

# Surprise study pilot 17

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## Study description

This study is the same as pilot 16, but we have now introduced a new block where there will be another peer observing and assessing the participants. However, they are told that the score of this second person will only be sent to us, so they will only see one rating from the original judges. There will be the same number of trials divided into two blocks with a counterbalanced order. Participants will see the picture and name of this second person on the upper left side of the screen, with the picture of the old judges in the middle. The goal is to increase the social pressure and see how it can change the relationship between mood/anxiety and subjective PE. This will strengthen our argument that our task is indeed social!

The Gorilla experiment is the following: <https://app.gorilla.sc/admin/experiment/167771/design> The task is the following: <https://app.gorilla.sc/admin/task/777911/editor>

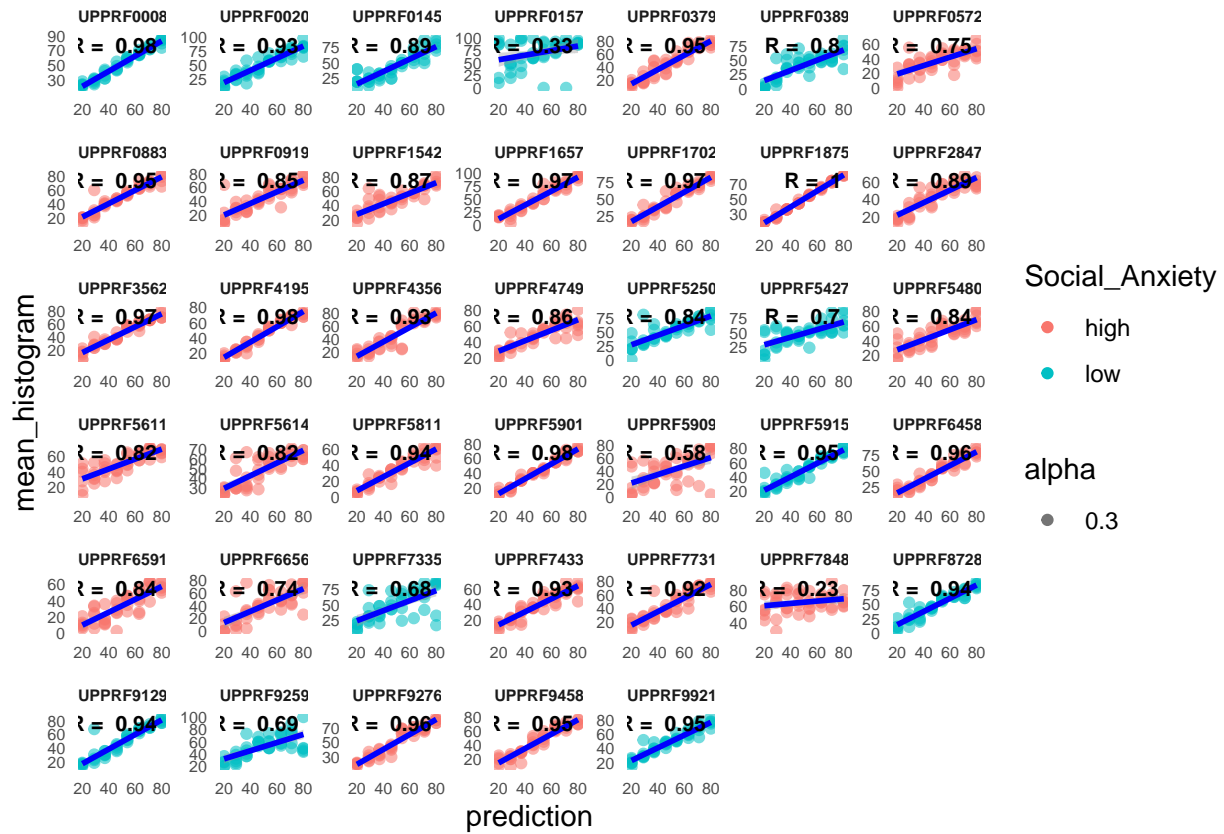
Note: Due to incorrect coding of the experiment on gorilla, there were no chocking and no\_chocking blocks. Instead, this experimnt had an event-related design (Randomized). Further, for some participants some anxiety and/or mood ratings were duplicated. This was easiest to fix manually in excel. The corrected excel file is called "CORRECT\_SUP\_PRF\_p17\_vid\_bigPE\_nar2\_earlypred\_chk\_event\_rel\_v4\_task\_main.csv". Please use this file for the following analysis.

```
## # A tibble: 40 x 2
##   Random_ID   New_Trial_Number
##   <chr>         <int>
## 1 SUPPRF00089         45
## 2 SUPPRF00201         48
## 3 SUPPRF01454         46
## 4 SUPPRF01574         48
## 5 SUPPRF03799         47
## 6 SUPPRF03892         48
## 7 SUPPRF05723         48
## 8 SUPPRF08836         46
## 9 SUPPRF09191         47
## 10 SUPPRF15429        45
## # i 30 more rows
```

```
## [1] "It seems everyone has done all the 24 trials per block, everyone has also finished the task inc."
```

## Relationship between prediction and mean histogram

## [1] "average correlation between mean\_hist and prediction: 0.851610589474929"



## Relationship between Anxiety and SubjPE ALL conditions

```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking   -0.162
## 2 No_chocking -0.170
```

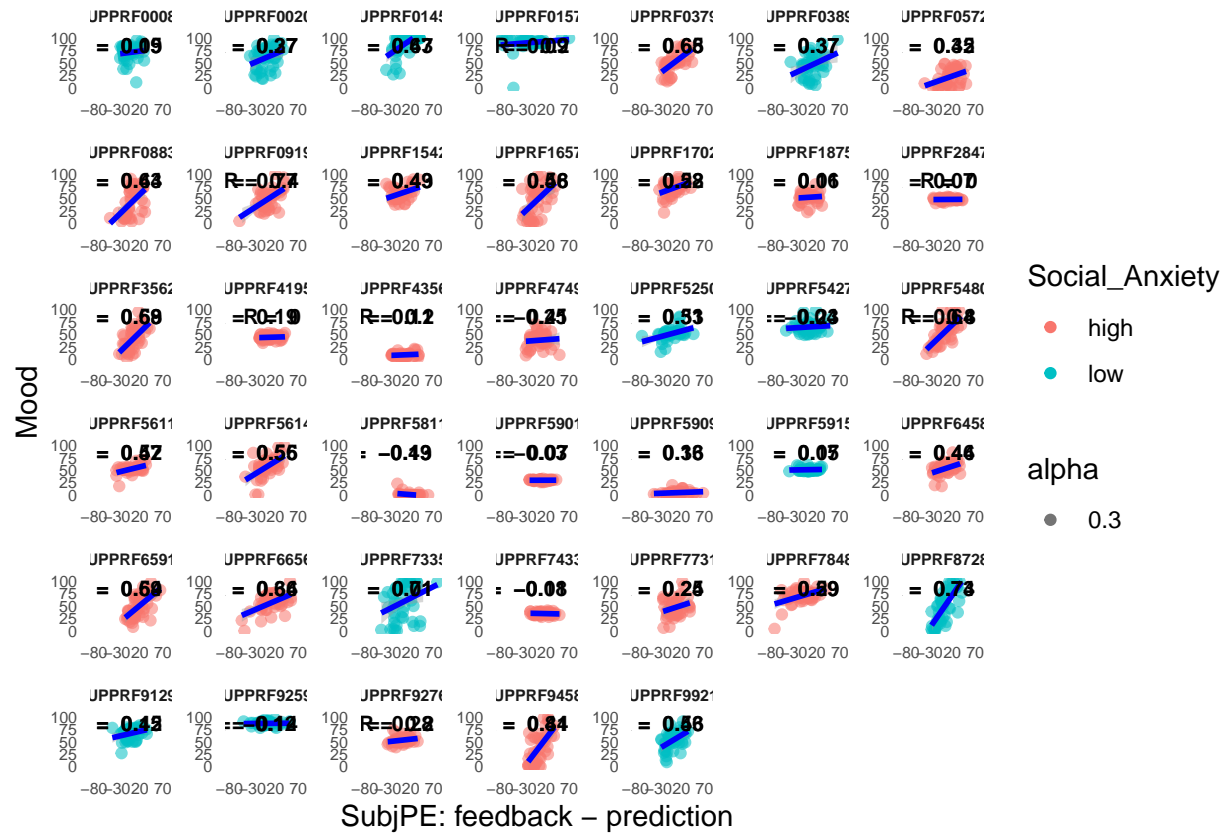
```
## [1] "average correlation between anxiety and SubjPE: -0.16604777929058"
```



