   4870  Scale est. = 0.74202   n = 1908
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## caudate_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.0868994  0.3185461   0.273    0.785
## hormone_scr_ert_mean 0.0015974  0.0013239   1.207    0.228
## interview_age       -0.0007923  0.0026924  -0.294    0.769
##
##
## R-sq.(adj) =  -0.000323
## lmer.REML =   4926  Scale est. = 0.76067   n = 1910
```

2.15 Model: Putamen Feedback ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
```

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```
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)           0.612850   0.297927   2.057  0.03982 *
## hormone_scr_ert_mean  0.003420   0.001185   2.887  0.00393 **
## interview_age        -0.006594   0.002555  -2.581  0.00992 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00534
## lmer.REML = 4670.6  Scale est. = 0.66657   n = 1909
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## putamen_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)           0.418505   0.316771   1.321    0.187
## hormone_scr_ert_mean  0.001448   0.001324   1.094    0.274
## interview_age        -0.003241   0.002668  -1.215    0.225
##
##
## R-sq.(adj) =  -8.26e-05
## lmer.REML = 4891.5  Scale est. = 0.70816   n = 1914
```

2.16 Model: Accumbens Feedback ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)           0.4856058  0.2310580   2.102   0.0357 *
## hormone_scr_ert_mean  0.0003708  0.0009171   0.404   0.6860
## interview_age        -0.0043599  0.0019815  -2.200   0.0279 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00144
## lmer.REML =   3720  Scale est. = 0.40205   n = 1916
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## accumbens_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.0529966  0.2602606   0.204    0.839
## hormone_scr_ert_mean 0.0014557  0.0010863   1.340    0.180
## interview_age       -0.0003699  0.0021990  -0.168    0.866
##
##
## R-sq.(adj) =  7.13e-05
## lmer.REML = 4112.2  Scale est. = 0.40893   n = 1906
```

2.17 Model: OFC Anticipation ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)           0.0032153  0.2104991   0.015    0.988
## hormone_scr_ert_mean -0.0006606  0.0008361  -0.790    0.430
## interview_age         0.0002883  0.0018063   0.160    0.873
##
##
## R-sq.(adj) =  -0.0007
## lmer.REML = 3333.4  Scale est. = 0.30459   n = 1906

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.0682507  0.2410390   0.283    0.777
## hormone_scr_ert_mean 0.0001874  0.0009567   0.196    0.845
## interview_age       -0.0006112  0.0020683  -0.295    0.768
##
##
## R-sq.(adj) =  -0.000996
```

```
## lmer.REML = 3854.2  Scale est. = 0.43627   n = 1906
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                         Estimate Std. Error t value Pr(>|t|)
## (Intercept)          -0.2964474  0.2262633  -1.310   0.1903
## hormone_scr_ert_mean -0.0016077  0.0009445  -1.702   0.0889 .
## interview_age         0.0030026  0.0019116   1.571   0.1164
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00144
## lmer.REML = 3590.5  Scale est. = 0.29039   n = 1906

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_rvsn_ant_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          -0.224238   0.246804  -0.909    0.364
## hormone_scr_ert_mean -0.001001   0.001023  -0.978    0.328
## interview_age         0.002198   0.002087   1.053    0.292
##
##
## R-sq.(adj) =  -0.000111
## lmer.REML = 3919.4  Scale est. = 0.37723   n = 1902
```

2.18 Model: OFC Feedback ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.2773309  0.1834713   1.512   0.1308
## hormone_scr_ert_mean 0.0012000  0.0007282   1.648   0.0995 .
```

```
## interview_age         -0.0029118  0.0015740  -1.850    0.0645 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0017
## lmer.REML = 2821.7  Scale est. = 0.21617   n = 1908

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.1195496  0.2235176   0.535    0.593
## hormone_scr_ert_mean 0.0007248  0.0008892   0.815    0.415
## interview_age        -0.0012938  0.0019163  -0.675    0.500
##
##
## R-sq.(adj) =  -0.000459
## lmer.REML = 3559.8  Scale est. = 0.32991   n = 1910
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## lOFC_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)          -1.184e-01  2.019e-01  -0.586    0.558
## hormone_scr_ert_mean  5.975e-05  8.407e-04   0.071    0.943
## interview_age         1.299e-03  1.707e-03   0.761    0.447
##
##
## R-sq.(adj) =  -0.000723
## lmer.REML = 3221.2  Scale est. = 0.31011   n = 1916

##
## Family: gaussian
## Link function: identity
##
## Formula:
## mOFC_posvsneg_feedback_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.0339223  0.2347347   0.145    0.885
## hormone_scr_ert_mean 0.0008065  0.0009739   0.828    0.408
```

```
## interview_age          -0.0001671  0.0019852  -0.084    0.933
##
##
## R-sq.(adj) =  -0.000796
## lmer.REML = 3767.6  Scale est. = 0.30086   n = 1914
```

2.19 Model: MID Reaction Time ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_neutral_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          -0.632232   0.323186  -1.956   0.0506 .
## hormone_scr_ert_mean -0.001512   0.001288  -1.174   0.2406
## interview_age         0.006172   0.002768   2.230   0.0259 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00188
## lmer.REML = 5548.9  Scale est. = 0.69062   n = 2060
```

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_small_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)          -0.3682838  0.3262383  -1.129    0.259
## hormone_scr_ert_mean -0.0008419  0.0012987  -0.648    0.517
## interview_age         0.0034244  0.0027936   1.226    0.220
##
##
## R-sq.(adj) =  4.58e-06
## lmer.REML = 5588.1  Scale est. = 0.7507    n = 2060
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_neutral_z ~ hormone_scr_ert_mean + interview_age
##
```

```
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.1164860  0.3026794   0.385    0.700
## hormone_scr_ert_mean -0.0006606  0.0012601  -0.524    0.600
## interview_age        -0.0008780  0.0025578  -0.343    0.731
##
##
## R-sq.(adj) =  -0.00061
## lmer.REML = 5528.2  Scale est. = 0.66131   n = 2139


##
## Family: gaussian
## Link function: identity
##
## Formula:
## rt_diff_large_small_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.1706450  0.3036607   0.562    0.574
## hormone_scr_ert_mean -0.0015477  0.0012570  -1.231    0.218
## interview_age        -0.0009004  0.0025680  -0.351    0.726
##
##
## R-sq.(adj) =  -5.41e-05
## lmer.REML = 5557.2  Scale est. = 0.6718    n = 2139
```

2.20 Model: BIS-BAS-RR ~ Testosterone

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## bisbas_ss_basm_rr_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.346483   0.314741   1.101    0.271
## hormone_scr_ert_mean -0.001040   0.001248  -0.833    0.405
## interview_age        -0.002945   0.002684  -1.097    0.273
##
##
## R-sq.(adj) =  0.000485
## lmer.REML = 7029.3  Scale est. = 0.70773   n = 2502
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
```

```
## bisbas_ss_basm_rr_z ~ hormone_scr_ert_mean + interview_age
##
## Parametric coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)           0.182571   0.298508   0.612    0.541
## hormone_scr_ert_mean  0.002190   0.001242   1.763    0.078 .
## interview_age        -0.001492   0.002522  -0.592    0.554
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00108
## lmer.REML = 7475.7  Scale est. = 0.70116   n = 2703
```

3—Internalizing~Reward—

3.1 Model: CBCL internalizing factor ~ Nucleus Accumbens activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ accumbens_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)           6.03142    1.86213   3.239  0.00122 **
## accumbens_rvsn_ant_z -0.04281    0.16866  -0.254  0.79968
## interview_age        -0.00972    0.01557  -0.624  0.53257
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000632
## lmer.REML =  12626  Scale est. = 11.232    n = 2044
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ accumbens_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)           3.25407    1.85660   1.753   0.0798 .
## accumbens_rvsn_ant_z -0.14190    0.15692  -0.904   0.3659
## interview_age         0.01254    0.01546   0.811   0.4174
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000613
## lmer.REML =  12706  Scale est. = 17.308    n = 2066
```

3.2 Model: CBCL internalizing factor ~ Caudate activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ caudate_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)         6.09957    1.86424   3.272  0.00109 **
## caudate_rvsn_ant_z -0.02686    0.12935  -0.208  0.83552
## interview_age      -0.01023    0.01559  -0.656  0.51174
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000647
## lmer.REML =  12629  Scale est. = 11.292    n = 2044
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ caudate_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)         3.49362    1.85958   1.879   0.0604 .
## caudate_rvsn_ant_z -0.10783    0.12293  -0.877   0.3805
## interview_age       0.01070    0.01548   0.691   0.4897
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000819
## lmer.REML =  12691  Scale est. = 17.525    n = 2063
```

3.3 Model: CBCL internalizing factor ~ Putamen activity (anticipation stage)

Females

```
##
```

```
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ putamen_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)        5.934388   1.857662   3.195  0.00142 **
## putamen_rvsn_ant_z -0.095198   0.132427  -0.719  0.47230
## interview_age      -0.008957   0.015537  -0.577  0.56434
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000598
## lmer.REML =  12595  Scale est. = 11.211    n = 2041
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ putamen_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)         3.33869    1.85298   1.802   0.0717 .
## putamen_rvsn_ant_z -0.15776    0.12263  -1.287   0.1984
## interview_age       0.01190    0.01543   0.771   0.4407
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000462
## lmer.REML =  12682  Scale est. = 17.142    n = 2064
```

3.4 Model: CBCL internalizing factor ~ Accumbens activity (feedback stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ accumbens_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    5.830691   1.856144   3.141  0.00171 **
## accumbens_posvsneg_feedback_z -0.050476   0.176282  -0.286  0.77465
## interview_age                 -0.008162   0.015527  -0.526  0.59916
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000578
## lmer.REML =  12646  Scale est. = 11.21     n = 2050
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ accumbens_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                               Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    3.20169    1.84417   1.736   0.0827 .
## accumbens_posvsneg_feedback_z  0.32021    0.16272   1.968   0.0492 *
## interview_age                  0.01263    0.01536   0.823   0.4108
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000374
## lmer.REML =  12638  Scale est. = 17.821     n = 2061
```

3.5 Model: CBCL internalizing factor ~ Caudate activity (feedback stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ caudate_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  6.08504    1.86838   3.257  0.00115 **
## caudate_posvsneg_feedback_z -0.18760    0.13267  -1.414  0.15750
## interview_age               -0.01029    0.01562  -0.659  0.51010
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000878
## lmer.REML =  12610  Scale est. = 11.326     n = 2042
```

Males

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ caudate_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                3.77298    1.86063   2.028   0.0427 *
## caudate_posvsneg_feedback_z 0.14352   0.13072   1.098   0.2724
## interview_age              0.00821    0.01550   0.530   0.5963
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000875
## lmer.REML =  12705  Scale est. = 17.456    n = 2065
```

3.6 Model: CBCL internalizing factor ~ Putamen activity (feedback stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ putamen_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 5.870302   1.864372   3.149  0.00166 **
## putamen_posvsneg_feedback_z -0.099433  0.139287  -0.714  0.47539
## interview_age               -0.008449  0.015591  -0.542  0.58795
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000157
## lmer.REML =  12610  Scale est. = 11.281    n = 2042
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ putamen_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 3.53587    1.86387   1.897   0.058 .
## putamen_posvsneg_feedback_z 0.14110    0.13250   1.065   0.287
## interview_age               0.01021    0.01552   0.658   0.511
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.00111
## lmer.REML =  12736  Scale est. = 17.746    n = 2068
```

3.7 Model: CBCL internalizing factor ~ OFC activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ lOFC_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      5.886252   1.871858   3.145  0.00169 **
## lOFC_rvsn_ant_z  0.028463   0.202850   0.140  0.88843
## interview_age   -0.008492   0.015651  -0.543  0.58746
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000729
## lmer.REML =  12589  Scale est. = 11.525    n = 2038

##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ mOFC_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      5.859094   1.868796   3.135  0.00174 **
## mOFC_rvsn_ant_z  0.158153   0.173166   0.913  0.36119
## interview_age   -0.008187   0.015629  -0.524  0.60045
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000132
## lmer.REML =  12597  Scale est. = 11.352    n = 2039
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
```

```
## cbcl_scr_syn_internal_r ~ lOFC_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)     2.593028   1.842144   1.408    0.159
## lOFC_rvsn_ant_z 0.007046   0.185916   0.038    0.970
## interview_age   0.017786   0.015340   1.159    0.246
##
##
## R-sq.(adj) =  -0.000967
## lmer.REML =  12626  Scale est. = 17.099    n = 2060

##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ mOFC_rvsn_ant_z + interview_age
##
## Parametric coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)      2.66407    1.85004   1.440    0.150
## mOFC_rvsn_ant_z  0.25061    0.17062   1.469    0.142
## interview_age    0.01727    0.01541   1.121    0.263
##
##
## R-sq.(adj) =  0.000242
## lmer.REML =  12610  Scale est. = 17.21     n = 2055
```

3.8 Model: CBCL internalizing factor ~ OFC activity (feedback stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ lOFC_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                           Estimate Std. Error t value Pr(>|t|)
## (Intercept)               5.888613   1.861224   3.164  0.00158 **
## lOFC_posvsneg_feedback_z -0.237566   0.228693  -1.039  0.29902
## interview_age            -0.008663   0.015572  -0.556  0.57803
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  4.13e-05
## lmer.REML =  12579  Scale est. = 11.213    n = 2039

##
## Family: gaussian
## Link function: identity
##
```

```
## Formula:
## cbcl_scr_syn_internal_r ~ mOFC_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)              5.973940   1.863262   3.206  0.00137 **
## mOFC_posvsneg_feedback_z -0.159334   0.188165  -0.847  0.39722
## interview_age            -0.009333   0.015591  -0.599  0.54951
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.000255
## lmer.REML =  12595  Scale est. = 11.397    n = 2040
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ lOFC_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)               3.12257    1.83917   1.698   0.0897 .
## lOFC_posvsneg_feedback_z  0.07077    0.20388   0.347   0.7285
## interview_age             0.01352    0.01532   0.882   0.3776
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.00109
## lmer.REML =  12698  Scale est. = 17.083    n = 2070