## Relationship between Mood and SubjPE

```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking    0.343
## 2 No_chocking 0.328
```

```
## [1] "average correlation between mood and SubjPE: 0.335320427986518"
```

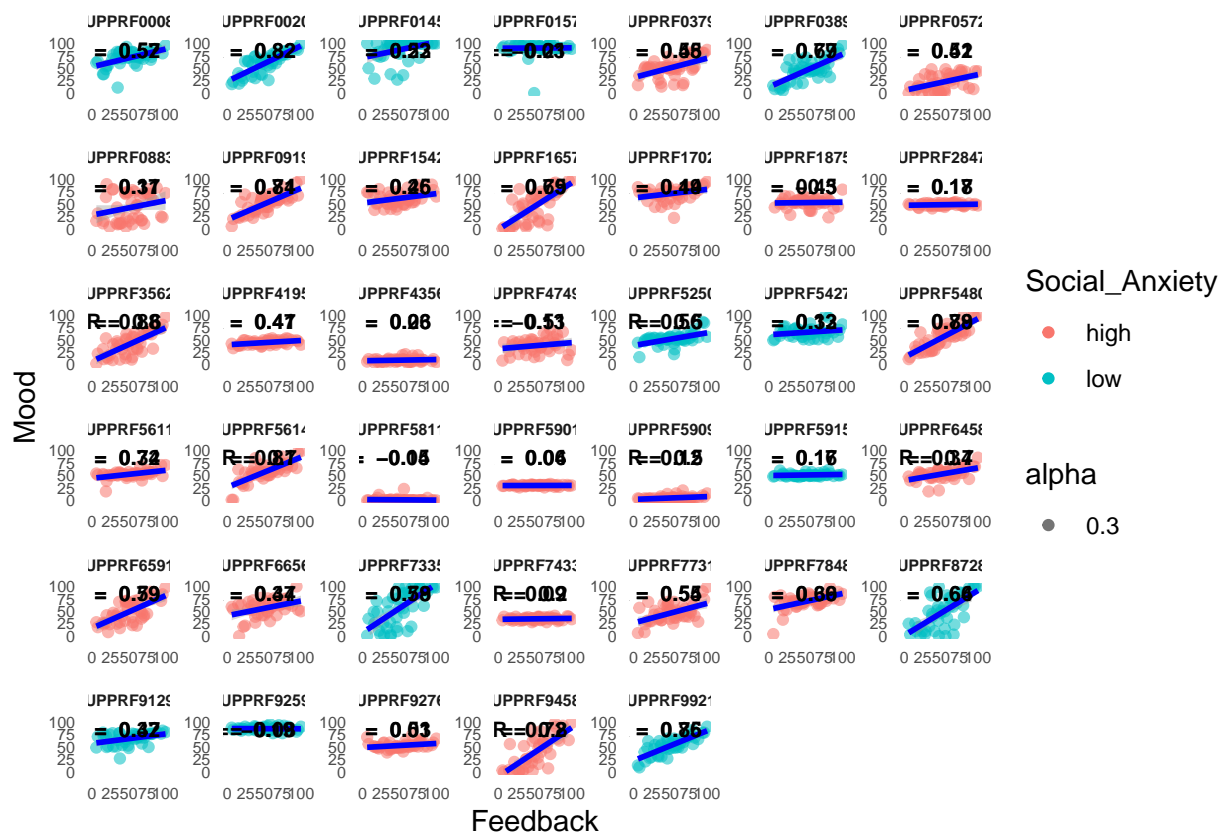


## Relationship between Mood and feedback

The relationship between mood and feedback still seems to be stronger than mood and subjective PE. Is this a problem? How do we even differentiate social reward, from social PE?

```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking    0.385
## 2 No_chocking 0.478

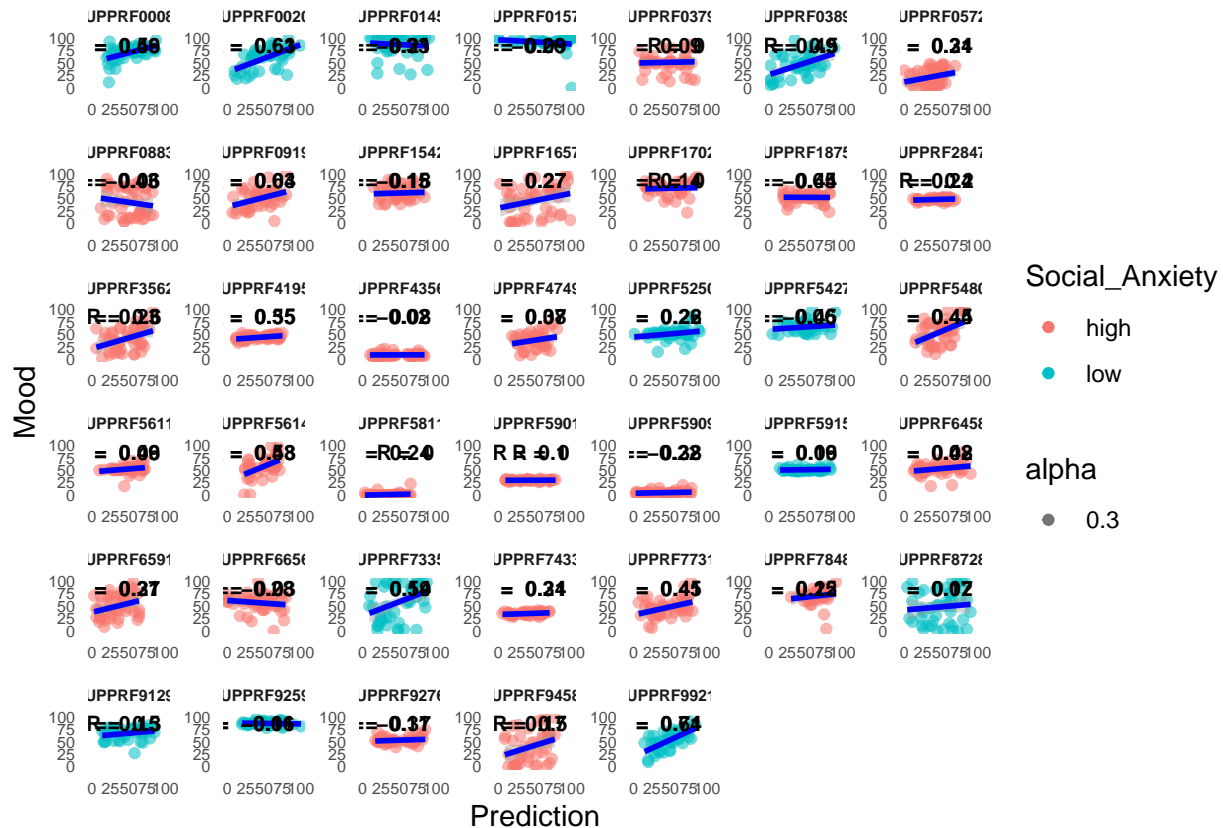
## [1] "average correlation between mood and feedback: 0.431349822544132"
```



## Relationship between Mood and prediction

```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking    0.151
## 2 No_chocking 0.279
```