##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ mOFC_posvsneg_feedback_z + interview_age
##
## Parametric coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)               3.16469    1.83836   1.721   0.0853 .
## mOFC_posvsneg_feedback_z  0.26531    0.17840   1.487   0.1371
## interview_age             0.01313    0.01531   0.857   0.3914
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000202
## lmer.REML =  12686  Scale est. = 17.165    n = 2068
```

3.9 Model: CBCL internalizing factor ~ BIS-BAS-RR

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ bisbas_ss_basm_rr + interview_age
##
## Parametric coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)       4.576754   1.717826   2.664  0.00776 **
## bisbas_ss_basm_rr -0.070300   0.044419  -1.583  0.11362
## interview_age      0.008269   0.013933   0.593  0.55293
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000292
## lmer.REML =  16721  Scale est. = 12.884    n = 2690
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ bisbas_ss_basm_rr + interview_age
##
## Parametric coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)       3.61899    1.68931   2.142   0.0323 *
## bisbas_ss_basm_rr 0.01085    0.04423   0.245   0.8063
## interview_age     0.01093    0.01369   0.798   0.4249
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000781
## lmer.REML =  18172  Scale est. = 15.86     n = 2913
```

3.10 Model: CBCL internalizing factor ~ MID Reaction Time

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ rt_diff_large_neutral_z + interview_age
##
## Parametric coefficients:
```

```
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)               6.34830    1.78963   3.547 0.000397 ***
## rt_diff_large_neutral_z   0.13667    0.12027   1.136 0.255921
## interview_age            -0.01246    0.01495  -0.833 0.404751
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -5.14e-06
## lmer.REML =  13581  Scale est. = 11.707    n = 2201

##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ rt_diff_large_small_z + interview_age
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)             6.25255    1.78792   3.497  0.00048 ***
## rt_diff_large_small_z  -0.15737    0.11916  -1.321  0.18675
## interview_age          -0.01158    0.01493  -0.775  0.43813
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000251
## lmer.REML =  13580  Scale est. = 11.639    n = 2201
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ rt_diff_large_neutral_z + interview_age
##
## Parametric coefficients:
##                         Estimate Std. Error t value Pr(>|t|)
## (Intercept)              2.91887    1.77504   1.644    0.100
## rt_diff_large_neutral_z  0.04631    0.12505   0.370    0.711
## interview_age            0.01577    0.01479   1.066    0.286
##
##
## R-sq.(adj) =  -0.000786
## lmer.REML =  14210  Scale est. = 16.839    n = 2303

##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ rt_diff_large_small_z + interview_age
```

```
##
## Parametric coefficients:
##                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)             2.93006    1.77494   1.651   0.0989 .
## rt_diff_large_small_z  -0.06836    0.12321  -0.555   0.5790
## interview_age           0.01568    0.01478   1.060   0.2891
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  -0.000745
## lmer.REML =  14210  Scale est. = 16.895    n = 2303
```

4—Internalizing~Puberty x Reward—

4.1 Model: CBCL internalizing factor ~ PDS x Accumbens activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * accumbens_rvsn_ant_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  4.93246    2.07818   2.373 0.017717 *
## PDS_score                    0.66789    0.17883   3.735 0.000193 ***
## accumbens_rvsn_ant_z        -0.74666    0.42905  -1.740 0.081967 .
## race.ethnicity.5levelBlack   0.54545    0.89101   0.612 0.540495
## race.ethnicity.5levelMixed   2.34273    0.87490   2.678 0.007473 **
## race.ethnicity.5levelOther   2.34680    0.99199   2.366 0.018089 *
## race.ethnicity.5levelWhite   1.35252    0.82265   1.644 0.100314
## demo_race_hispanic1          0.49442    0.34785   1.421 0.155373
## interview_age               -0.02243    0.01629  -1.377 0.168697
## PDS_score:accumbens_rvsn_ant_z 0.42529  0.23874   1.781 0.074993 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0145
## lmer.REML =  12315  Scale est. = 11.173    n = 1999
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
```

```
## cbcl_scr_syn_internal_r ~ PDS_score * accumbens_rvsn_ant_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                               Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   1.110611   2.008767   0.553  0.58041
## PDS_score                     0.740905   0.231386   3.202  0.00139 **
## accumbens_rvsn_ant_z         -0.176929   0.431793  -0.410  0.68203
## race.ethnicity.5levelBlack    1.132849   0.868849   1.304  0.19243
## race.ethnicity.5levelMixed    2.813470   0.859399   3.274  0.00108 **
## race.ethnicity.5levelOther    2.805834   0.989336   2.836  0.00461 **
## race.ethnicity.5levelWhite    2.102583   0.807940   2.602  0.00933 **
## demo_race_hispanic1           0.031139   0.334895   0.093  0.92593
## interview_age                 0.004685   0.015705   0.298  0.76547
## PDS_score:accumbens_rvsn_ant_z 0.028998  0.297823   0.097  0.92244
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00996
## lmer.REML =  12383  Scale est. = 17.312    n = 2024
```

4.2 Model: CBCL internalizing factor ~ PDS x Caudate activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * caudate_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   5.16482    2.08805   2.474 0.013462 *
## PDS_score                     0.69019    0.17965   3.842 0.000126 ***
## caudate_rvsn_ant_z           -0.11993    0.32559  -0.368 0.712651
## race.ethnicity.5levelBlack    0.54705    0.89316   0.612 0.540289
## race.ethnicity.5levelMixed    2.29666    0.87576   2.622 0.008796 **
## race.ethnicity.5levelOther    2.30580    0.99182   2.325 0.020181 *
## race.ethnicity.5levelWhite    1.32860    0.82400   1.612 0.107037
## demo_race_hispanic1           0.49035    0.34786   1.410 0.158803
## interview_age                -0.02440    0.01638  -1.490 0.136466
## PDS_score:caudate_rvsn_ant_z  0.05174    0.18124   0.285 0.775296
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0131
## lmer.REML =  12316  Scale est. = 11.35    n = 1998
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * caudate_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 1.330434   2.016643   0.660 0.509505
## PDS_score                   0.764180   0.231367   3.303 0.000974 ***
## caudate_rvsn_ant_z          0.289141   0.350447   0.825 0.409434
## race.ethnicity.5levelBlack  1.031591   0.888271   1.161 0.245639
## race.ethnicity.5levelMixed  2.698742   0.879861   3.067 0.002189 **
## race.ethnicity.5levelOther  2.786111   1.003964   2.775 0.005569 **
## race.ethnicity.5levelWhite  2.024026   0.829244   2.441 0.014740 *
## demo_race_hispanic1         0.053239   0.336319   0.158 0.874237
## interview_age               0.003358   0.015718   0.214 0.830824
## PDS_score:caudate_rvsn_ant_z -0.302925  0.243097  -1.246 0.212869
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0105
## lmer.REML =  12373  Scale est. = 17.352    n = 2022
```

4.3 Model: CBCL internalizing factor ~ PDS x Putamen activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * putamen_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  4.97477    2.07632   2.396 0.016669 *
## PDS_score                    0.69413    0.17949   3.867 0.000114 ***
## putamen_rvsn_ant_z          -0.37583    0.32746  -1.148 0.251214
## race.ethnicity.5levelBlack   0.59070    0.88838   0.665 0.506182
## race.ethnicity.5levelMixed   2.32554    0.87167   2.668 0.007695 **
## race.ethnicity.5levelOther   2.29813    0.98931   2.323 0.020281 *
## race.ethnicity.5levelWhite   1.29941    0.81989   1.585 0.113158
## demo_race_hispanic1          0.50620    0.34697   1.459 0.144749
## interview_age               -0.02287    0.01628  -1.404 0.160369
## PDS_score:putamen_rvsn_ant_z 0.18597    0.18035   1.031 0.302586
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.014
## lmer.REML =  12281  Scale est. = 11.319   n = 1995
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * putamen_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 1.069415   2.010972   0.532 0.594930
## PDS_score                   0.795180   0.232011   3.427 0.000622 ***
## putamen_rvsn_ant_z          0.685059   0.347481   1.972 0.048803 *
## race.ethnicity.5levelBlack  1.112071   0.885549   1.256 0.209335
## race.ethnicity.5levelMixed  2.732836   0.874919   3.124 0.001812 **
## race.ethnicity.5levelOther  2.668475   1.003956   2.658 0.007924 **
## race.ethnicity.5levelWhite  2.059818   0.826294   2.493 0.012752 *
## demo_race_hispanic1        -0.002783   0.335825  -0.008 0.993388
## interview_age               0.005000   0.015680   0.319 0.749830
## PDS_score:putamen_rvsn_ant_z -0.641137  0.244624  -2.621 0.008836 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0126
## lmer.REML =  12362  Scale est. = 16.639   n = 2023
```

4.4 Model: CBCL internalizing factor ~ PDS x Lateral OFC activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * lOFC_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  4.90115    2.09807   2.336 0.019589 *
## PDS_score                    0.66515    0.17977   3.700 0.000222 ***
## lOFC_rvsn_ant_z              0.01527    0.52247   0.029 0.976689
## race.ethnicity.5levelBlack   0.52114    0.89989   0.579 0.562581
## race.ethnicity.5levelMixed   2.24412    0.88436   2.538 0.011239 *
```

```
## race.ethnicity.5levelOther  2.23647    1.00065    2.235 0.025527 *
## race.ethnicity.5levelWhite  1.24974    0.83231    1.502 0.133380
## demo_race_hispanic1          0.51354    0.34902    1.471 0.141342
## interview_age              -0.02142    0.01641   -1.305 0.192031
## PDS_score:lOFC_rvsn_ant_z   0.03931    0.28333    0.139 0.889677
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0124
## lmer.REML =  12288  Scale est. = 11.562    n = 1994
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * lOFC_rvsn_ant_z + race.ethnicity.5level +
##      demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.44213    1.99293    0.222  0.82445
## PDS_score                   0.64668    0.23294    2.776  0.00555 **
## lOFC_rvsn_ant_z            -0.45904    0.50823   -0.903  0.36652
## race.ethnicity.5levelBlack  1.15256    0.86113    1.338  0.18091
## race.ethnicity.5levelMixed  2.77674    0.85121    3.262  0.00112 **
## race.ethnicity.5levelOther  2.81757    0.97872    2.879  0.00403 **
## race.ethnicity.5levelWhite  2.03354    0.79959    2.543  0.01106 *
## demo_race_hispanic1        -0.05669    0.33250   -0.170  0.86464
## interview_age               0.01160    0.01560    0.744  0.45719
## PDS_score:lOFC_rvsn_ant_z   0.32821    0.34564    0.950  0.34245
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0085
## lmer.REML =  12324  Scale est. = 16.899    n = 2021
```

4.5 Model: CBCL internalizing factor ~ PDS x Medial OFC activity (anticipation stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * mOFC_rvsn_ant_z + race.ethnicity.5level +
##      demo_race_hispanic + interview_age
##
## Parametric coefficients:
```

```
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                     4.84149    2.09453   2.311 0.020908 *
## PDS_score                       0.66802    0.17956   3.720 0.000204 ***
## mOFC_rvsn_ant_z                -0.03687    0.43630  -0.085 0.932667
## race.ethnicity.5levelBlack      0.51760    0.90004   0.575 0.565296
## race.ethnicity.5levelMixed      2.25855    0.88469   2.553 0.010757 *
## race.ethnicity.5levelOther      2.31830    1.00294   2.312 0.020907 *
## race.ethnicity.5levelWhite      1.29551    0.83274   1.556 0.119937
## demo_race_hispanic1             0.49881    0.34895   1.429 0.153030
## interview_age                  -0.02114    0.01638  -1.291 0.196961
## PDS_score:mOFC_rvsn_ant_z       0.13133    0.23937   0.549 0.583311
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0134
## lmer.REML =  12296  Scale est. = 11.364    n = 1995
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * mOFC_rvsn_ant_z + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    0.624062   2.000859   0.312  0.75515
## PDS_score                      0.683251   0.232281   2.941  0.00330 **
## mOFC_rvsn_ant_z                0.219209   0.460608   0.476  0.63419
## race.ethnicity.5levelBlack     1.077705   0.864995   1.246  0.21294
## race.ethnicity.5levelMixed     2.695055   0.854542   3.154  0.00164 **
## race.ethnicity.5levelOther     2.785797   0.979830   2.843  0.00451 **
## race.ethnicity.5levelWhite     2.014115   0.802688   2.509  0.01218 *
## demo_race_hispanic1           -0.015705   0.332742  -0.047  0.96236
## interview_age                  0.009928   0.015649   0.634  0.52589
## PDS_score:mOFC_rvsn_ant_z      0.015746   0.300671   0.052  0.95824
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0101
## lmer.REML =  12294  Scale est. = 17.078    n = 2014
```

4.6 Model: CBCL internalizing factor ~ PDS x Accumbens activity (feedback)

Females

```
##
## Family: gaussian
## Link function: identity
##
```

```
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * accumbens_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)                             4.86589    2.07602   2.344  0.01918
## PDS_score                               0.68636    0.17813   3.853  0.00012
## accumbens_posvsneg_feedback_z          -0.39320    0.44400  -0.886  0.37595
## race.ethnicity.5levelBlack              0.54437    0.88849   0.613  0.54015
## race.ethnicity.5levelMixed              2.21939    0.87236   2.544  0.01103
## race.ethnicity.5levelOther              2.36260    0.98666   2.395  0.01673
## race.ethnicity.5levelWhite              1.34627    0.82071   1.640  0.10108
## demo_race_hispanic1                     0.42095    0.34808   1.209  0.22667
## interview_age                          -0.02196    0.01627  -1.349  0.17744
## PDS_score:accumbens_posvsneg_feedback_z 0.20945    0.24541   0.853  0.39350
##
## (Intercept)                            *
## PDS_score                              ***
## accumbens_posvsneg_feedback_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed             *
## race.ethnicity.5levelOther             *
## race.ethnicity.5levelWhite
## demo_race_hispanic1
## interview_age
## PDS_score:accumbens_posvsneg_feedback_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0121
## lmer.REML =  12340  Scale est. = 11.244    n = 2005
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * accumbens_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)                     0.974341   1.993967   0.489 0.625147
## PDS_score                       0.709079   0.229247   3.093 0.002008
## accumbens_posvsneg_feedback_z   0.015265   0.446047   0.034 0.972703
## race.ethnicity.5levelBlack      1.234169   0.861883   1.432 0.152315
## race.ethnicity.5levelMixed      2.847060   0.850813   3.346 0.000834
## race.ethnicity.5levelOther      2.960141   0.980339   3.020 0.002564
## race.ethnicity.5levelWhite      2.098703   0.800058   2.623 0.008777
## demo_race_hispanic1            -0.001490   0.332586  -0.004 0.996427
```

```
## interview_age                                0.005746   0.015588   0.369 0.712435
## PDS_score:accumbens_posvsneg_feedback_z  0.235992   0.304036   0.776 0.437724
##
## (Intercept)
## PDS_score                                **
## accumbens_posvsneg_feedback_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed               ***
## race.ethnicity.5levelOther               **
## race.ethnicity.5levelWhite               **
## demo_race_hispanic1
## interview_age
## PDS_score:accumbens_posvsneg_feedback_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0113
## lmer.REML =  12328  Scale est. = 17.656    n = 2021
```