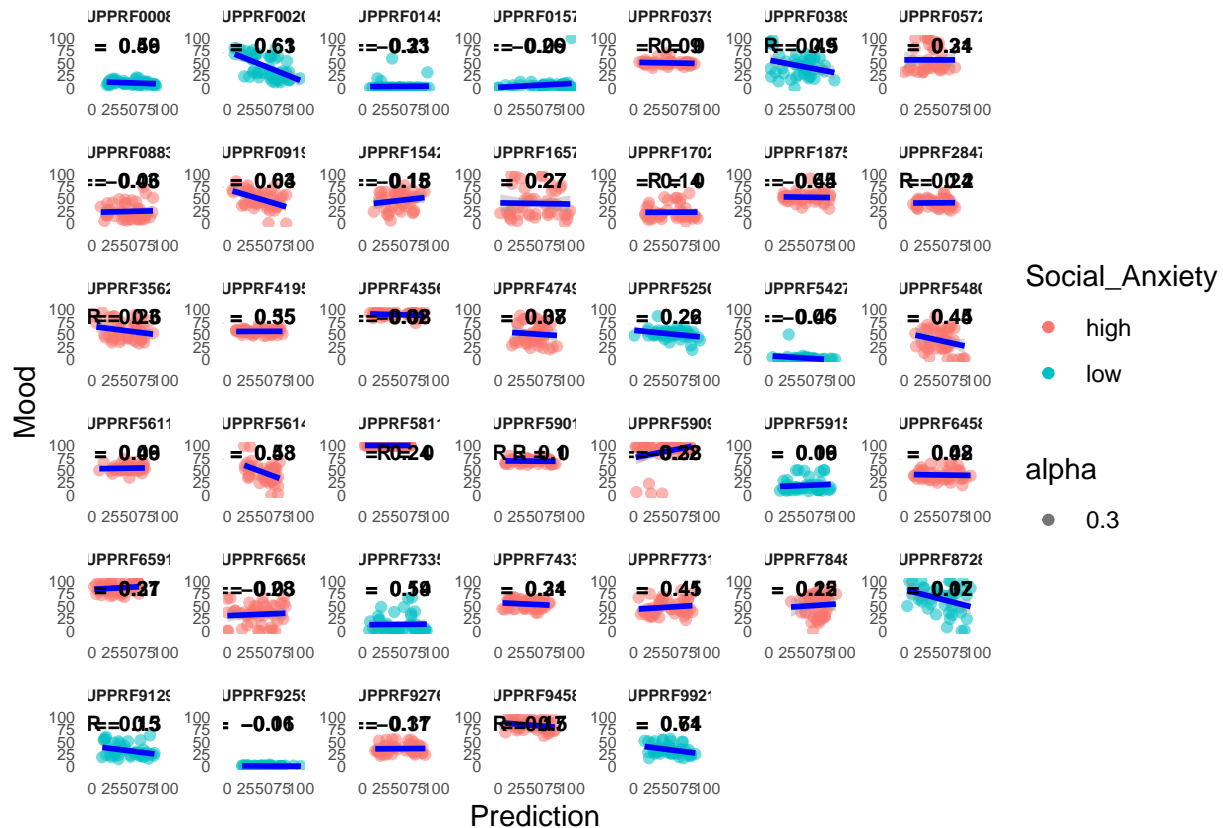
```
## [1] "average correlation between mood and prediction: 0.215267695929084"
```



## Relationship between Anxiety and prediction

```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking   -0.0878
## 2 No_chocking -0.108
```

```
## [1] "average correlation between anxiety and prediction: 0.215267695929084"
```

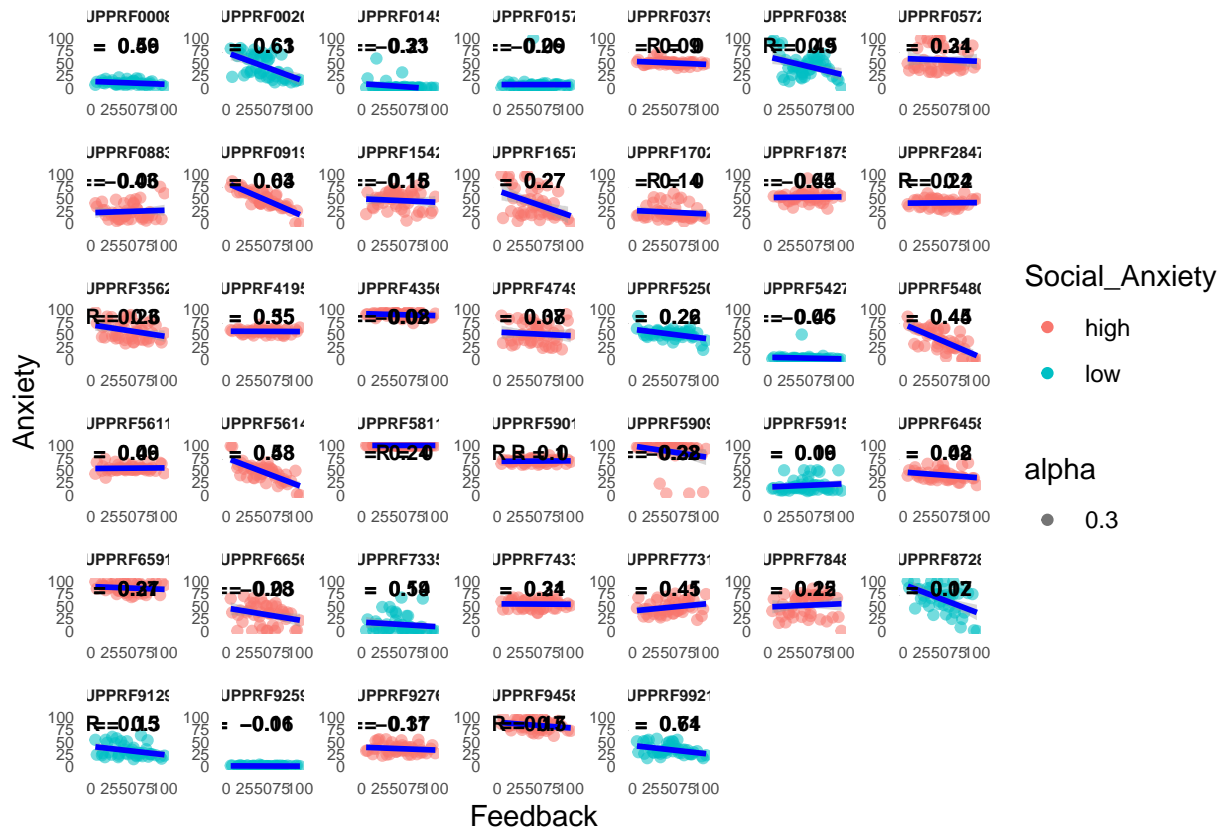




## Relationship between Anxiety and feedback

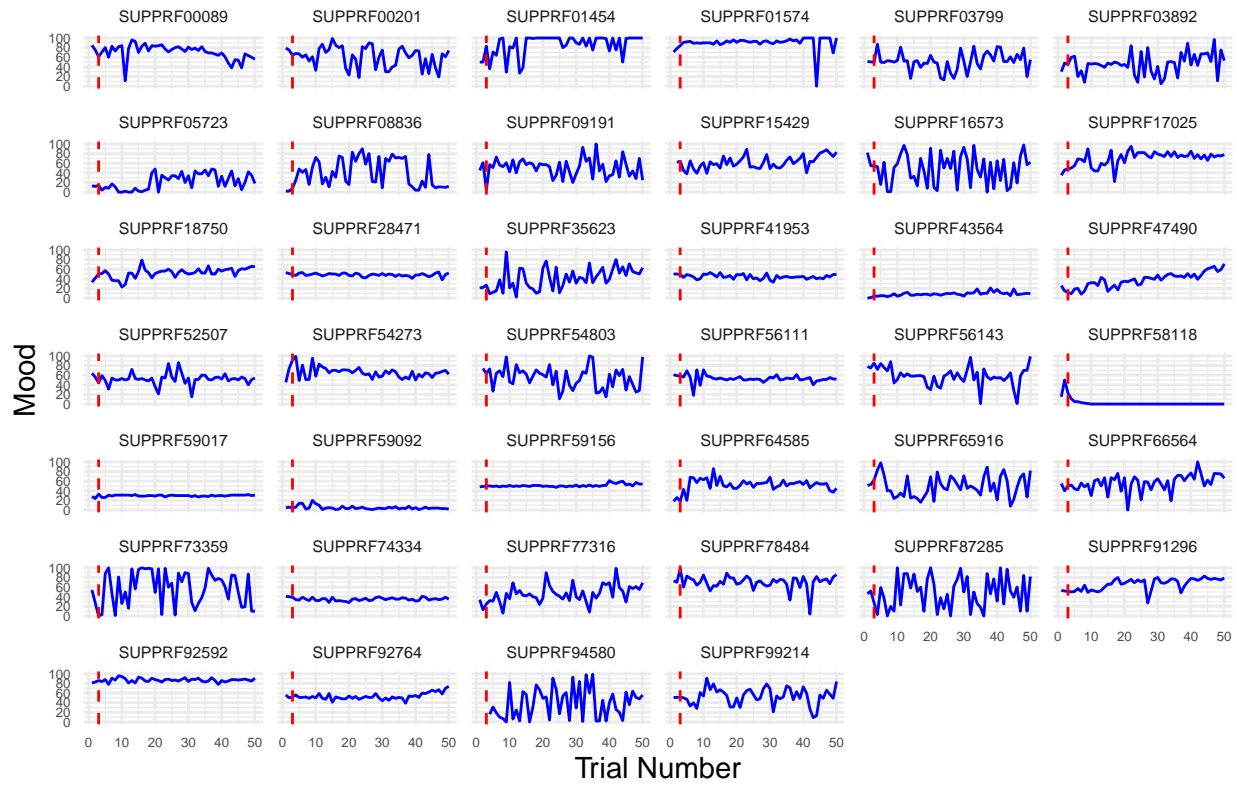
```
## # A tibble: 2 x 2
##   Condition mean_corr
##   <chr>      <dbl>
## 1 Chocking   -0.199
## 2 No_chocking -0.233
```

```
## [1] "average correlation between anxiety and feedback: 0.215267695929084"
```



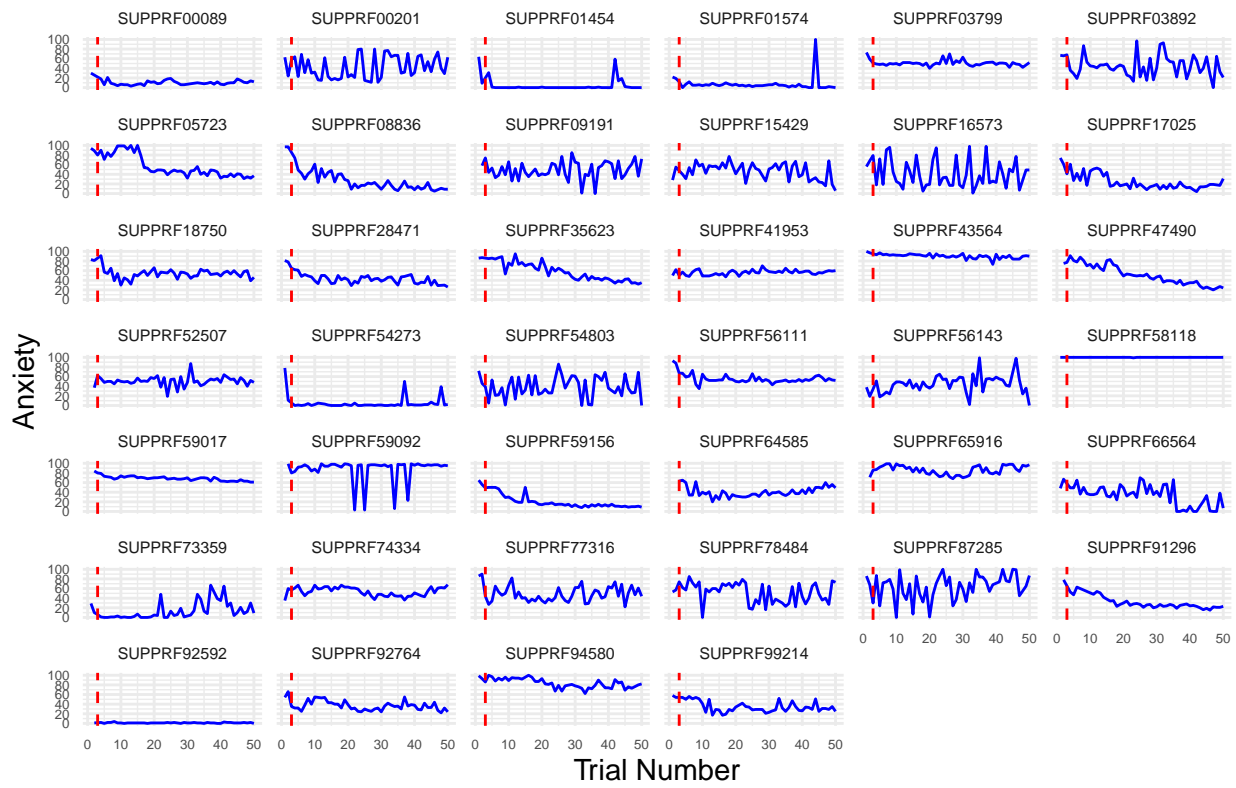
# Mood over time

## Mood across time



# Anxiety over time

## Anxiety across time



## LME models for Mood and SubjPE

When looking at subjective PE, the best model is  $\text{Mood} \sim \text{SubjPE} + (\text{SubjPE} \mid \text{Random\_ID})$  with an AIC of 19784.67 When including feedback the best model is  $\text{Mood} \sim \text{feedback} + (\text{feedback} \mid \text{Random\_ID})$  with an AIC of 19380.41

```
## [1] 15708.24
```

```
## [1] 15447.85
```

```
## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE + (Response_SubjPE | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15696.2
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.7500 -0.3758  0.0086  0.4917  3.4363
##
## Random effects:
##   Groups      Name                Variance Std.Dev. Corr
##   Random_ID (Intercept)          392.2649  19.8057
##               Response_SubjPE    0.1128  0.3358  0.01
##   Residual                      232.6856  15.2540
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)    49.13113    3.15456  15.575
## Response_SubjPE 0.36524    0.05686   6.423
##
## Correlation of Fixed Effects:
##              (Intr)
## Rspns_SbjPE -0.004

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE + Response_fdbk + (Response_SubjPE |
## Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15433.8
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -6.4167 -0.4861  0.0363  0.5754  4.0680
##
## Random effects:
##   Groups      Name                Variance Std.Dev. Corr
##   Random_ID (Intercept)          353.9009  18.8123
##               Response_SubjPE    0.1291  0.3593  0.03
```

```

## Residual                200.2511 14.1510
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)   35.06192    3.10719  11.284
## Response_SubjPE 0.14334    0.06127   2.339
## Response_fdbk   0.29049    0.01705  17.037
##
## Correlation of Fixed Effects:
##              (Intr) Rs_SPE
## Rspns_SbjPE  0.070
## Rspns_fdbk -0.266 -0.213

## Data: final_df17
## Models:
## model2: Response_H ~ Response_SubjPE + (Response_SubjPE | Random_ID)
## model2a: Response_H ~ Response_SubjPE + Response_fdbk + (Response_SubjPE | Random_ID)
##          npar   AIC   BIC logLik deviance Chisq Df Pr(>Chisq)
## model2      6 15708 15742 -7848.2    15696
## model2a     7 15442 15480 -7713.9    15428 268.7  1 < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

## [1] "Model summary: Response_H ~ Response_SubjPE + (1 | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE * Condition + (1 | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15871.5
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.7892 -0.4787  0.0610  0.5261  3.3058
##
## Random effects:
## Groups   Name      Variance Std.Dev.
## Random_ID (Intercept) 435.5    20.87
## Residual              267.1    16.34
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)   49.06260    3.34445  14.670
## Response_SubjPE  0.33859    0.02807  12.064
## ConditionNo_chocking 0.36889    0.77344   0.477
## Response_SubjPE:ConditionNo_chocking 0.02579    0.03909   0.660
##
## Correlation of Fixed Effects:
##              (Intr) Rs_SPE CndtN_
## Rspns_SbjPE -0.031

```

```

## CndtnN_chck -0.115  0.125
## Rsp_SPE:CN_  0.021 -0.673 -0.201

## [1] "Model 1 summary: Response_H ~ Response_SubjPE + (1 | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE + (1 | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15868.9
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.8206 -0.4703  0.0545  0.5310  3.3310
##
## Random effects:
## Groups      Name                Variance Std.Dev.
## Random_ID (Intercept) 435.7      20.87
## Residual                266.9      16.34
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)   49.25172    3.32321   14.82
## Response_SubjPE 0.35125    0.02074   16.94
##
## Correlation of Fixed Effects:
##              (Intr)
## Rspns_SbjPE -0.025

## [1] "Model 2 summary: Response_H ~ Response_SubjPE + (Response_SubjPE | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE + (Response_SubjPE | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15696.2
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.7500 -0.3758  0.0086  0.4917  3.4363
##
## Random effects:
## Groups      Name                Variance Std.Dev. Corr
## Random_ID (Intercept) 392.2649 19.8057
## Response_SubjPE      0.1128  0.3358  0.01
## Residual                232.6856 15.2540
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value