4.7 Model: CBCL internalizing factor ~ PDS x Caudate activity (feedback)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * caudate_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)                       5.24064    2.08996   2.508   0.0122 *
## PDS_score                         0.70970    0.17965   3.951 8.07e-05 ***
## caudate_posvsneg_feedback_z      -0.42312    0.33771  -1.253   0.2104
## race.ethnicity.5levelBlack        0.54975    0.89324   0.615   0.5383
## race.ethnicity.5levelMixed        2.22349    0.87503   2.541   0.0111 *
## race.ethnicity.5levelOther        2.17874    0.99090   2.199   0.0280 *
## race.ethnicity.5levelWhite        1.27525    0.82348   1.549   0.1216
## demo_race_hispanic1               0.49242    0.34972   1.408   0.1593
## interview_age                    -0.02506    0.01638  -1.530   0.1263
## PDS_score:caudate_posvsneg_feedback_z 0.15205 0.18800   0.809   0.4187
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0138
## lmer.REML =  12303  Scale est. = 11.31     n = 1997
```

Males

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * caudate_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)                            1.662714   2.020642   0.823 0.410682
## PDS_score                              0.794117   0.232017   3.423 0.000633 ***
## caudate_posvsneg_feedback_z           -0.149997   0.355454  -0.422 0.673080
## race.ethnicity.5levelBlack             1.113313   0.877511   1.269 0.204689
## race.ethnicity.5levelMixed             2.793385   0.867905   3.219 0.001309 **
## race.ethnicity.5levelOther             2.896433   0.993050   2.917 0.003577 **
## race.ethnicity.5levelWhite             2.067674   0.817029   2.531 0.011458 *
## demo_race_hispanic1                    0.068190   0.335459   0.203 0.838942
## interview_age                         -0.000349   0.015732  -0.022 0.982303
## PDS_score:caudate_posvsneg_feedback_z  0.207256   0.237647   0.872 0.383250
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0107
## lmer.REML =  12379  Scale est. = 17.388    n = 2023
```

4.8 Model: CBCL internalizing factor ~ PDS x Putamen activity (feedback)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * putamen_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)                             4.86580    2.08450   2.334 0.019680 *
## PDS_score                               0.67167    0.17939   3.744 0.000186 ***
## putamen_posvsneg_feedback_z             0.04503    0.35173   0.128 0.898143
## race.ethnicity.5levelBlack              0.63545    0.89359   0.711 0.477091
## race.ethnicity.5levelMixed              2.29627    0.87490   2.625 0.008742 **
## race.ethnicity.5levelOther              2.27889    0.99332   2.294 0.021882 *
## race.ethnicity.5levelWhite              1.32205    0.82379   1.605 0.108689
## demo_race_hispanic1                     0.51174    0.34948   1.464 0.143267
## interview_age                          -0.02187    0.01634  -1.338 0.181011
## PDS_score:putamen_posvsneg_feedback_z  -0.08259    0.19310  -0.428 0.668914
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0131
## lmer.REML =  12299  Scale est. = 11.345    n = 1996
```

Males

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * putamen_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
## 
## Parametric coefficients:
##                                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)                          1.358783   2.015957   0.674 0.500380
## PDS_score                            0.760030   0.231803   3.279 0.001060 **
## putamen_posvsneg_feedback_z         -0.306904   0.361874  -0.848 0.396484
## race.ethnicity.5levelBlack           1.152753   0.871332   1.323 0.185993
## race.ethnicity.5levelMixed           2.856253   0.861081   3.317 0.000926 ***
## race.ethnicity.5levelOther           2.929340   0.989325   2.961 0.003103 **
## race.ethnicity.5levelWhite           2.150420   0.810173   2.654 0.008010 **
## demo_race_hispanic1                  0.005966   0.337119   0.018 0.985883
## interview_age                        0.002089   0.015740   0.133 0.894431
## PDS_score:putamen_posvsneg_feedback_z 0.334041  0.243549   1.372 0.170354
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## 
## R-sq.(adj) =  0.0108
## lmer.REML =  12422  Scale est. = 17.593    n = 2028
```

4.9 Model: CBCL internalizing factor ~ PDS x Lateral OFC activity (feedback stage)

Females

```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * lOFC_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
## 
## Parametric coefficients:
##                                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)                        4.92052    2.08082   2.365 0.018140 *
## PDS_score                          0.68518    0.17862   3.836 0.000129 ***
## lOFC_posvsneg_feedback_z          -0.67670    0.57385  -1.179 0.238452
## race.ethnicity.5levelBlack         0.54472    0.88932   0.613 0.540267
## race.ethnicity.5levelMixed         2.21866    0.87231   2.543 0.011052 *
## race.ethnicity.5levelOther         2.47787    0.99339   2.494 0.012699 *
## race.ethnicity.5levelWhite         1.30039    0.82024   1.585 0.113041
## demo_race_hispanic1                0.41769    0.34743   1.202 0.229419
## interview_age                     -0.02219    0.01632  -1.360 0.173911
## PDS_score:lOFC_posvsneg_feedback_z 0.26950    0.31121   0.866 0.386604
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0134
## lmer.REML =  12272  Scale est. = 11.19     n = 1994
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * lOFC_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)                      0.979171   1.992072   0.492 0.623102
## PDS_score                        0.705574   0.230936   3.055 0.002278 **
## lOFC_posvsneg_feedback_z        -0.260592   0.564728  -0.461 0.644528
## race.ethnicity.5levelBlack       1.164644   0.863426   1.349 0.177532
## race.ethnicity.5levelMixed       2.820399   0.852772   3.307 0.000958 ***
## race.ethnicity.5levelOther       2.748041   0.983799   2.793 0.005267 **
## race.ethnicity.5levelWhite       2.053822   0.801858   2.561 0.010499 *
## demo_race_hispanic1             -0.004806   0.333205  -0.014 0.988495
## interview_age                    0.006403   0.015580   0.411 0.681151
## PDS_score:lOFC_posvsneg_feedback_z 0.221057 0.382530   0.578 0.563408
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00919
## lmer.REML =  12384  Scale est. = 17.008    n = 2029
```

4.10 Model: CBCL internalizing factor ~ PDS x Medial OFC activity (feedback stage)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * mOFC_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)                       5.04965    2.08298   2.424 0.01543 *
## PDS_score                         0.68950    0.17888   3.855 0.00012 ***
## mOFC_posvsneg_feedback_z         -0.69715    0.48406  -1.440 0.14996
## race.ethnicity.5levelBlack        0.53721    0.89106   0.603 0.54665
## race.ethnicity.5levelMixed        2.19349    0.87432   2.509 0.01219 *
```

```
## race.ethnicity.5levelOther          2.30312    0.98997    2.326  0.02009 *
## race.ethnicity.5levelWhite          1.28148    0.82167    1.560  0.11901
## demo_race_hispanic1                 0.46194    0.34777    1.328  0.18423
## interview_age                      -0.02318    0.01634   -1.419  0.15610
## PDS_score:mOFC_posvsneg_feedback_z  0.30275    0.26566    1.140  0.25459
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0142
## lmer.REML =  12281  Scale est. = 11.435    n = 1994
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * mOFC_posvsneg_feedback_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                        1.031307   1.991116   0.518 0.604547
## PDS_score                          0.708314   0.230857   3.068 0.002182 **
## mOFC_posvsneg_feedback_z          -0.061820   0.505986  -0.122 0.902771
## race.ethnicity.5levelBlack         1.158695   0.862802   1.343 0.179441
## race.ethnicity.5levelMixed         2.837685   0.852570   3.328 0.000889 ***
## race.ethnicity.5levelOther         2.807415   0.980892   2.862 0.004252 **
## race.ethnicity.5levelWhite         2.061024   0.801557   2.571 0.010204 *
## demo_race_hispanic1               -0.023184   0.332785  -0.070 0.944465
## interview_age                      0.005845   0.015565   0.376 0.707313
## PDS_score:mOFC_posvsneg_feedback_z 0.248273   0.349561   0.710 0.477635
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0108
## lmer.REML =  12371  Scale est. = 17.106    n = 2027
```

4.11 Model: CBCL internalizing factor ~ PDS x BIS-BAS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * bisbas_ss_basm_rr + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                               Estimate Std. Error t value Pr(>|t|)
```

```
## (Intercept)                      2.191763  2.099766   1.044  0.29667
## PDS_score                         1.574106  0.551603   2.854  0.00436 **
## bisbas_ss_basm_rr                 0.114562  0.111110   1.031  0.30260
## race.ethnicity.5levelBlack        0.201260  0.791776   0.254  0.79937
## race.ethnicity.5levelMixed        1.868473  0.787599   2.372  0.01775 *
## race.ethnicity.5levelOther        2.513910  0.901229   2.789  0.00532 **
## race.ethnicity.5levelWhite        1.340999  0.740403   1.811  0.07023 .
## demo_race_hispanic1               0.164739  0.316995   0.520  0.60332
## interview_age                    -0.004925  0.014590  -0.338  0.73572
## PDS_score:bisbas_ss_basm_rr      -0.107740  0.059762  -1.803  0.07153 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0132
## lmer.REML =  16324  Scale est. = 13.08     n = 2629
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * bisbas_ss_basm_rr + race.ethnicity.5level +
##     demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                               Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  4.7423551  2.0817585   2.278  0.02280 *
## PDS_score                   -0.8680368  0.7884713  -1.101  0.27103
## bisbas_ss_basm_rr           -0.2504578  0.1186368  -2.111  0.03485 *
## race.ethnicity.5levelBlack   1.2560711  0.7530189   1.668  0.09542 .
## race.ethnicity.5levelMixed   1.9861319  0.7534441   2.636  0.00843 **
## race.ethnicity.5levelOther   1.8190748  0.8603645   2.114  0.03458 *
## race.ethnicity.5levelWhite   1.4449332  0.7064644   2.045  0.04092 *
## demo_race_hispanic1          0.2504211  0.3008454   0.832  0.40526
## interview_age               -0.0009387  0.0140026  -0.067  0.94656
## PDS_score:bisbas_ss_basm_rr  0.1859961  0.0825012   2.254  0.02424 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00812
## lmer.REML =  17710  Scale est. = 15.557    n = 2847
```

4.12 Model: CBCL internalizing factor ~ PDS x MID reaction time (large reward vs. neutral)

Females

```
##
## Family: gaussian
## Link function: identity
##
```

```
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * rt_diff_large_neutral_z +
##      race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    5.501254   1.992802   2.761 0.005819 **
## PDS_score                      0.641957   0.172929   3.712 0.000211 ***
## rt_diff_large_neutral_z        0.154540   0.311198   0.497 0.619524
## race.ethnicity.5levelBlack     0.560716   0.845384   0.663 0.507230
## race.ethnicity.5levelMixed     2.155255   0.833294   2.586 0.009763 **
## race.ethnicity.5levelOther     2.598824   0.947143   2.744 0.006123 **
## race.ethnicity.5levelWhite     1.320738   0.781113   1.691 0.091013 .
## demo_race_hispanic1            0.456433   0.341115   1.338 0.181018
## interview_age                 -0.026474   0.015690  -1.687 0.091696 .
## PDS_score:rt_diff_large_neutral_z -0.008305  0.171296  -0.048 0.961334
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0132
## lmer.REML =  13258  Scale est. = 11.823    n = 2153
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * rt_diff_large_neutral_z +
##      race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    1.437100   1.933083   0.743 0.45730
## PDS_score                      0.624857   0.221216   2.825 0.00477 **
## rt_diff_large_neutral_z        0.605151   0.344894   1.755 0.07946 .
## race.ethnicity.5levelBlack     0.739558   0.843849   0.876 0.38090
## race.ethnicity.5levelMixed     2.156381   0.836600   2.578 0.01001 *
## race.ethnicity.5levelOther     2.032814   0.962054   2.113 0.03471 *
## race.ethnicity.5levelWhite     1.469532   0.789459   1.861 0.06281 .
## demo_race_hispanic1            0.100016   0.322811   0.310 0.75672
## interview_age                  0.008459   0.015042   0.562 0.57393
## PDS_score:rt_diff_large_neutral_z -0.382233  0.238948  -1.600 0.10982
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0071
## lmer.REML =  13868  Scale est. = 16.958    n = 2257
```