```

```

## (Intercept)      49.13113      3.15456  15.575
## Response_SubjPE  0.36524      0.05686   6.423
##
## Correlation of Fixed Effects:
##          (Intr)
## Rspns_SbjPE -0.004

## [1] "Model 3 summary: Response_H ~ Response_SubjPE * mini_SPIN_total + (Response_SubjPE | Random_ID)

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_SubjPE * mini_SPIN_total + (Response_SubjPE |
##      Random_ID)
##      Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15683.6
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.7503 -0.3723  0.0052  0.4922  3.4428
##
## Random effects:
##      Groups      Name              Variance Std.Dev. Corr
##      Random_ID (Intercept)      258.8418  16.0886
##              Response_SubjPE    0.1138   0.3374  -0.10
##      Residual                232.6868  15.2541
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)      70.52328     5.36244  13.151
## Response_SubjPE      0.45189     0.11830   3.820
## mini_SPIN_total    -3.18125     0.70028  -4.543
## Response_SubjPE:mini_SPIN_total -0.01288     0.01545  -0.833
##
## Correlation of Fixed Effects:
##          (Intr) Rs_SPE m_SPIN
## Rspns_SbjPE -0.099
## mn_SPIN_ttl -0.877  0.088
## R_SPE:_SPIN  0.088 -0.876 -0.104

## [1] "Model 4 summary: Response_H ~ Response_fdbk + (1 | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_fdbk + (1 | Random_ID)
##      Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15699.1
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.7132 -0.5135  0.0497  0.5860  3.7076

```

```

##
## Random effects:
##   Groups   Name      Variance Std.Dev.
## Random_ID (Intercept) 373.4    19.32
## Residual              243.9    15.62
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##               Estimate Std. Error t value
## (Intercept)   33.09978   3.17687   10.42
## Response_fdbk 0.33873    0.01527   22.18
##
## Correlation of Fixed Effects:
##              (Intr)
## Respns_fdbk -0.249

## [1] "Model 5 summary: Response_H ~ Response_fdbk + (Response_fdbk | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_fdbk + (Response_fdbk | Random_ID)
##   Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15381.7
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -6.4748 -0.3745  0.0074  0.4819  4.0576
##
## Random effects:
##   Groups   Name      Variance Std.Dev. Corr
## Random_ID (Intercept)  560.73891 23.6799
##              Response_fdbk  0.09019  0.3003 -0.58
## Residual              193.96167 13.9270
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##               Estimate Std. Error t value
## (Intercept)   33.1048   3.8237   8.658
## Response_fdbk  0.3395    0.0494   6.873
##
## Correlation of Fixed Effects:
##              (Intr)
## Respns_fdbk -0.600

## [1] "Model 6 summary: Response_H ~ Response_fdbk * mini_SPIN_total + (Response_fdbk | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_H ~ Response_fdbk * mini_SPIN_total + (Response_fdbk |
##   Random_ID)
##   Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##

```



```

## REML criterion at convergence: 15367.7
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -6.4860 -0.3731  0.0063  0.4852  4.0567
##
## Random effects:
##   Groups   Name                Variance Std.Dev. Corr
##   Random_ID (Intercept)    514.33506 22.6790
##               Response_fdbk    0.08686  0.2947  -0.73
##   Residual                  193.96198 13.9270
## Number of obs: 1863, groups:  Random_ID, 40
##
## Fixed effects:
##                                Estimate Std. Error t value
## (Intercept)                   47.12126    7.65104   6.159
## Response_fdbk                   0.47622    0.10123   4.704
## mini_SPIN_total                 -2.08399    0.99849  -2.087
## Response_fdbk:mini_SPIN_total -0.02033    0.01321  -1.539
##
## Correlation of Fixed Effects:
##              (Intr) Rspns_ m_SPIN
## Rspns_fdbk -0.737
## mn_SPIN_ttl -0.878  0.647
## Rsp_:_SPIN_  0.647 -0.877 -0.737

## [1] "AIC model:"

## [1] 15883.48

## [1] "AIC model1:"

## [1] 15876.94

## [1] "AIC model2:"

## [1] 15708.24

## [1] "AIC model3:"

## [1] 15699.61

## [1] "AIC model4:"

## [1] 15707.05

## [1] "AIC model5:"

## [1] 15393.71

## [1] "AIC model6:"

## [1] 15383.73

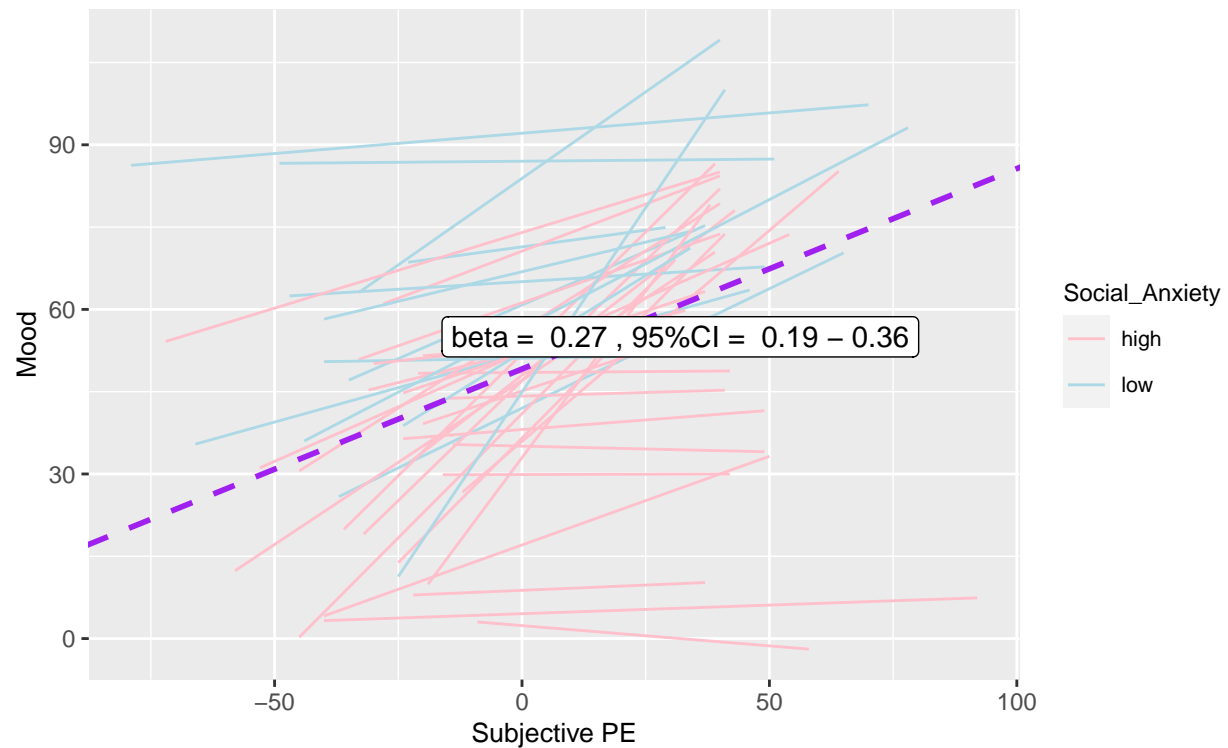
```

## Individual plots with LME for Mood with SubjPE

When looking at subjective PE, the best model is  $\text{Mood} \sim \text{SubjPE} + (\text{SubjPE} \mid \text{Random\_ID})$  with an AIC of 19784.67