4.13 Model: CBCL internalizing factor ~ PDS x MID reaction time (large vs. small reward)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * rt_diff_large_small_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   5.41915    1.99084   2.722 0.006540 **
## PDS_score                     0.62916    0.17250   3.647 0.000271 ***
## rt_diff_large_small_z        -0.54782    0.29953  -1.829 0.067547 .
## race.ethnicity.5levelBlack    0.56487    0.84371   0.670 0.503246
## race.ethnicity.5levelMixed    2.14230    0.83251   2.573 0.010140 *
## race.ethnicity.5levelOther    2.55705    0.94673   2.701 0.006969 **
## race.ethnicity.5levelWhite    1.29990    0.78025   1.666 0.095859 .
## demo_race_hispanic1           0.45983    0.34088   1.349 0.177498
## interview_age                -0.02539    0.01567  -1.621 0.105253
## PDS_score:rt_diff_large_small_z  0.25824  0.16474  1.568 0.117134
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0143
## lmer.REML =  13256  Scale est. = 11.79    n = 2153
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score * rt_diff_large_small_z +
##     race.ethnicity.5level + demo_race_hispanic + interview_age
##
## Parametric coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   1.462262   1.934052   0.756 0.44969
## PDS_score                     0.628312   0.221085   2.842 0.00452 **
## rt_diff_large_small_z         0.090409   0.345473   0.262 0.79358
## race.ethnicity.5levelBlack    0.694926   0.844009   0.823 0.41039
## race.ethnicity.5levelMixed    2.103226   0.836744   2.514 0.01202 *
## race.ethnicity.5levelOther    1.902684   0.960826   1.980 0.04780 *
## race.ethnicity.5levelWhite    1.409154   0.789449   1.785 0.07440 .
## demo_race_hispanic1           0.097283   0.323145   0.301 0.76340
## interview_age                 0.008768   0.015050   0.583 0.56023
## PDS_score:rt_diff_large_small_z -0.119671  0.241539 -0.495 0.62033
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00569
## lmer.REML =  13871  Scale est. = 16.827    n = 2257
```

4.14 Model: CBCL internalizing factor ~ Testosterone x Accumbens activity (anticipation stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     accumbens_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                         Estimate Std. Error t value Pr(>|t|)
## (Intercept)                             4.460740   2.119085   2.105 0.035422
## PDS_score                               0.665395   0.191155   3.481 0.000511
## hormone_scr_ert_mean                    0.002798   0.008101   0.345 0.729815
## accumbens_rvsn_ant_z                    0.182512   0.418879   0.436 0.663094
## race.ethnicity.5levelBlack              0.220171   0.899271   0.245 0.806613
## race.ethnicity.5levelMixed              2.173556   0.878765   2.473 0.013471
## race.ethnicity.5levelOther              2.237816   0.998934   2.240 0.025195
## race.ethnicity.5levelWhite              1.325853   0.823882   1.609 0.107726
## demo_race_hispanic1                     0.355402   0.358674   0.991 0.321874
## interview_age                          -0.018447   0.016899  -1.092 0.275143
## hormone_scr_ert_mean:accumbens_rvsn_ant_z -0.006376 0.011134  -0.573 0.566914
##
## (Intercept)                             *
## PDS_score                               ***
## hormone_scr_ert_mean
## accumbens_rvsn_ant_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed              *
## race.ethnicity.5levelOther              *
## race.ethnicity.5levelWhite
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:accumbens_rvsn_ant_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0115
## lmer.REML =  11518  Scale est. = 10.565    n = 1870
```

Males

```
##
```

```
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     accumbens_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                        Estimate Std. Error t value Pr(>|t|)
## (Intercept)                            0.827481   2.101594   0.394  0.69382
## PDS_score                              0.803710   0.247925   3.242  0.00121
## hormone_scr_ert_mean                  -0.001469   0.008279  -0.177  0.85920
## accumbens_rvsn_ant_z                  -0.223974   0.362232  -0.618  0.53644
## race.ethnicity.5levelBlack             1.003326   0.916447   1.095  0.27375
## race.ethnicity.5levelMixed             2.772588   0.901195   3.077  0.00212
## race.ethnicity.5levelOther             2.732707   1.034747   2.641  0.00834
## race.ethnicity.5levelWhite             2.068040   0.847370   2.441  0.01476
## demo_race_hispanic1                    0.093109   0.347147   0.268  0.78857
## interview_age                          0.007231   0.016641   0.435  0.66395
## hormone_scr_ert_mean:accumbens_rvsn_ant_z  0.003830  0.010773   0.355  0.72227
##
## (Intercept)
## PDS_score                            **
## hormone_scr_ert_mean
## accumbens_rvsn_ant_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed           **
## race.ethnicity.5levelOther           **
## race.ethnicity.5levelWhite           *
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:accumbens_rvsn_ant_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00989
## lmer.REML =  11513  Scale est. = 17.508    n = 1873
```

4.15 Model: CBCL internalizing factor ~ Testosterone x Caudate activity (anticipation stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     caudate_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
```

```
## Parametric coefficients:
##                                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)                          4.5348882  2.1219447   2.137 0.032717
## PDS_score                            0.6845890  0.1914868   3.575 0.000359
## hormone_scr_ert_mean                 0.0028676  0.0081083   0.354 0.723629
## caudate_rvsn_ant_z                  -0.0035717  0.3299659  -0.011 0.991365
## race.ethnicity.5levelBlack           0.2633481  0.8995029   0.293 0.769730
## race.ethnicity.5levelMixed           2.1525889  0.8777123   2.452 0.014278
## race.ethnicity.5levelOther           2.2184539  0.9953510   2.229 0.025945
## race.ethnicity.5levelWhite           1.3332409  0.8235547   1.619 0.105642
## demo_race_hispanic1                  0.3429821  0.3576367   0.959 0.337672
## interview_age                       -0.0193397  0.0169371  -1.142 0.253662
## hormone_scr_ert_mean:caudate_rvsn_ant_z  0.0001989  0.0087533   0.023 0.981875
##
## (Intercept)                        *
## PDS_score                          ***
## hormone_scr_ert_mean
## caudate_rvsn_ant_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed         *
## race.ethnicity.5levelOther         *
## race.ethnicity.5levelWhite
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:caudate_rvsn_ant_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0113
## lmer.REML =  11506  Scale est. = 10.618    n = 1868
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     caudate_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 1.085264   2.112341   0.514 0.607472
## PDS_score                   0.817312   0.247909   3.297 0.000996
## hormone_scr_ert_mean       -0.001257   0.008331  -0.151 0.880078
## caudate_rvsn_ant_z          0.210667   0.287271   0.733 0.463446
## race.ethnicity.5levelBlack  0.898481   0.937823   0.958 0.338162
## race.ethnicity.5levelMixed  2.713893   0.923809   2.938 0.003347
## race.ethnicity.5levelOther  2.659580   1.052711   2.526 0.011606
## race.ethnicity.5levelWhite  1.977981   0.871688   2.269 0.023374
## demo_race_hispanic1         0.092823   0.349225   0.266 0.790425
```

```
## interview_age                                  0.005767   0.016687   0.346 0.729694
## hormone_scr_ert_mean:caudate_rvsn_ant_z -0.009248   0.008064  -1.147 0.251597
##
## (Intercept)
## PDS_score                                ***
## hormone_scr_ert_mean
## caudate_rvsn_ant_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed               **
## race.ethnicity.5levelOther               *
## race.ethnicity.5levelWhite               *
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:caudate_rvsn_ant_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0103
## lmer.REML =  11507  Scale est. = 17.744    n = 1871
```

4.16 Model: CBCL internalizing factor ~ Testosterone x Putamen activity (anticipation stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##      putamen_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##      interview_age
##
## Parametric coefficients:
##                                           Estimate Std. Error t value Pr(>|t|)
## (Intercept)                               4.341820   2.117114   2.051 0.040425
## PDS_score                                 0.685162   0.191490   3.578 0.000355
## hormone_scr_ert_mean                      0.001752   0.008077   0.217 0.828324
## putamen_rvsn_ant_z                       -0.194659   0.331833  -0.587 0.557532
## race.ethnicity.5levelBlack                0.318982   0.895454   0.356 0.721714
## race.ethnicity.5levelMixed                2.189852   0.874549   2.504 0.012366
## race.ethnicity.5levelOther                2.243043   0.994948   2.254 0.024285
## race.ethnicity.5levelWhite                1.316069   0.820336   1.604 0.108817
## demo_race_hispanic1                       0.361351   0.357142   1.012 0.311772
## interview_age                            -0.017509   0.016893  -1.036 0.300127
## hormone_scr_ert_mean:putamen_rvsn_ant_z  0.004550   0.008692   0.523 0.600715
##
## (Intercept)                              *
## PDS_score                                ***
## hormone_scr_ert_mean
## putamen_rvsn_ant_z
## race.ethnicity.5levelBlack
```

```
## race.ethnicity.5levelMixed              *
## race.ethnicity.5levelOther              *
## race.ethnicity.5levelWhite
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:putamen_rvsn_ant_z
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0114
## lmer.REML =  11482  Scale est. = 10.569    n = 1866
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     putamen_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)                     0.934510   2.107235   0.443 0.657473
## PDS_score                       0.833556   0.248783   3.351 0.000823
## hormone_scr_ert_mean           -0.001062   0.008318  -0.128 0.898383
## putamen_rvsn_ant_z              0.361272   0.284515   1.270 0.204322
## race.ethnicity.5levelBlack      0.931856   0.936204   0.995 0.319693
## race.ethnicity.5levelMixed      2.713552   0.919864   2.950 0.003218
## race.ethnicity.5levelOther      2.461640   1.054510   2.334 0.019681
## race.ethnicity.5levelWhite      1.962977   0.869640   2.257 0.024109
## demo_race_hispanic1             0.054678   0.348490   0.157 0.875342
## interview_age                   0.007025   0.016652   0.422 0.673168
## hormone_scr_ert_mean:putamen_rvsn_ant_z -0.015096   0.007797  -1.936 0.053022
##
## (Intercept)
## PDS_score                        ***
## hormone_scr_ert_mean
## putamen_rvsn_ant_z
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed       **
## race.ethnicity.5levelOther       *
## race.ethnicity.5levelWhite       *
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:putamen_rvsn_ant_z .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0113
```

```
## lmer.REML =  11495  Scale est. = 17.146    n = 1871
```

4.17 Model: CBCL internalizing factor ~ Testosterone x Accumbens activity (feedback stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     accumbens_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                                       Estimate Std. Error t value
## (Intercept)                                           4.189255   2.110672   1.985
## PDS_score                                             0.677795   0.190161   3.564
## hormone_scr_ert_mean                                  0.002331   0.008078   0.289
## accumbens_posvsneg_feedback_z                         0.319909   0.465170   0.688
## race.ethnicity.5levelBlack                            0.284555   0.894195   0.318
## race.ethnicity.5levelMixed                            2.101703   0.874015   2.405
## race.ethnicity.5levelOther                            2.296337   0.991434   2.316
## race.ethnicity.5levelWhite                            1.361645   0.820086   1.660
## demo_race_hispanic1                                   0.271252   0.357796   0.758
## interview_age                                        -0.016437   0.016839  -0.976
## hormone_scr_ert_mean:accumbens_posvsneg_feedback_z   -0.010360   0.012227  -0.847
##                                                       Pr(>|t|)
## (Intercept)                                           0.047314 *
## PDS_score                                             0.000374 ***
## hormone_scr_ert_mean                                  0.772937
## accumbens_posvsneg_feedback_z                         0.491712
## race.ethnicity.5levelBlack                            0.750350
## race.ethnicity.5levelMixed                            0.016285 *
## race.ethnicity.5levelOther                            0.020657 *
## race.ethnicity.5levelWhite                            0.097009 .
## demo_race_hispanic1                                   0.448475
## interview_age                                         0.329146
## hormone_scr_ert_mean:accumbens_posvsneg_feedback_z   0.396926
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0107
## lmer.REML =  11518  Scale est. = 10.473    n = 1873
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
```

```
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     accumbens_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                                         Estimate Std. Error t value
## (Intercept)                                             0.656423   2.086433   0.315
## PDS_score                                               0.765509   0.245555   3.117
## hormone_scr_ert_mean                                   -0.002612   0.008365  -0.312
## accumbens_posvsneg_feedback_z                           0.304056   0.375225   0.810
## race.ethnicity.5levelBlack                              1.112216   0.908426   1.224
## race.ethnicity.5levelMixed                              2.833993   0.891611   3.179
## race.ethnicity.5levelOther                              2.908731   1.024126   2.840
## race.ethnicity.5levelWhite                              2.084747   0.838662   2.486
## demo_race_hispanic1                                     0.062542   0.345129   0.181
## interview_age                                           0.008752   0.016534   0.529
## hormone_scr_ert_mean:accumbens_posvsneg_feedback_z      0.001400   0.010561   0.133
##                                                         Pr(>|t|)
## (Intercept)                                             0.75309
## PDS_score                                               0.00185 **
## hormone_scr_ert_mean                                    0.75491
## accumbens_posvsneg_feedback_z                           0.41785
## race.ethnicity.5levelBlack                              0.22098
## race.ethnicity.5levelMixed                              0.00150 **
## race.ethnicity.5levelOther                              0.00456 **
## race.ethnicity.5levelWhite                              0.01301 *
## demo_race_hispanic1                                     0.85622
## interview_age                                           0.59665
## hormone_scr_ert_mean:accumbens_posvsneg_feedback_z      0.89454
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0113
## lmer.REML =  11454  Scale est. = 18.024    n = 1869
```

4.18 Model: CBCL internalizing factor ~ Testosterone x Caudate activity (Feedback stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     caudate_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                     Estimate Std. Error t value
## (Intercept)                         4.554e+00  2.125e+00   2.143
## PDS_score                           7.006e-01  1.917e-01   3.656
```

```
## hormone_scr_ert_mean                                         2.420e-03  8.112e-03   0.298
## caudate_posvsneg_feedback_z                                 -1.997e-01  3.265e-01  -0.612
## race.ethnicity.5levelBlack                                   2.948e-01  8.991e-01   0.328
## race.ethnicity.5levelMixed                                   2.101e+00  8.768e-01   2.396
## race.ethnicity.5levelOther                                   2.103e+00  9.960e-01   2.112
## race.ethnicity.5levelWhite                                   1.291e+00  8.229e-01   1.569
## demo_race_hispanic1                                          3.428e-01  3.598e-01   0.953
## interview_age                                               -1.950e-02  1.697e-02  -1.149
## hormone_scr_ert_mean:caudate_posvsneg_feedback_z -8.056e-06  8.468e-03  -0.001
##                                                              Pr(>|t|)
## (Intercept)                                                  0.032269 *
## PDS_score                                                    0.000264 ***
## hormone_scr_ert_mean                                         0.765486
## caudate_posvsneg_feedback_z                                  0.540722
## race.ethnicity.5levelBlack                                   0.743000
## race.ethnicity.5levelMixed                                   0.016683 *
## race.ethnicity.5levelOther                                   0.034831 *
## race.ethnicity.5levelWhite                                   0.116767
## demo_race_hispanic1                                          0.340801
## interview_age                                                0.250598
## hormone_scr_ert_mean:caudate_posvsneg_feedback_z 0.999241
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0122
## lmer.REML =  11483  Scale est. = 10.562    n = 1865
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     caudate_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                                     Estimate Std. Error t value
## (Intercept)                                        1.3853505  2.1141365   0.655
## PDS_score                                          0.8405454  0.2482247   3.386
## hormone_scr_ert_mean                              -0.0003595  0.0083567  -0.043
## caudate_posvsneg_feedback_z                        0.0394485  0.3248035   0.121
## race.ethnicity.5levelBlack                         0.9893125  0.9257562   1.069
## race.ethnicity.5levelMixed                         2.7620204  0.9104401   3.034
## race.ethnicity.5levelOther                         2.7653144  1.0394684   2.660
## race.ethnicity.5levelWhite                         2.0516687  0.8573196   2.393
## demo_race_hispanic1                                0.1355263  0.3485331   0.389
## interview_age                                      0.0018915  0.0166800   0.113
## hormone_scr_ert_mean:caudate_posvsneg_feedback_z  0.0037307  0.0092346   0.404
##                                                     Pr(>|t|)
## (Intercept)                                         0.512369
```

```
## PDS_score                                            0.000723 ***
## hormone_scr_ert_mean                                 0.965687
## caudate_posvsneg_feedback_z                          0.903345
## race.ethnicity.5levelBlack                           0.285365
## race.ethnicity.5levelMixed                           0.002449 **
## race.ethnicity.5levelOther                           0.007874 **
## race.ethnicity.5levelWhite                           0.016804 *
## demo_race_hispanic1                                  0.697433
## interview_age                                        0.909724
## hormone_scr_ert_mean:caudate_posvsneg_feedback_z 0.686270
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0103
## lmer.REML =  11503  Scale est. = 17.709    n = 1871
```

4.19 Model: CBCL internalizing factor ~ Testosterone x Putamen activity (Feedback stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     putamen_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                              Estimate Std. Error t value
## (Intercept)                                  4.287337   2.120112   2.022
## PDS_score                                    0.674074   0.191044   3.528
## hormone_scr_ert_mean                         0.002856   0.008144   0.351
## putamen_posvsneg_feedback_z                 -0.057460   0.364195  -0.158
## race.ethnicity.5levelBlack                   0.353506   0.899655   0.393
## race.ethnicity.5levelMixed                   2.143254   0.876523   2.445
## race.ethnicity.5levelOther                   2.180848   0.997524   2.186
## race.ethnicity.5levelWhite                   1.325057   0.823209   1.610
## demo_race_hispanic1                          0.360481   0.359323   1.003
## interview_age                               -0.017350   0.016925  -1.025
## hormone_scr_ert_mean:putamen_posvsneg_feedback_z -0.003165   0.009367  -0.338
##                                              Pr(>|t|)
## (Intercept)                                  0.043297 *
## PDS_score                                    0.000428 ***
## hormone_scr_ert_mean                         0.725826
## putamen_posvsneg_feedback_z                  0.874653
## race.ethnicity.5levelBlack                   0.694413
## race.ethnicity.5levelMixed                   0.014571 *
## race.ethnicity.5levelOther                   0.028921 *
## race.ethnicity.5levelWhite                   0.107650
## demo_race_hispanic1                          0.315884
```

```
## interview_age                                      0.305453
## hormone_scr_ert_mean:putamen_posvsneg_feedback_z 0.735491
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0116
## lmer.REML =  11483  Scale est. = 10.565    n = 1865
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     putamen_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                            Estimate Std. Error t value
## (Intercept)                                0.9611155  2.1101773   0.455
## PDS_score                                  0.8176842  0.2484107   3.292
## hormone_scr_ert_mean                       0.0002681  0.0083787   0.032
## putamen_posvsneg_feedback_z                0.3306721  0.3251871   1.017
## race.ethnicity.5levelBlack                 1.0236441  0.9185222   1.114
## race.ethnicity.5levelMixed                 2.8148709  0.9028527   3.118
## race.ethnicity.5levelOther                 2.8319892  1.0337642   2.739
## race.ethnicity.5levelWhite                 2.1176635  0.8496222   2.492
## demo_race_hispanic1                        0.0681445  0.3504727   0.194
## interview_age                              0.0051637  0.0166850   0.309
## hormone_scr_ert_mean:putamen_posvsneg_feedback_z -0.0049109  0.0091615  -0.536
##                                            Pr(>|t|)
## (Intercept)                                0.64883
## PDS_score                                  0.00101 **
## hormone_scr_ert_mean                       0.97447
## putamen_posvsneg_feedback_z                0.30935
## race.ethnicity.5levelBlack                 0.26523
## race.ethnicity.5levelMixed                 0.00185 **
## race.ethnicity.5levelOther                 0.00621 **
## race.ethnicity.5levelWhite                 0.01277 *
## demo_race_hispanic1                        0.84586
## interview_age                              0.75699
## hormone_scr_ert_mean:putamen_posvsneg_feedback_z  0.59200
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0101
## lmer.REML =  11552  Scale est. = 17.82     n = 1877
```

4.20 Model: CBCL internalizing factor ~ Testosterone x Lateral OFC activity (anticipation stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     lOFC_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)                      4.386035   2.139491   2.050 0.040501 *
## PDS_score                        0.658410   0.191838   3.432 0.000612 ***
## hormone_scr_ert_mean             0.003086   0.008159   0.378 0.705274
## lOFC_rvsn_ant_z                  0.330589   0.491379   0.673 0.501172
## race.ethnicity.5levelBlack       0.227744   0.906920   0.251 0.801751
## race.ethnicity.5levelMixed       2.115228   0.887612   2.383 0.017270 *
## race.ethnicity.5levelOther       2.179843   1.007403   2.164 0.030605 *
## race.ethnicity.5levelWhite       1.276544   0.832855   1.533 0.125512
## demo_race_hispanic1              0.358385   0.359093   0.998 0.318396
## interview_age                   -0.017460   0.017050  -1.024 0.305924
## hormone_scr_ert_mean:lOFC_rvsn_ant_z -0.007097 0.012725 -0.558 0.577086
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0109
## lmer.REML =  11483  Scale est. = 10.83     n = 1864
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     lOFC_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)                      0.143556   2.082627   0.069 0.94505
## PDS_score                        0.732637   0.247926   2.955 0.00317 **
## hormone_scr_ert_mean            -0.003482   0.008272  -0.421 0.67386
## lOFC_rvsn_ant_z                  0.319893   0.424799   0.753 0.45152
## race.ethnicity.5levelBlack       0.983069   0.907154   1.084 0.27865
## race.ethnicity.5levelMixed       2.709157   0.891327   3.039 0.00240 **
## race.ethnicity.5levelOther       2.662592   1.023037   2.603 0.00932 **
## race.ethnicity.5levelWhite       1.966634   0.837446   2.348 0.01896 *
```

```
## demo_race_hispanic1                       -0.020222   0.345180  -0.059  0.95329
## interview_age                               0.014830   0.016517   0.898  0.36937
## hormone_scr_ert_mean:lOFC_rvsn_ant_z -0.011983   0.012283  -0.976  0.32939
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00876
## lmer.REML =  11454  Scale est. = 17.139    n = 1870
```

4.21 Model: CBCL internalizing factor ~ Testosterone x Medial OFC activity (anticipation stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     mOFC_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)                         4.202280   2.132609   1.970 0.048931 *
## PDS_score                           0.676571   0.191614   3.531 0.000424 ***
## hormone_scr_ert_mean                0.002583   0.008127   0.318 0.750694
## mOFC_rvsn_ant_z                     0.063317   0.437193   0.145 0.884864
## race.ethnicity.5levelBlack          0.216029   0.906342   0.238 0.811634
## race.ethnicity.5levelMixed          2.115741   0.887454   2.384 0.017223 *
## race.ethnicity.5levelOther          2.218632   1.008524   2.200 0.027938 *
## race.ethnicity.5levelWhite          1.295692   0.832708   1.556 0.119879
## demo_race_hispanic1                 0.351711   0.358836   0.980 0.327142
## interview_age                      -0.016049   0.016989  -0.945 0.344951
## hormone_scr_ert_mean:mOFC_rvsn_ant_z 0.002991  0.011334   0.264 0.791898
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0115
## lmer.REML =  11480  Scale est. = 10.572    n = 1864
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     mOFC_rvsn_ant_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
```

```
## Parametric coefficients:
##                                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)                         0.3794183  2.0930053   0.181  0.85617
## PDS_score                           0.7418269  0.2477609   2.994  0.00279 **
## hormone_scr_ert_mean               -0.0047195  0.0082694  -0.571  0.56826
## mOFC_rvsn_ant_z                     0.2166666  0.3858311   0.562  0.57449
## race.ethnicity.5levelBlack          1.0066068  0.9112426   1.105  0.26945
## race.ethnicity.5levelMixed          2.6544268  0.8948998   2.966  0.00305 **
## race.ethnicity.5levelOther          2.6516682  1.0247281   2.588  0.00974 **
## race.ethnicity.5levelWhite          1.9777066  0.8411090   2.351  0.01881 *
## demo_race_hispanic1                 0.0431677  0.3460332   0.125  0.90073
## interview_age                       0.0130179  0.0165828   0.785  0.43254
## hormone_scr_ert_mean:mOFC_rvsn_ant_z -0.0003209 0.0108689  -0.030  0.97645
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00947
## lmer.REML =  11431  Scale est. = 17.29     n = 1864
```

4.22 Model: CBCL internalizing factor ~ Testosterone x Lateral OFC activity (feedback stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     lOFC_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                     Estimate Std. Error t value
## (Intercept)                          4.334290   2.117637   2.047
## PDS_score                            0.673271   0.190513   3.534
## hormone_scr_ert_mean                 0.001130   0.008091   0.140
## lOFC_posvsneg_feedback_z             0.550378   0.567460   0.970
## race.ethnicity.5levelBlack           0.298496   0.894428   0.334
## race.ethnicity.5levelMixed           2.147933   0.873735   2.458
## race.ethnicity.5levelOther           2.515196   0.999082   2.518
## race.ethnicity.5levelWhite           1.364823   0.819389   1.666
## demo_race_hispanic1                  0.238185   0.357406   0.666
## interview_age                       -0.017253   0.016901  -1.021
## hormone_scr_ert_mean:lOFC_posvsneg_feedback_z -0.019692 0.014952 -1.317
##                                     Pr(>|t|)
## (Intercept)                         0.040823 *
## PDS_score                           0.000419 ***
## hormone_scr_ert_mean                0.888980
## lOFC_posvsneg_feedback_z            0.332224
## race.ethnicity.5levelBlack          0.738622
## race.ethnicity.5levelMixed          0.014049 *
```

```
## race.ethnicity.5levelOther                            0.011903 *
## race.ethnicity.5levelWhite                            0.095950 .
## demo_race_hispanic1                                   0.505222
## interview_age                                         0.307481
## hormone_scr_ert_mean:lOFC_posvsneg_feedback_z 0.188010
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0128
## lmer.REML =  11471  Scale est. = 10.543    n = 1865
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     lOFC_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                               Estimate Std. Error t value
## (Intercept)                                   0.708612   2.083849   0.340
## PDS_score                                     0.780740   0.246067   3.173
## hormone_scr_ert_mean                         -0.003771   0.008293  -0.455
## lOFC_posvsneg_feedback_z                      0.082718   0.469392   0.176
## race.ethnicity.5levelBlack                    1.065934   0.909266   1.172
## race.ethnicity.5levelMixed                    2.800502   0.892576   3.138
## race.ethnicity.5levelOther                    2.630253   1.028645   2.557
## race.ethnicity.5levelWhite                    2.031878   0.839607   2.420
## demo_race_hispanic1                           0.054049   0.346076   0.156
## interview_age                                 0.009165   0.016504   0.555
## hormone_scr_ert_mean:lOFC_posvsneg_feedback_z 0.001315   0.013021   0.101
##                                               Pr(>|t|)
## (Intercept)                                   0.73386
## PDS_score                                     0.00153 **
## hormone_scr_ert_mean                          0.64939
## lOFC_posvsneg_feedback_z                      0.86014
## race.ethnicity.5levelBlack                    0.24123
## race.ethnicity.5levelMixed                    0.00173 **
## race.ethnicity.5levelOther                    0.01064 *
## race.ethnicity.5levelWhite                    0.01561 *
## demo_race_hispanic1                           0.87591
## interview_age                                 0.57873
## hormone_scr_ert_mean:lOFC_posvsneg_feedback_z 0.91958
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00915
## lmer.REML =  11513  Scale est. = 17.224    n = 1878
```

4.23 Model: CBCL internalizing factor ~ Testosterone x Medial OFC activity (feedback stage) + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     mOFC_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                              Estimate Std. Error t value
## (Intercept)                                  4.369334   2.116941   2.064
## PDS_score                                    0.684020   0.190714   3.587
## hormone_scr_ert_mean                         0.002015   0.008095   0.249
## mOFC_posvsneg_feedback_z                     0.562287   0.484833   1.160
## race.ethnicity.5levelBlack                   0.271402   0.896065   0.303
## race.ethnicity.5levelMixed                   2.143308   0.874392   2.451
## race.ethnicity.5levelOther                   2.290652   0.993534   2.306
## race.ethnicity.5levelWhite                   1.335606   0.819977   1.629
## demo_race_hispanic1                          0.315052   0.357365   0.882
## interview_age                               -0.017840   0.016903  -1.055
## hormone_scr_ert_mean:mOFC_posvsneg_feedback_z -0.019533   0.012998  -1.503
##                                              Pr(>|t|)
## (Intercept)                                  0.039158 *
## PDS_score                                    0.000344 ***
## hormone_scr_ert_mean                         0.803458
## mOFC_posvsneg_feedback_z                     0.246298
## race.ethnicity.5levelBlack                   0.762013
## race.ethnicity.5levelMixed                   0.014330 *
## race.ethnicity.5levelOther                   0.021245 *
## race.ethnicity.5levelWhite                   0.103518
## demo_race_hispanic1                          0.378109
## interview_age                                0.291362
## hormone_scr_ert_mean:mOFC_posvsneg_feedback_z 0.133070
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0133
## lmer.REML =  11481  Scale est. = 10.705    n = 1866
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     mOFC_posvsneg_feedback_z + race.ethnicity.5level + demo_race_hispanic +
```