### Relationship between Mood and subjective PE

estimated slopes of the association in  $n = 40$

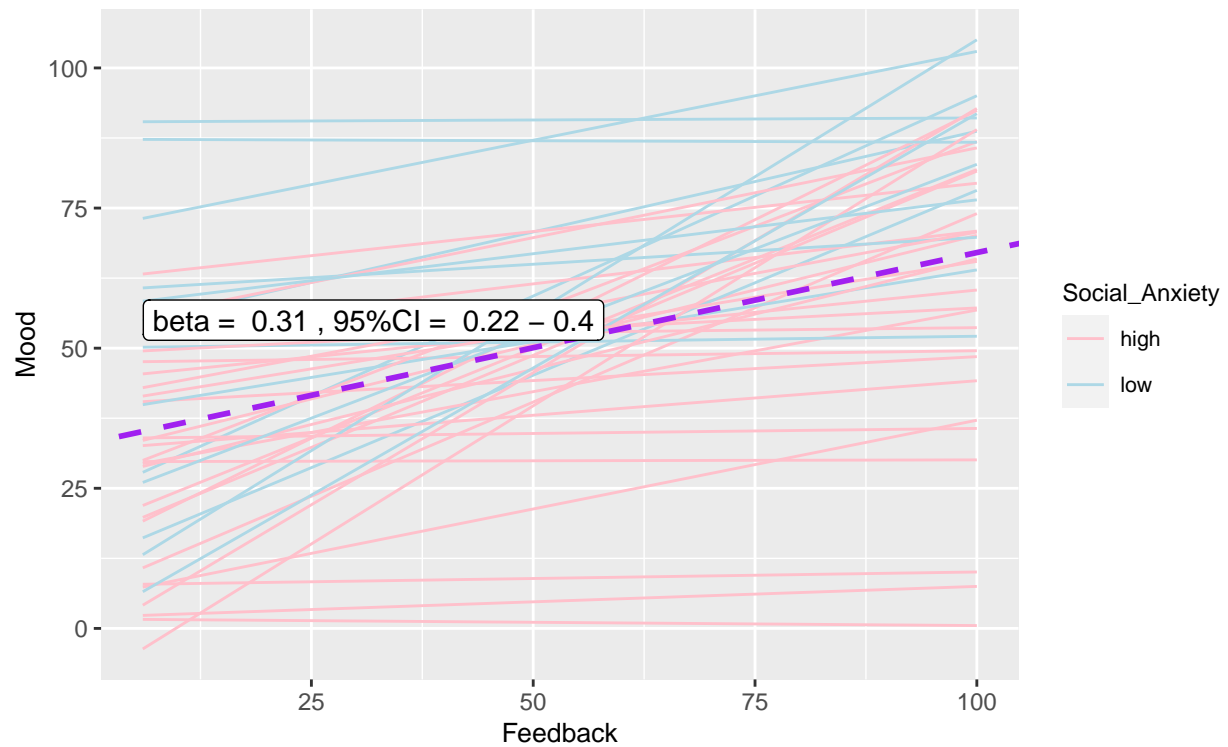


## Individual plots with LME for Mood with feedback instead of SubjPE

When including feedback the best model is  $\text{Mood} \sim \text{feedback} + (\text{feedback} \mid \text{Random\_ID})$  with an AIC of 19380.41

### Relationship between Mood and Feedback

estimated slopes of the association in  $n = 40$



## LME models for Anxiety and SubjPE

When looking at subjective PE, the best model is Anxiety ~ SubjPE + (SubjPE | Random\_ID) with an AIC of 19691.4 When including feedback the best model is Anxiety ~ feedback + (Random\_ID) with an AIC of 19530.9

```
## [1] "Model 1 summary: Response_Ax ~ Response_SubjPE + (1 | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_SubjPE + (1 | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15585.9
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.6116 -0.5101 -0.0761  0.4549  5.8617
##
## Random effects:
## Groups      Name                Variance Std.Dev.
## Random_ID (Intercept) 616.1      24.82
## Residual              226.9      15.06
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)   45.30354    3.94082  11.496
## Response_SubjPE -0.15382    0.01913  -8.042
##
## Correlation of Fixed Effects:
##              (Intr)
## Rspns_SbjPE -0.019

## [1] "Model 2 summary: Response_Ax ~ Response_SubjPE + (Response_SubjPE | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_SubjPE + (Response_SubjPE | Random_ID)
## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15531
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.8419 -0.5006 -0.0548  0.4236  6.2266
##
## Random effects:
## Groups      Name                Variance Std.Dev. Corr
## Random_ID (Intercept) 610.94452 24.7173
## Response_SubjPE      0.03809  0.1952 -0.09
## Residual              214.22714 14.6365
## Number of obs: 1863, groups: Random_ID, 40
```

```

##
## Fixed effects:
##           Estimate Std. Error t value
## (Intercept)    45.35251    3.92491  11.555
## Response_SubjPE -0.14553    0.03646  -3.992
##
## Correlation of Fixed Effects:
##           (Intr)
## Rspns_SbjPE -0.088

## [1] "Model 3 summary: Response_Ax ~ Response_SubjPE * mini_SPIN_total + (Response_SubjPE | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_SubjPE * mini_SPIN_total + (Response_SubjPE |
##   Random_ID)
##   Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15521.4
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.8462 -0.5013 -0.0544  0.4271  6.2320
##
## Random effects:
##   Groups      Name              Variance Std.Dev. Corr
##   Random_ID (Intercept)    420.27120  20.5005
##              Response_SubjPE   0.03908   0.1977  -0.06
##   Residual                214.24151  14.6370
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##
##           Estimate Std. Error t value
## (Intercept)    19.698347    6.801284   2.896
## Response_SubjPE    -0.119282    0.075589  -1.578
## mini_SPIN_total     3.815016    0.887868   4.297
## Response_SubjPE:mini_SPIN_total -0.003939    0.009883  -0.399
##
## Correlation of Fixed Effects:
##           (Intr) Rs_SPE m_SPIN
## Rspns_SbjPE -0.055
## mn_SPIN_ttl -0.878  0.050
## R_SPE:_SPIN  0.050 -0.874 -0.061

## [1] "Model 4 summary: Response_Ax ~ Response_fdbk + (1 | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_fdbk + (1 | Random_ID)
##   Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15557.2
##

```

```

## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.6742 -0.5148 -0.0642  0.4637  6.2131
##
## Random effects:
##      Groups      Name      Variance Std.Dev.
## Random_ID (Intercept) 589.3      24.28
## Residual              223.5      14.95
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)  52.07636    3.92770  13.259
## Response_fdbk -0.14254    0.01462  -9.752
##
## Correlation of Fixed Effects:
##              (Intr)
## Respns_fdbk -0.193

## [1] "Model 5 summary: Response_Ax ~ Response_fdbk + (Response_fdbk | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_fdbk + (Response_fdbk | Random_ID)
##      Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15452.1
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.9820 -0.4830 -0.0557  0.4204  6.5398
##
## Random effects:
##      Groups      Name      Variance Std.Dev. Corr
## Random_ID (Intercept) 716.65000 26.7703
##              Response_fdbk  0.03576  0.1891 -0.42
## Residual              203.31588 14.2589
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##              Estimate Std. Error t value
## (Intercept)  52.04920    4.30669  12.086
## Response_fdbk -0.14207    0.03299  -4.306
##
## Correlation of Fixed Effects:
##              (Intr)
## Respns_fdbk -0.449

## [1] "Model 6 summary: Response_Ax ~ Response_fdbk * mini_SPIN_total + (Response_fdbk | Random_ID)"

## Linear mixed model fit by REML ['lmerMod']
## Formula: Response_Ax ~ Response_fdbk * mini_SPIN_total + (Response_fdbk |
##      Random_ID)

```

```

## Data: final_df17
## Control: lmerControl(optimizer = "bobyqa")
##
## REML criterion at convergence: 15439.8
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.9854 -0.4859 -0.0552  0.4238  6.5493
##
## Random effects:
##   Groups      Name                Variance Std.Dev. Corr
##   Random_ID (Intercept)    594.86795  24.3899
##               Response_fdbk    0.03517   0.1875  -0.59
##   Residual                  203.31656  14.2589
## Number of obs: 1863, groups: Random_ID, 40
##
## Fixed effects:
##               Estimate Std. Error t value
## (Intercept)      30.828543   8.211094   3.754
## Response_fdbk      -0.216144   0.068311  -3.164
## mini_SPIN_total      3.155468   1.071568   2.945
## Response_fdbk:mini_SPIN_total  0.011013   0.008916   1.235
##
## Correlation of Fixed Effects:
##              (Intr) Rspns_ m_SPIN
## Rspns_fdbk -0.604
## mn_SPIN_ttl -0.878  0.530
## Rsp_:_SPIN_  0.530 -0.877 -0.604

## [1] "AIC model1:"

## [1] 15593.9

## [1] "AIC model2:"

## [1] 15543.05

## [1] "AIC model3:"

## [1] 15537.4

## [1] "AIC model4:"

## [1] 15565.19

## [1] "AIC model5:"

## [1] 15464.09

## [1] "AIC model6:"

## [1] 15455.76

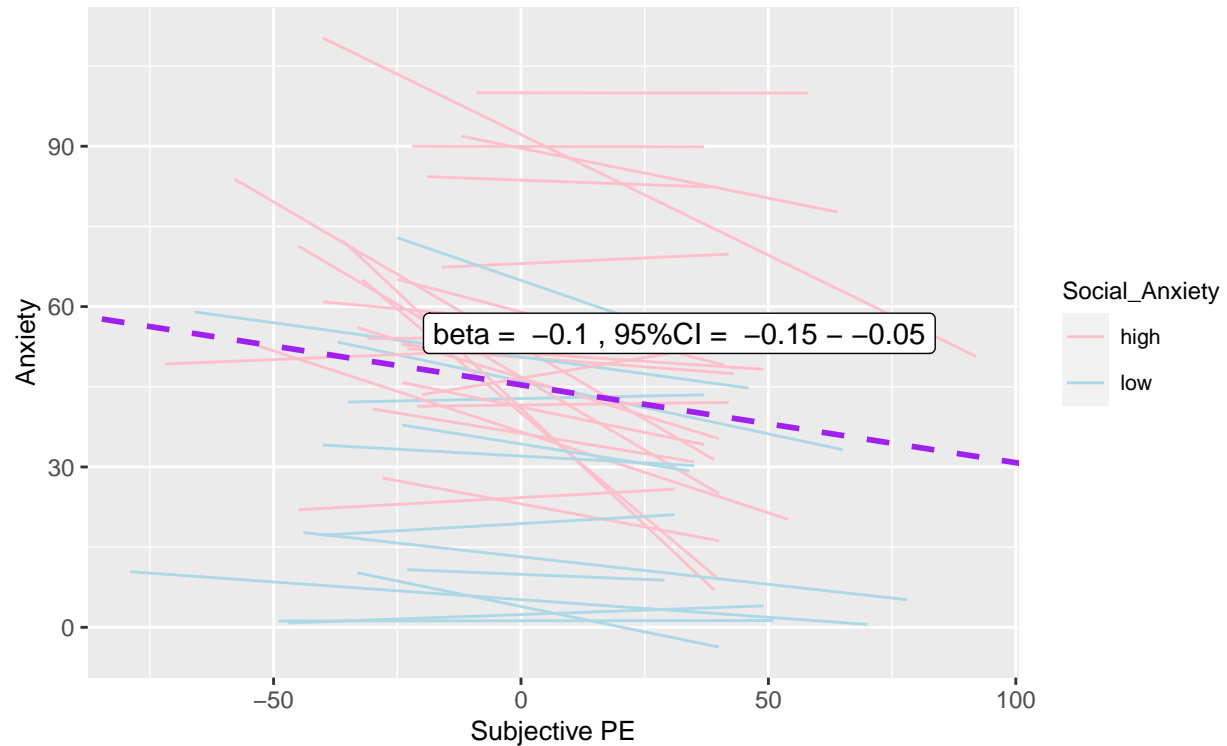
```

## Individual plots with LME for Anxiety with SubjPE

When looking at subjective PE, the best model is  $\text{Anxiety} \sim \text{SubjPE} + (\text{SubjPE} \mid \text{Random\_ID})$  with an AIC of 19691.4

### Relationship between Anxiety and subjective PE

estimated slopes of the association in  $n = 40$



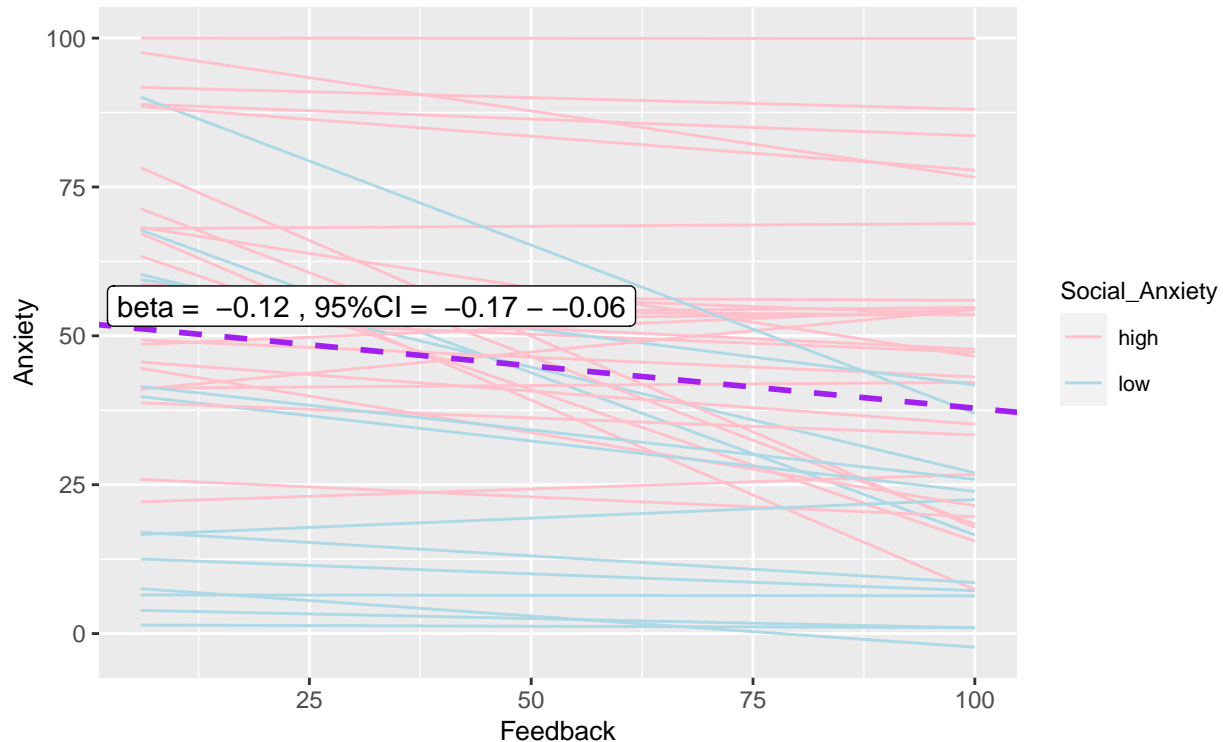


## Individual plots with LME for Anxiety with feedback instead of SubjPE

When including feedback the best model is Anxiety ~ feedback + (Random\_ID) with an AIC of 8761.136