```
##      interview_age
##
## Parametric coefficients:
##                                                 Estimate Std. Error t value
## (Intercept)                                     0.698369   2.080425   0.336
## PDS_score                                       0.787679   0.246180   3.200
## hormone_scr_ert_mean                           -0.003648   0.008294  -0.440
## mOFC_posvsneg_feedback_z                        0.534975   0.419242   1.276
## race.ethnicity.5levelBlack                      1.032102   0.908791   1.136
## race.ethnicity.5levelMixed                      2.828046   0.892475   3.169
## race.ethnicity.5levelOther                      2.683977   1.025478   2.617
## race.ethnicity.5levelWhite                      2.028699   0.839404   2.417
## demo_race_hispanic1                             0.025745   0.345377   0.075
## interview_age                                   0.009149   0.016473   0.555
## hormone_scr_ert_mean:mOFC_posvsneg_feedback_z  -0.006684   0.012015  -0.556
##                                                 Pr(>|t|)
## (Intercept)                                      0.73715
## PDS_score                                        0.00140 **
## hormone_scr_ert_mean                             0.66016
## mOFC_posvsneg_feedback_z                         0.20210
## race.ethnicity.5levelBlack                       0.25623
## race.ethnicity.5levelMixed                       0.00156 **
## race.ethnicity.5levelOther                       0.00893 **
## race.ethnicity.5levelWhite                       0.01575 *
## demo_race_hispanic1                              0.94059
## interview_age                                    0.57869
## hormone_scr_ert_mean:mOFC_posvsneg_feedback_z    0.57807
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0111
## lmer.REML =  11500  Scale est. = 17.336    n = 1876
```

4.24 Model: CBCL internalizing factor ~ Testosterone x BIS-BAS RR + PDS

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     bisbas_ss_basm_rr + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 3.020293   2.129138   1.419 0.156158
## PDS_score                   0.626624   0.169756   3.691 0.000228
## hormone_scr_ert_mean       -0.009565   0.025287  -0.378 0.705274
## bisbas_ss_basm_rr          -0.084205   0.110618  -0.761 0.446597
## race.ethnicity.5levelBlack -0.041861   0.799020  -0.052 0.958222
## race.ethnicity.5levelMixed  1.640258   0.791942   2.071 0.038447
```

```
## race.ethnicity.5levelOther                   2.486882   0.909634   2.734 0.006304
## race.ethnicity.5levelWhite                   1.312543   0.742548   1.768 0.077250
## demo_race_hispanic1                          0.027915   0.326365   0.086 0.931844
## interview_age                                0.003614   0.015214   0.238 0.812240
## hormone_scr_ert_mean:bisbas_ss_basm_rr       0.001030   0.002812   0.366 0.714173
##
## (Intercept)
## PDS_score                               ***
## hormone_scr_ert_mean
## bisbas_ss_basm_rr
## race.ethnicity.5levelBlack
## race.ethnicity.5levelMixed              *
## race.ethnicity.5levelOther              **
## race.ethnicity.5levelWhite              .
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:bisbas_ss_basm_rr
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.011
## lmer.REML =  15183  Scale est. = 12.902    n = 2443
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     bisbas_ss_basm_rr + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)                             2.9448720  2.0990033   1.403   0.1607
## PDS_score                               0.9727679  0.2130504   4.566  5.2e-06
## hormone_scr_ert_mean                   -0.0077391  0.0275009  -0.281   0.7784
## bisbas_ss_basm_rr                      -0.0374799  0.1024260  -0.366   0.7145
## race.ethnicity.5levelBlack              1.2176099  0.7861775   1.549   0.1216
## race.ethnicity.5levelMixed              1.9522652  0.7835021   2.492   0.0128
## race.ethnicity.5levelOther              1.6180798  0.9000651   1.798   0.0723
## race.ethnicity.5levelWhite              1.4443559  0.7343462   1.967   0.0493
## demo_race_hispanic1                     0.3039554  0.3133667   0.970   0.3322
## interview_age                          -0.0030757  0.0148819  -0.207   0.8363
## hormone_scr_ert_mean:bisbas_ss_basm_rr  0.0007827  0.0029404   0.266   0.7901
##
## (Intercept)
## PDS_score                               ***
## hormone_scr_ert_mean
## bisbas_ss_basm_rr
## race.ethnicity.5levelBlack
```

```
## race.ethnicity.5levelMixed           *
## race.ethnicity.5levelOther           .
## race.ethnicity.5levelWhite           *
## demo_race_hispanic1
## interview_age
## hormone_scr_ert_mean:bisbas_ss_basm_rr
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00648
## lmer.REML =  16521  Scale est. = 16.034    n = 2641
```

4.25 Model: CBCL internalizing factor ~ Testosterone x MID Reaction Time + PDS (large reward vs. neutral)

Females

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     rt_diff_large_neutral_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                            Estimate Std. Error t value
## (Intercept)                                4.907852   2.030911   2.417
## PDS_score                                  0.640866   0.184675   3.470
## hormone_scr_ert_mean                       0.002747   0.007808   0.352
## rt_diff_large_neutral_z                   -0.234637   0.297943  -0.788
## race.ethnicity.5levelBlack                 0.234371   0.848919   0.276
## race.ethnicity.5levelMixed                 2.018688   0.835051   2.417
## race.ethnicity.5levelOther                 2.518939   0.951958   2.646
## race.ethnicity.5levelWhite                 1.333646   0.780222   1.709
## demo_race_hispanic1                        0.310120   0.350440   0.885
## interview_age                             -0.021805   0.016262  -1.341
## hormone_scr_ert_mean:rt_diff_large_neutral_z  0.010522   0.007540   1.395
##                                            Pr(>|t|)
## (Intercept)                                0.015756 *
## PDS_score                                  0.000531 ***
## hormone_scr_ert_mean                       0.725032
## rt_diff_large_neutral_z                    0.431069
## race.ethnicity.5levelBlack                 0.782514
## race.ethnicity.5levelMixed                 0.015719 *
## race.ethnicity.5levelOther                 0.008207 **
## race.ethnicity.5levelWhite                 0.087547 .
## demo_race_hispanic1                        0.376293
## interview_age                              0.180119
## hormone_scr_ert_mean:rt_diff_large_neutral_z 0.163025
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
##
## R-sq.(adj) =  0.0141
## lmer.REML =  12398  Scale est. = 11.344    n = 2014
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     rt_diff_large_neutral_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                             Estimate Std. Error t value
## (Intercept)                                1.417e+00  2.019e+00   0.702
## PDS_score                                  7.079e-01  2.365e-01   2.994
## hormone_scr_ert_mean                       3.882e-05  7.949e-03   0.005
## rt_diff_large_neutral_z                    4.941e-01  2.912e-01   1.697
## race.ethnicity.5levelBlack                 6.221e-01  8.861e-01   0.702
## race.ethnicity.5levelMixed                 2.099e+00  8.748e-01   2.399
## race.ethnicity.5levelOther                 1.774e+00  1.003e+00   1.769
## race.ethnicity.5levelWhite                 1.389e+00  8.256e-01   1.683
## demo_race_hispanic1                        1.517e-01  3.361e-01   0.451
## interview_age                              8.579e-03  1.592e-02   0.539
## hormone_scr_ert_mean:rt_diff_large_neutral_z -9.990e-03  8.000e-03  -1.249
##                                             Pr(>|t|)
## (Intercept)                                 0.48275
## PDS_score                                   0.00279 **
## hormone_scr_ert_mean                        0.99610
## rt_diff_large_neutral_z                     0.08994 .
## race.ethnicity.5levelBlack                  0.48278
## race.ethnicity.5levelMixed                  0.01651 *
## race.ethnicity.5levelOther                  0.07711 .
## race.ethnicity.5levelWhite                  0.09253 .
## demo_race_hispanic1                         0.65185
## interview_age                               0.58996
## hormone_scr_ert_mean:rt_diff_large_neutral_z  0.21194
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.0066
## lmer.REML =  12948  Scale est. = 17.517    n = 2097
```

4.26 Model: CBCL internalizing factor ~ Testosterone x MID Reaction Time + PDS (large vs. small reward)

Females

```
##
## Family: gaussian
```

```
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     rt_diff_large_small_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                          Estimate Std. Error t value
## (Intercept)                              4.831194   2.029794   2.380
## PDS_score                                0.653073   0.184699   3.536
## hormone_scr_ert_mean                     0.001929   0.007810   0.247
## rt_diff_large_small_z                   -0.398204   0.291988  -1.364
## race.ethnicity.5levelBlack               0.219698   0.848951   0.259
## race.ethnicity.5levelMixed               2.006919   0.835252   2.403
## race.ethnicity.5levelOther               2.487240   0.952491   2.611
## race.ethnicity.5levelWhite               1.329151   0.780631   1.703
## demo_race_hispanic1                      0.281757   0.350482   0.804
## interview_age                           -0.020947   0.016244  -1.289
## hormone_scr_ert_mean:rt_diff_large_small_z  0.007625   0.007555   1.009
##                                          Pr(>|t|)
## (Intercept)                              0.017399 *
## PDS_score                                0.000416 ***
## hormone_scr_ert_mean                     0.804974
## rt_diff_large_small_z                    0.172793
## race.ethnicity.5levelBlack               0.795825
## race.ethnicity.5levelMixed               0.016362 *
## race.ethnicity.5levelOther               0.009087 **
## race.ethnicity.5levelWhite               0.088786 .
## demo_race_hispanic1                      0.421543
## interview_age                            0.197374
## hormone_scr_ert_mean:rt_diff_large_small_z 0.312973
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =   0.0132
## lmer.REML =  12399  Scale est. = 11.209    n = 2014
```

Males

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## cbcl_scr_syn_internal_r ~ PDS_score + hormone_scr_ert_mean *
##     rt_diff_large_small_z + race.ethnicity.5level + demo_race_hispanic +
##     interview_age
##
## Parametric coefficients:
##                                          Estimate Std. Error t value
## (Intercept)                              1.490e+00  2.021e+00   0.737
## PDS_score                                6.957e-01  2.364e-01   2.943
```

```
## hormone_scr_ert_mean                          -1.804e-05  7.958e-03  -0.002
## rt_diff_large_small_z                          -3.445e-02  2.898e-01  -0.119
## race.ethnicity.5levelBlack                      5.962e-01  8.868e-01   0.672
## race.ethnicity.5levelMixed                      2.051e+00  8.751e-01   2.343
## race.ethnicity.5levelOther                      1.703e+00  1.004e+00   1.697
## race.ethnicity.5levelWhite                      1.352e+00  8.260e-01   1.637
## demo_race_hispanic1                             1.438e-01  3.362e-01   0.428
## interview_age                                   8.480e-03  1.594e-02   0.532
## hormone_scr_ert_mean:rt_diff_large_small_z -6.380e-04  8.294e-03  -0.077
##                                            Pr(>|t|)
## (Intercept)                                 0.46128
## PDS_score                                   0.00329 **
## hormone_scr_ert_mean                        0.99819
## rt_diff_large_small_z                       0.90539
## race.ethnicity.5levelBlack                  0.50146
## race.ethnicity.5levelMixed                  0.01921 *
## race.ethnicity.5levelOther                  0.08992 .
## race.ethnicity.5levelWhite                  0.10178
## demo_race_hispanic1                         0.66891
## interview_age                               0.59480
## hormone_scr_ert_mean:rt_diff_large_small_z  0.93869
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.00521
## lmer.REML =  12951  Scale est. = 17.541    n = 2097
```

5— Correlation Matrix —

Females

x1	x2	N	corr	p
bmi	interview_age	2675	0.0777979236	0.00005626170294
PDS_score	interview_age	2701	0.2397245643	0.00000000000000
PDS_score	bmi	2675	0.2883194569	0.00000000000000
hormone_scr_ert_mean_z	interview_age	2514	0.2111922127	0.00000000000000
hormone_scr_ert_mean_z	bmi	2488	0.2011164615	0.00000000000000
hormone_scr_ert_mean_z	PDS_score	2514	0.3194091104	0.00000000000000
bisbas_ss_basm_rr_z	interview_age	2690	-0.0324228218	0.09270914672100
bisbas_ss_basm_rr_z	bmi	2664	0.0518639980	0.00741845859612
bisbas_ss_basm_rr_z	PDS_score	2690	0.0567567189	0.00323263005375
bisbas_ss_basm_rr_z	hormone_scr_ert_mean_z	2504	-0.0149523266	0.45453109921919
rt_diff_large_neutral_z	interview_age	2229	0.0444337653	0.03593351564517
rt_diff_large_neutral_z	bmi	2206	-0.0079826125	0.70786767361752
rt_diff_large_neutral_z	PDS_score	2229	-0.0029053436	0.89095865956824
rt_diff_large_neutral_z	hormone_scr_ert_mean_z	2088	-0.0216332136	0.32313034241508
rt_diff_large_neutral_z	bisbas_ss_basm_rr_z	2220	-0.0006405387	0.97593690877362
rt_diff_large_small_z	interview_age	2670	0.0230366901	0.23406473238670
rt_diff_large_small_z	bmi	2644	-0.0328692364	0.09106847419565
rt_diff_large_small_z	PDS_score	2670	-0.0413817023	0.03250118955765
rt_diff_large_small_z	hormone_scr_ert_mean_z	2485	-0.0097020116	0.62880384926321
rt_diff_large_small_z	bisbas_ss_basm_rr_z	2659	-0.0144401728	0.45669300328239

x1	x2	N	corr	p
rt_diff_large_small_z	rt_diff_large_neutral_z	2201	0.4179924701	0.00000000000000
cbcl_scr_syn_internal_r	interview_age	2701	0.0011506908	0.95233479027429
cbcl_scr_syn_internal_r	bmi	2675	0.0643351043	0.00087054703099
cbcl_scr_syn_internal_r	PDS_score	2701	0.0576397227	0.00272912600408
cbcl_scr_syn_internal_r	hormone_scr_ert_mean_z	2514	0.0149428266	0.45391772219594
cbcl_scr_syn_internal_r	bisbas_ss_basm_rr_z	2690	-0.0234766912	0.22351849161127
cbcl_scr_syn_internal_r	rt_diff_large_neutral_z	2229	0.0166852282	0.43107074180790
cbcl_scr_syn_internal_r	rt_diff_large_small_z	2670	-0.0296018351	0.12621335120845
accumbens_rvsn_ant_z	interview_age	2237	0.0114048219	0.58979774095617
accumbens_rvsn_ant_z	bmi	2214	-0.0481381380	0.02350742889809
accumbens_rvsn_ant_z	PDS_score	2237	-0.0022709471	0.91451215925587
accumbens_rvsn_ant_z	hormone_scr_ert_mean_z	2090	-0.0393773431	0.07188968575698
accumbens_rvsn_ant_z	bisbas_ss_basm_rr_z	2229	0.0080008151	0.70577908106748
accumbens_rvsn_ant_z	rt_diff_large_neutral_z	2084	0.0168178792	0.44287695646753
accumbens_rvsn_ant_z	rt_diff_large_small_z	2210	0.0353089645	0.09702006346739
accumbens_rvsn_ant_z	cbcl_scr_syn_internal_r	2237	-0.0011046109	0.95835696200010
caudate_rvsn_ant_z	interview_age	2236	0.0219258951	0.30004325750421
caudate_rvsn_ant_z	bmi	2213	-0.0383512800	0.07126491835157
caudate_rvsn_ant_z	PDS_score	2236	-0.0398572505	0.05951099252948
caudate_rvsn_ant_z	hormone_scr_ert_mean_z	2088	-0.0281662362	0.19825798097841
caudate_rvsn_ant_z	bisbas_ss_basm_rr_z	2228	-0.0060577944	0.77504638139374
caudate_rvsn_ant_z	rt_diff_large_neutral_z	2080	0.0235573317	0.28287521125039
caudate_rvsn_ant_z	rt_diff_large_small_z	2208	0.0367521919	0.08424539414039
caudate_rvsn_ant_z	cbcl_scr_syn_internal_r	2236	-0.0001264905	0.99523032935205
caudate_rvsn_ant_z	accumbens_rvsn_ant_z	2220	0.5792092513	0.00000000000000
putamen_rvsn_ant_z	interview_age	2232	0.0244479138	0.24827723868069
putamen_rvsn_ant_z	bmi	2209	-0.0416045359	0.05056502376294
putamen_rvsn_ant_z	PDS_score	2232	-0.0601145918	0.00449673509563
putamen_rvsn_ant_z	hormone_scr_ert_mean_z	2085	-0.0240042818	0.27326293836512
putamen_rvsn_ant_z	bisbas_ss_basm_rr_z	2224	-0.0131102287	0.53660946224109
putamen_rvsn_ant_z	rt_diff_large_neutral_z	2077	0.0499082533	0.02293157373042
putamen_rvsn_ant_z	rt_diff_large_small_z	2204	0.0538607480	0.01143913210648
putamen_rvsn_ant_z	cbcl_scr_syn_internal_r	2232	-0.0111745491	0.59774112699753
putamen_rvsn_ant_z	accumbens_rvsn_ant_z	2217	0.5211930815	0.00000000000000
putamen_rvsn_ant_z	caudate_rvsn_ant_z	2222	0.7924723553	0.00000000000000
mOFC_rvsn_ant_z	interview_age	2232	-0.0032585523	0.87771904452209
mOFC_rvsn_ant_z	bmi	2209	0.0097322978	0.64754891953160
mOFC_rvsn_ant_z	PDS_score	2232	0.0125397817	0.55376926292284
mOFC_rvsn_ant_z	hormone_scr_ert_mean_z	2083	-0.0097813355	0.65548035587513
mOFC_rvsn_ant_z	bisbas_ss_basm_rr_z	2224	0.0250930956	0.23685120157890
mOFC_rvsn_ant_z	rt_diff_large_neutral_z	2078	-0.0290937517	0.18493121340454
mOFC_rvsn_ant_z	rt_diff_large_small_z	2204	-0.0427995054	0.04452869186205
mOFC_rvsn_ant_z	cbcl_scr_syn_internal_r	2232	0.0179774938	0.39592448004348
mOFC_rvsn_ant_z	accumbens_rvsn_ant_z	2214	0.4036844310	0.00000000000000
mOFC_rvsn_ant_z	caudate_rvsn_ant_z	2212	0.3283875636	0.00000000000000
mOFC_rvsn_ant_z	putamen_rvsn_ant_z	2208	0.2865406556	0.00000000000000
lOFC_rvsn_ant_z	interview_age	2231	-0.0063722804	0.76355233506547
lOFC_rvsn_ant_z	bmi	2208	-0.0019274549	0.92787505975737
lOFC_rvsn_ant_z	PDS_score	2231	0.0026000006	0.90231424428102
lOFC_rvsn_ant_z	hormone_scr_ert_mean_z	2083	-0.0337687073	0.12338628130715
lOFC_rvsn_ant_z	bisbas_ss_basm_rr_z	2223	0.0074046540	0.72714318497904
lOFC_rvsn_ant_z	rt_diff_large_neutral_z	2077	-0.0056085971	0.79837170766625

x1	x2	N	corr	p
lOFC_rvsn_ant_z	rt_diff_large_small_z	2203	0.0010508623	0.96068386392125
lOFC_rvsn_ant_z	cbcl_scr_syn_internal_r	2231	-0.0046776260	0.82523425870186
lOFC_rvsn_ant_z	accumbens_rvsn_ant_z	2214	0.4401350271	0.00000000000000
lOFC_rvsn_ant_z	caudate_rvsn_ant_z	2212	0.4793290375	0.00000000000000
lOFC_rvsn_ant_z	putamen_rvsn_ant_z	2209	0.4141113084	0.00000000000000
lOFC_rvsn_ant_z	mOFC_rvsn_ant_z	2225	0.6979074075	0.00000000000000
accumbens_posvsneg_feedback_z	interview_age	2240	-0.0439274147	0.03762951130008
accumbens_posvsneg_feedback_z	bmi	2218	0.0041359448	0.84564657943600
accumbens_posvsneg_feedback_z	PDS_score	2240	0.0005671738	0.97859645454026
accumbens_posvsneg_feedback_z	hormone_scr_ert_mean_z	2091	0.0008261805	0.96988179068912
accumbens_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2232	-0.0048122622	0.82024902155453
accumbens_posvsneg_feedback_z	rt_diff_large_neutral_z	2088	-0.0128498899	0.55730868992721
accumbens_posvsneg_feedback_z	rt_diff_large_small_z	2212	-0.0165379759	0.43690747478182
accumbens_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2240	-0.0062604085	0.76712765486295
accumbens_posvsneg_feedback_z	accumbens_rvsn_ant_z	2224	0.0187833723	0.37594584945531
accumbens_posvsneg_feedback_z	caudate_rvsn_ant_z	2220	0.0354231508	0.09519432959757
accumbens_posvsneg_feedback_z	putamen_rvsn_ant_z	2216	0.0138838004	0.51360516157393
accumbens_posvsneg_feedback_z	mOFC_rvsn_ant_z	2216	0.0469620159	0.02705789917398
accumbens_posvsneg_feedback_z	lOFC_rvsn_ant_z	2215	0.0651276864	0.00216449440103
caudate_posvsneg_feedback_z	interview_age	2237	-0.0624293129	0.00313738556372
caudate_posvsneg_feedback_z	bmi	2214	-0.0258938416	0.22326074558019
caudate_posvsneg_feedback_z	PDS_score	2237	-0.0171865748	0.41651742475225
caudate_posvsneg_feedback_z	hormone_scr_ert_mean_z	2087	0.0277612683	0.20489730952979
caudate_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2229	-0.0125067494	0.55508063612405
caudate_posvsneg_feedback_z	rt_diff_large_neutral_z	2081	-0.0025858979	0.90615263142336
caudate_posvsneg_feedback_z	rt_diff_large_small_z	2210	-0.0508561159	0.01680378854232
caudate_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2237	-0.0327020388	0.12204293955260
caudate_posvsneg_feedback_z	accumbens_rvsn_ant_z	2217	0.0109112415	0.60761443151020
caudate_posvsneg_feedback_z	caudate_rvsn_ant_z	2218	0.0500011498	0.01852359698307
caudate_posvsneg_feedback_z	putamen_rvsn_ant_z	2214	0.0193424297	0.36298412722074
caudate_posvsneg_feedback_z	mOFC_rvsn_ant_z	2214	0.0427009844	0.04453735151281
caudate_posvsneg_feedback_z	lOFC_rvsn_ant_z	2213	0.0565401180	0.00780442095677
caudate_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2223	0.5776932564	0.00000000000000
putamen_posvsneg_feedback_z	interview_age	2232	-0.0501643212	0.01778182260171
putamen_posvsneg_feedback_z	bmi	2209	-0.0267587642	0.20869021580191
putamen_posvsneg_feedback_z	PDS_score	2232	0.0088883042	0.67471008791774
putamen_posvsneg_feedback_z	hormone_scr_ert_mean_z	2083	0.0535673119	0.01448141829232
putamen_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2224	0.0013832567	0.94801732305712
putamen_posvsneg_feedback_z	rt_diff_large_neutral_z	2079	-0.0222948924	0.30959415096150
putamen_posvsneg_feedback_z	rt_diff_large_small_z	2205	-0.0260070258	0.22218560929362
putamen_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2232	-0.0204899270	0.33325097948708
putamen_posvsneg_feedback_z	accumbens_rvsn_ant_z	2213	0.0239228220	0.26062492397226
putamen_posvsneg_feedback_z	caudate_rvsn_ant_z	2213	0.0173590051	0.41437906245703
putamen_posvsneg_feedback_z	putamen_rvsn_ant_z	2209	0.0151223460	0.47746319831753
putamen_posvsneg_feedback_z	mOFC_rvsn_ant_z	2207	0.0449275784	0.03481445031123
putamen_posvsneg_feedback_z	lOFC_rvsn_ant_z	2206	0.0376385873	0.07715519789341
putamen_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2219	0.4988937668	0.00000000000000
putamen_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2226	0.7859132063	0.00000000000000
mOFC_posvsneg_feedback_z	interview_age	2233	0.0009025856	0.96599849233225
mOFC_posvsneg_feedback_z	bmi	2210	0.0070109550	0.74184804469529
mOFC_posvsneg_feedback_z	PDS_score	2233	0.0174067488	0.41099086046438
mOFC_posvsneg_feedback_z	hormone_scr_ert_mean_z	2087	0.0202073553	0.35616992745668

x1	x2	N	corr	p
mOFC_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2225	-0.0215685367	0.30918557958494
mOFC_posvsneg_feedback_z	rt_diff_large_neutral_z	2078	-0.0336738104	0.12489807463776
mOFC_posvsneg_feedback_z	rt_diff_large_small_z	2205	-0.0358877243	0.09203057503783
mOFC_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2233	-0.0340738697	0.10746032394908
mOFC_posvsneg_feedback_z	accumbens_rvsn_ant_z	2214	0.0360001810	0.09035755034341
mOFC_posvsneg_feedback_z	caudate_rvsn_ant_z	2213	0.0602885114	0.00455249508912
mOFC_posvsneg_feedback_z	putamen_rvsn_ant_z	2208	0.0464456336	0.02908057643774
mOFC_posvsneg_feedback_z	mOFC_rvsn_ant_z	2214	0.1020174649	0.00000150864333
mOFC_posvsneg_feedback_z	lOFC_rvsn_ant_z	2213	0.1166663805	0.00000003712997
mOFC_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2220	0.3956436855	0.00000000000000
mOFC_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2217	0.3847746451	0.00000000000000
mOFC_posvsneg_feedback_z	putamen_posvsneg_feedback_z	2211	0.3278457191	0.00000000000000
lOFC_posvsneg_feedback_z	interview_age	2231	-0.0359114404	0.08992034601295
lOFC_posvsneg_feedback_z	bmi	2208	-0.0018263526	0.93164876419271
lOFC_posvsneg_feedback_z	PDS_score	2231	0.0192429563	0.36362140673184
lOFC_posvsneg_feedback_z	hormone_scr_ert_mean_z	2084	0.0264330252	0.22774932751358
lOFC_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2223	-0.0139088115	0.51218112550251
lOFC_posvsneg_feedback_z	rt_diff_large_neutral_z	2077	-0.0351556798	0.10921762938385
lOFC_posvsneg_feedback_z	rt_diff_large_small_z	2203	-0.0558229207	0.00877576298590
lOFC_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2231	-0.0214132092	0.31203122082317
lOFC_posvsneg_feedback_z	accumbens_rvsn_ant_z	2214	0.0263886385	0.21453786418193
lOFC_posvsneg_feedback_z	caudate_rvsn_ant_z	2210	0.0129932259	0.54153063080608
lOFC_posvsneg_feedback_z	putamen_rvsn_ant_z	2208	0.0061290751	0.77346849878171
lOFC_posvsneg_feedback_z	mOFC_rvsn_ant_z	2213	0.0836444437	0.00008164192865
lOFC_posvsneg_feedback_z	lOFC_rvsn_ant_z	2215	0.0833204825	0.00008637309012
lOFC_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2217	0.4616425845	0.00000000000000
lOFC_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2214	0.5196435569	0.00000000000000
lOFC_posvsneg_feedback_z	putamen_posvsneg_feedback_z	2208	0.4433337959	0.00000000000000
lOFC_posvsneg_feedback_z	mOFC_posvsneg_feedback_z	2223	0.7294825686	0.00000000000000

Males

x1	x2	N	corr	p
bmi	interview_age	2962	0.12033926652	0.000000000050146332
PDS_score	interview_age	2986	0.24318518654	0.000000000000000000
PDS_score	bmi	2962	0.23599422251	0.000000000000000000
hormone_scr_ert_mean_z	interview_age	2781	0.18545693046	0.000000000000000000
hormone_scr_ert_mean_z	bmi	2758	0.20941127366	0.000000000000000000
hormone_scr_ert_mean_z	PDS_score	2781	0.21262731349	0.000000000000000000
bisbas_ss_basm_rr_z	interview_age	2969	0.00452565837	0.805299928674555687
bisbas_ss_basm_rr_z	bmi	2945	0.08070967706	0.000011585967112815
bisbas_ss_basm_rr_z	PDS_score	2969	0.07562822292	0.0000037066399480201
bisbas_ss_basm_rr_z	hormone_scr_ert_mean_z	2764	0.04741965655	0.012656028221756710
rt_diff_large_neutral_z	interview_age	2380	-0.04477068661	0.028955152017118069
rt_diff_large_neutral_z	bmi	2366	-0.02530917954	0.218463458410548039
rt_diff_large_neutral_z	PDS_score	2380	-0.10005192907	0.000001004425195017
rt_diff_large_neutral_z	hormone_scr_ert_mean_z	2216	-0.03303218135	0.120061082702675792