### Relationship between Anxiety and Feedback

estimated slopes of the association in n = 40



Anxiety over time (looking at chocking vs no\_chocking)

```
unique_ids <- unique(final_df17$Random_ID)

# Selecting the first 10 unique IDs
random_ids <- unique_ids[1:10]

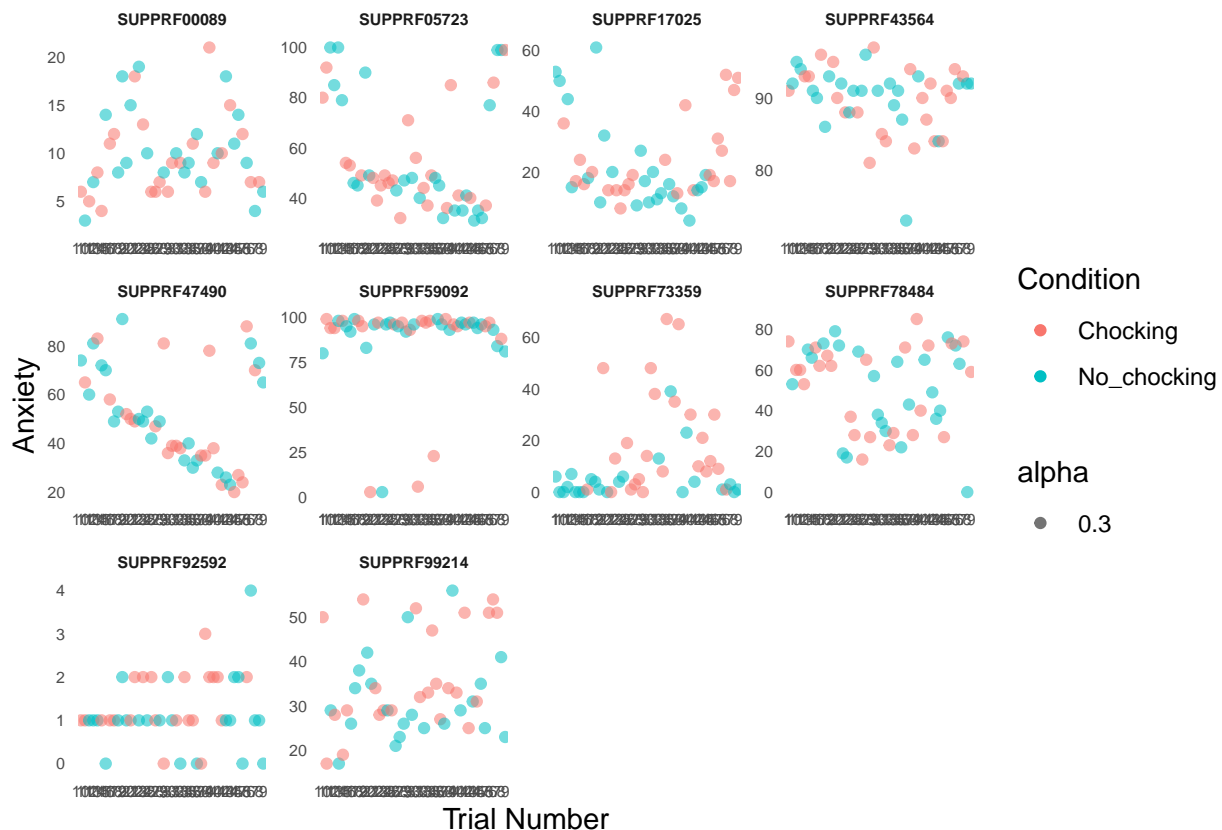
# Subsetting the dataset with the selected IDs
final_df17_sample1 <- final_df17[final_df17$Random_ID %in% random_ids, ]

random_ids2 <- unique_ids[11:20]

# Subsetting the dataset with the selected IDs
final_df17_sample2 <- final_df17[final_df17$Random_ID %in% random_ids2, ]

ggplot(final_df17_sample2, aes(x = New_Trial_Number, y = Response_Ax, color = Condition)) +
  geom_point(aes(color=Condition, alpha = 0.3)) +
  # labs(color="Legend") +
  theme_minimal() +
  xlab("Trial Number") +
```

```
ylab("Anxiety") +
  facet_wrap(~ Random_ID, scales = "free") +
  theme(strip.text = element_text(size = 6),
        axis.text.x = element_text(size = 5.5),
        axis.text.y = element_text(size = 5.5),
        strip.text.x = element_text(face = "bold"),
        strip.text.y = element_text(face = "bold"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank(),
        panel.background = element_blank())
```



Mood over time (looking at chocking vs no\_chocking)

```
unique_ids <- unique(final_df17$Random_ID)

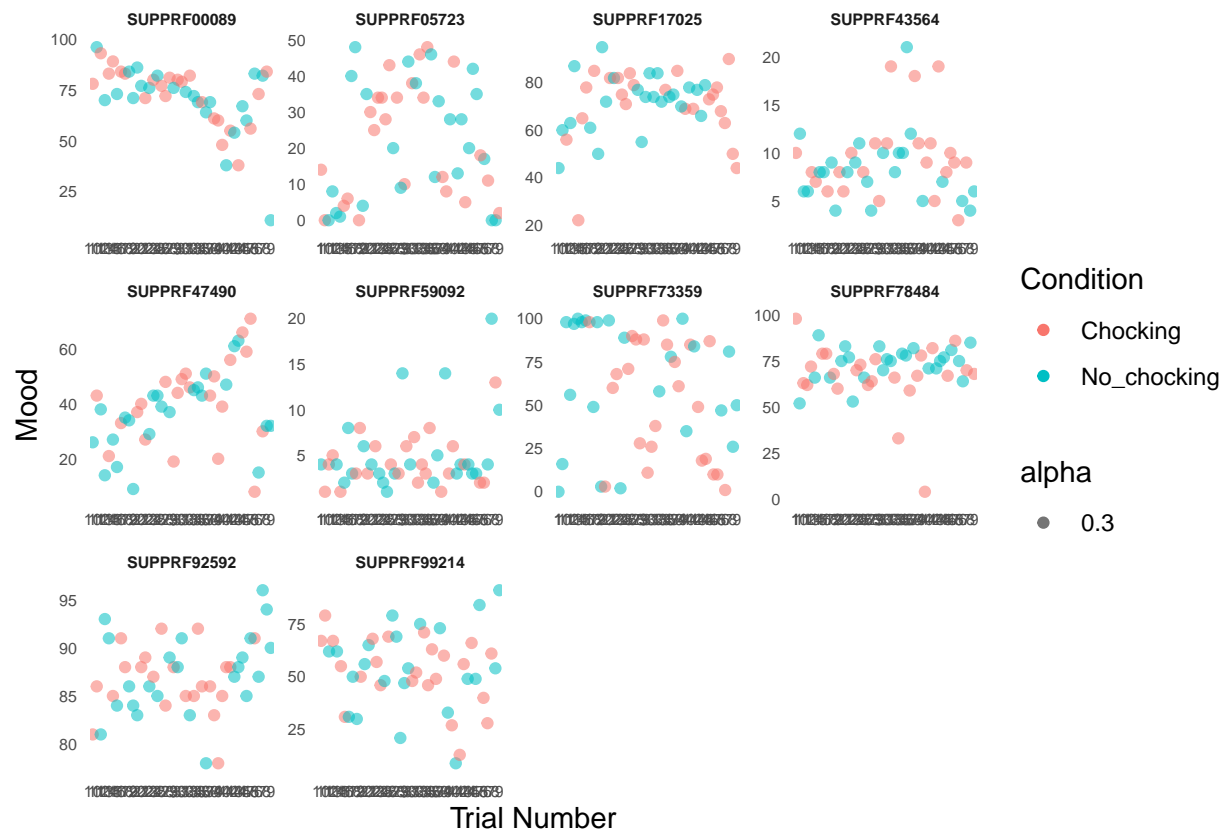
# Selecting the first 10 unique IDs
random_ids <- unique_ids[1:10]

# Subsetting the dataset with the selected IDs
final_df17_sample1 <- final_df17[final_df17$Random_ID %in% random_ids, ]

random_ids2 <- unique_ids[11:20]

# Subsetting the dataset with the selected IDs
final_df17_sample2 <- final_df17[final_df17$Random_ID %in% random_ids2, ]
```

```
ggplot(final_df17_sample2, aes(x = New_Trial_Number, y = Response_H, color = Condition)) +
  geom_point(aes(color=Condition, alpha = 0.3)) +
  # labs(color="Legend") +
  theme_minimal() +
  xlab("Trial Number") +
  ylab("Mood") +
  facet_wrap(~ Random_ID, scales = "free") +
  theme(strip.text = element_text(size = 6),
        axis.text.x = element_text(size = 5.5),
        axis.text.y = element_text(size = 5.5),
        strip.text.x = element_text(face = "bold"),
        strip.text.y = element_text(face = "bold"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank(),
        panel.background = element_blank())
```



## ICC for anxiety

we will now look at the ICC outcome for anxiety The ICC for anxiety is 0.71, which is moderate according to guidelines by Koo and Li (2016): below 0.50: poor between 0.50 and 0.75: moderate between 0.75 and 0.90: good above 0.90: excellent

```
## [1] "lmer for anxiety with just the intercept"
```

```
## [1] 0.7148693
```

```
##           2.5 %   97.5 %  
## .sig01      19.49426 30.40554  
## .sigma      14.84507 15.84089  
## (Intercept) 37.05121 52.33513
```

## ICC for mood

The ICC for mood is 0.54, which is higher than the one in pilots 15 and 16 (which were 0.48 and 0.51) and within the moderate category, according to guidelines by Koo and Li (2016): below 0.50: poor between 0.50 and 0.75: moderate between 0.75 and 0.90: good above 0.90: excellent

```
## [1] "lmer for mood with just the intercept"
```

```
## [1] 0.5448546
```

```
##           2.5 %   97.5 %  
## .sig01      15.42251 24.15654  
## .sigma      17.03977 18.18280  
## (Intercept) 44.55598 56.73464
```