x1	x2	N	corr	p
rt_diff_large_neutral_z	bisbas_ss_basm_rr_z	2371	-0.02459643072	0.231220247279474211
rt_diff_large_small_z	interview_age	2962	-0.04679435741	0.010863209415438835
rt_diff_large_small_z	bmi	2938	-0.01730687824	0.348367089456322221
rt_diff_large_small_z	PDS_score	2962	-0.08156954936	0.000008793410219532
rt_diff_large_small_z	hormone_scr_ert_mean_z	2761	-0.04508648519	0.017826070224175483
rt_diff_large_small_z	bisbas_ss_basm_rr_z	2945	-0.01281728443	0.486867444822686402
rt_diff_large_small_z	rt_diff_large_neutral_z	2359	0.39185492373	0.000000000000000000
cbcl_scr_syn_internal_r	interview_age	2986	-0.00194034476	0.915594653834999717
cbcl_scr_syn_internal_r	bmi	2962	0.06330200084	0.000566496634503366
cbcl_scr_syn_internal_r	PDS_score	2986	0.05658455598	0.001980056898741811
cbcl_scr_syn_internal_r	hormone_scr_ert_mean_z	2781	-0.00079730788	0.966476947297066458
cbcl_scr_syn_internal_r	bisbas_ss_basm_rr_z	2969	0.00489046094	0.789959340094096518
cbcl_scr_syn_internal_r	rt_diff_large_neutral_z	2380	0.00670002618	0.743899063824351447
cbcl_scr_syn_internal_r	rt_diff_large_small_z	2962	0.00204913732	0.911239035303322620
accumbens_rvsn_ant_z	interview_age	2397	-0.01772394218	0.385742086108747717
accumbens_rvsn_ant_z	bmi	2382	-0.02133333810	0.297986384371440760
accumbens_rvsn_ant_z	PDS_score	2397	0.00269706575	0.895002124268191146
accumbens_rvsn_ant_z	hormone_scr_ert_mean_z	2226	-0.00653140948	0.758093448875358789
accumbens_rvsn_ant_z	bisbas_ss_basm_rr_z	2385	-0.02980805114	0.145591770330494974
accumbens_rvsn_ant_z	rt_diff_large_neutral_z	2199	-0.02926726426	0.170076552520316060
accumbens_rvsn_ant_z	rt_diff_large_small_z	2378	-0.01537453042	0.453625132905351780
accumbens_rvsn_ant_z	cbcl_scr_syn_internal_r	2397	-0.02809501822	0.169112032978391058
caudate_rvsn_ant_z	interview_age	2398	0.04558674400	0.025591766441756647
caudate_rvsn_ant_z	bmi	2384	-0.00147955848	0.942440036373267453
caudate_rvsn_ant_z	PDS_score	2398	0.05180011473	0.011180692889350308
caudate_rvsn_ant_z	hormone_scr_ert_mean_z	2226	0.01714149617	0.418889380396358479
caudate_rvsn_ant_z	bisbas_ss_basm_rr_z	2386	-0.00316513636	0.877195143472261574
caudate_rvsn_ant_z	rt_diff_large_neutral_z	2198	-0.01656759534	0.437543989906220343
caudate_rvsn_ant_z	rt_diff_large_small_z	2377	-0.02192412955	0.285310420730271463
caudate_rvsn_ant_z	cbcl_scr_syn_internal_r	2398	-0.01299693194	0.524680808941730303
caudate_rvsn_ant_z	accumbens_rvsn_ant_z	2369	0.59260415130	0.000000000000000000
putamen_rvsn_ant_z	interview_age	2399	0.07894691335	0.000108472305492491

x1	x2	N	corr	p
putamen_rvsn_ant_z	bmi	2384	-0.00409273602	0.841692631618701226
putamen_rvsn_ant_z	PDS_score	2399	0.10118061727	0.000000683654183486
putamen_rvsn_ant_z	hormone_scr_ert_mean_z	2226	0.04369779510	0.039254345116916944
putamen_rvsn_ant_z	bisbas_ss_basm_rr_z	2387	0.00664229767	0.745668608261893739
putamen_rvsn_ant_z	rt_diff_large_neutral_z	2197	-0.01452215280	0.496293471993038748
putamen_rvsn_ant_z	rt_diff_large_small_z	2379	-0.03669008979	0.073579266215942241
putamen_rvsn_ant_z	cbcl_scr_syn_internal_r	2399	-0.03055688480	0.134592956917277462
putamen_rvsn_ant_z	accumbens_rvsn_ant_z	2372	0.53806964006	0.000000000000000000
putamen_rvsn_ant_z	caudate_rvsn_ant_z	2381	0.78703569747	0.000000000000000000
mOFC_rvsn_ant_z	interview_age	2382	0.04929394386	0.016127065933055018
mOFC_rvsn_ant_z	bmi	2367	0.04313955674	0.035844547461416187
mOFC_rvsn_ant_z	PDS_score	2382	0.11893051495	0.000000005810624870
mOFC_rvsn_ant_z	hormone_scr_ert_mean_z	2212	0.00021314174	0.992006291329062595
mOFC_rvsn_ant_z	bisbas_ss_basm_rr_z	2370	0.00007651719	0.997029407697965331
mOFC_rvsn_ant_z	rt_diff_large_neutral_z	2186	-0.05358670544	0.012217587251241113
mOFC_rvsn_ant_z	rt_diff_large_small_z	2363	-0.04506639184	0.028476214771576469
mOFC_rvsn_ant_z	cbcl_scr_syn_internal_r	2382	0.03219759413	0.116180375871240971
mOFC_rvsn_ant_z	accumbens_rvsn_ant_z	2360	0.38528042812	0.000000000000000000
mOFC_rvsn_ant_z	caudate_rvsn_ant_z	2352	0.37209755210	0.000000000000000000
mOFC_rvsn_ant_z	putamen_rvsn_ant_z	2352	0.32927404757	0.000000000000000000
lOFC_rvsn_ant_z	interview_age	2388	0.09136559179	0.000007756562471428
lOFC_rvsn_ant_z	bmi	2373	0.04414663841	0.031519614962817855
lOFC_rvsn_ant_z	PDS_score	2388	0.13976326777	0.000000000006888268
lOFC_rvsn_ant_z	hormone_scr_ert_mean_z	2219	0.00875503912	0.680198193682262309
lOFC_rvsn_ant_z	bisbas_ss_basm_rr_z	2376	0.01200239211	0.558708724890979003
lOFC_rvsn_ant_z	rt_diff_large_neutral_z	2192	-0.05063076841	0.017757310893470102
lOFC_rvsn_ant_z	rt_diff_large_small_z	2369	-0.04544252514	0.026982504490307813
lOFC_rvsn_ant_z	cbcl_scr_syn_internal_r	2388	-0.00174103861	0.932233451617379139
lOFC_rvsn_ant_z	accumbens_rvsn_ant_z	2369	0.42215501351	0.000000000000000000
lOFC_rvsn_ant_z	caudate_rvsn_ant_z	2359	0.52100797298	0.000000000000000000
lOFC_rvsn_ant_z	putamen_rvsn_ant_z	2360	0.44947958968	0.000000000000000000
lOFC_rvsn_ant_z	mOFC_rvsn_ant_z	2367	0.72145255922	0.000000000000000000
accumbens_posvsneg_feedback_z	interview_age	2390	0.01026478490	0.615968859581869532
accumbens_posvsneg_feedback_z	bmi	2376	0.00384798680	0.851292811837975449
accumbens_posvsneg_feedback_z	PDS_score	2390	-0.01402486892	0.493143548960409461
accumbens_posvsneg_feedback_z	hormone_scr_ert_mean_z	2217	0.02844344895	0.180643547873049926
accumbens_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2378	-0.01477815785	0.471332011261839989
accumbens_posvsneg_feedback_z	rt_diff_large_neutral_z	2194	0.00878749464	0.680793203367695554
accumbens_posvsneg_feedback_z	rt_diff_large_small_z	2370	0.01263884609	0.538559720502966410
accumbens_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2390	0.04152434835	0.042372774362954502
accumbens_posvsneg_feedback_z	accumbens_rvsn_ant_z	2365	0.02076778888	0.312716307170300745

x1	x2	N	corr	p
accumbens_posvsneg_feedback_z	caudate_rvsn_ant_z	2358	0.03283421054	0.110938559341837051
accumbens_posvsneg_feedback_z	putamen_rvsn_ant_z	2360	0.02910236838	0.157556226941685029
accumbens_posvsneg_feedback_z	mOFC_rvsn_ant_z	2348	0.00842763411	0.683155752614789114
accumbens_posvsneg_feedback_z	lOFC_rvsn_ant_z	2355	-0.01537070967	0.455931390880971232
caudate_posvsneg_feedback_z	interview_age	2393	-0.00167103796	0.934883940654662071
caudate_posvsneg_feedback_z	bmi	2378	-0.01344515650	0.512252431172947276
caudate_posvsneg_feedback_z	PDS_score	2393	-0.05450900679	0.007651399662372382
caudate_posvsneg_feedback_z	hormone_scr_ert_mean_z	2220	0.01619565467	0.445637025291814481
caudate_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2381	-0.01170687847	0.568025073095526079
caudate_posvsneg_feedback_z	rt_diff_large_neutral_z	2198	0.02275596597	0.286244966391398847
caudate_posvsneg_feedback_z	rt_diff_large_small_z	2372	0.00587113253	0.775035459812964955
caudate_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2393	0.02626445706	0.199015033924591300
caudate_posvsneg_feedback_z	accumbens_rvsn_ant_z	2361	0.03071989040	0.135634946663538036
caudate_posvsneg_feedback_z	caudate_rvsn_ant_z	2365	0.05129229360	0.012605207960013853
caudate_posvsneg_feedback_z	putamen_rvsn_ant_z	2365	0.03264098280	0.112522620305892662
caudate_posvsneg_feedback_z	mOFC_rvsn_ant_z	2348	0.01478679474	0.473887010295550581
caudate_posvsneg_feedback_z	lOFC_rvsn_ant_z	2351	0.00322027730	0.875986270920134480
caudate_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2364	0.60923519170	0.000000000000000000
putamen_posvsneg_feedback_z	interview_age	2395	-0.01372178188	0.502088219224258170
putamen_posvsneg_feedback_z	bmi	2381	-0.00211024388	0.918029297119514087
putamen_posvsneg_feedback_z	PDS_score	2395	-0.04454655723	0.029257733683644371
putamen_posvsneg_feedback_z	hormone_scr_ert_mean_z	2223	0.00599030351	0.777729812152287536
putamen_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2383	-0.03748388300	0.067325431193768104
putamen_posvsneg_feedback_z	rt_diff_large_neutral_z	2201	0.02594433040	0.223723386497740595
putamen_posvsneg_feedback_z	rt_diff_large_small_z	2374	0.02088010341	0.309186172467846188
putamen_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2395	0.02305615157	0.259362229773332009
putamen_posvsneg_feedback_z	accumbens_rvsn_ant_z	2367	-0.01188556189	0.563284890881638356
putamen_posvsneg_feedback_z	caudate_rvsn_ant_z	2364	0.00324287969	0.874780655091709658
putamen_posvsneg_feedback_z	putamen_rvsn_ant_z	2365	0.01163685145	0.571642077643702340
putamen_posvsneg_feedback_z	mOFC_rvsn_ant_z	2350	-0.02068314250	0.316234318157191385
putamen_posvsneg_feedback_z	lOFC_rvsn_ant_z	2355	-0.03767899148	0.067522935246103089
putamen_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2372	0.56244726141	0.000000000000000000
putamen_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2374	0.77989278213	0.000000000000000000
mOFC_posvsneg_feedback_z	interview_age	2397	-0.00313693091	0.878002577952955221
mOFC_posvsneg_feedback_z	bmi	2382	-0.01652880343	0.420051395393608251
mOFC_posvsneg_feedback_z	PDS_score	2397	-0.01152519502	0.572762062078612022
mOFC_posvsneg_feedback_z	hormone_scr_ert_mean_z	2225	0.01564745708	0.460684937210104506

x1	x2	N	corr	p
mOFC_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2385	-0.00413840341	0.839916806875982580
mOFC_posvsneg_feedback_z	rt_diff_large_neutral_z	2200	0.00635885698	0.765634217854682664
mOFC_posvsneg_feedback_z	rt_diff_large_small_z	2376	0.00195005158	0.924311781234622210
mOFC_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2397	0.03038236445	0.136998270646333964
mOFC_posvsneg_feedback_z	accumbens_rvsn_ant_z	2367	0.01475648126	0.473010388393632297
mOFC_posvsneg_feedback_z	caudate_rvsn_ant_z	2363	0.01446123811	0.482282827932926095
mOFC_posvsneg_feedback_z	putamen_rvsn_ant_z	2367	0.00851463326	0.678843986779595010
mOFC_posvsneg_feedback_z	mOFC_rvsn_ant_z	2365	0.01331619055	0.517457512681232412
mOFC_posvsneg_feedback_z	lOFC_rvsn_ant_z	2369	-0.01586258590	0.440285741857742829
mOFC_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2368	0.44034854535	0.000000000000000000
mOFC_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2363	0.38658622932	0.000000000000000000
mOFC_posvsneg_feedback_z	putamen_posvsneg_feedback_z	2368	0.32242458307	0.000000000000000000
lOFC_posvsneg_feedback_z	interview_age	2401	0.03001971226	0.141417911866739132
lOFC_posvsneg_feedback_z	bmi	2386	-0.02480839376	0.225757631172364359
lOFC_posvsneg_feedback_z	PDS_score	2401	0.01806405194	0.376291588643561159
lOFC_posvsneg_feedback_z	hormone_scr_ert_mean_z	2231	0.01490404184	0.481673155771015438
lOFC_posvsneg_feedback_z	bisbas_ss_basm_rr_z	2389	-0.00842756177	0.680552714073248133
lOFC_posvsneg_feedback_z	rt_diff_large_neutral_z	2204	0.00186090881	0.930421777048057175
lOFC_posvsneg_feedback_z	rt_diff_large_small_z	2380	-0.01482714954	0.469676293907959508
lOFC_posvsneg_feedback_z	cbcl_scr_syn_internal_r	2401	0.01139194809	0.576890219095168355
lOFC_posvsneg_feedback_z	accumbens_rvsn_ant_z	2370	-0.01511054928	0.462171778753443618
lOFC_posvsneg_feedback_z	caudate_rvsn_ant_z	2367	-0.01038666563	0.613504806518456958
lOFC_posvsneg_feedback_z	putamen_rvsn_ant_z	2372	0.00552111895	0.788117166181893536
lOFC_posvsneg_feedback_z	mOFC_rvsn_ant_z	2365	0.00893516982	0.664065111802730534
lOFC_posvsneg_feedback_z	lOFC_rvsn_ant_z	2373	-0.03761022646	0.066980245778488268
lOFC_posvsneg_feedback_z	accumbens_posvsneg_feedback_z	2370	0.45132238771	0.000000000000000000
lOFC_posvsneg_feedback_z	caudate_posvsneg_feedback_z	2365	0.48815730651	0.000000000000000000
lOFC_posvsneg_feedback_z	putamen_posvsneg_feedback_z	2370	0.40375516416	0.000000000000000000
lOFC_posvsneg_feedback_z	mOFC_posvsneg_feedback_z	2390	0.73749902297	0.000000000000000000