

Surprise study analysis

Marjan Biria

2024-08-19

Study description

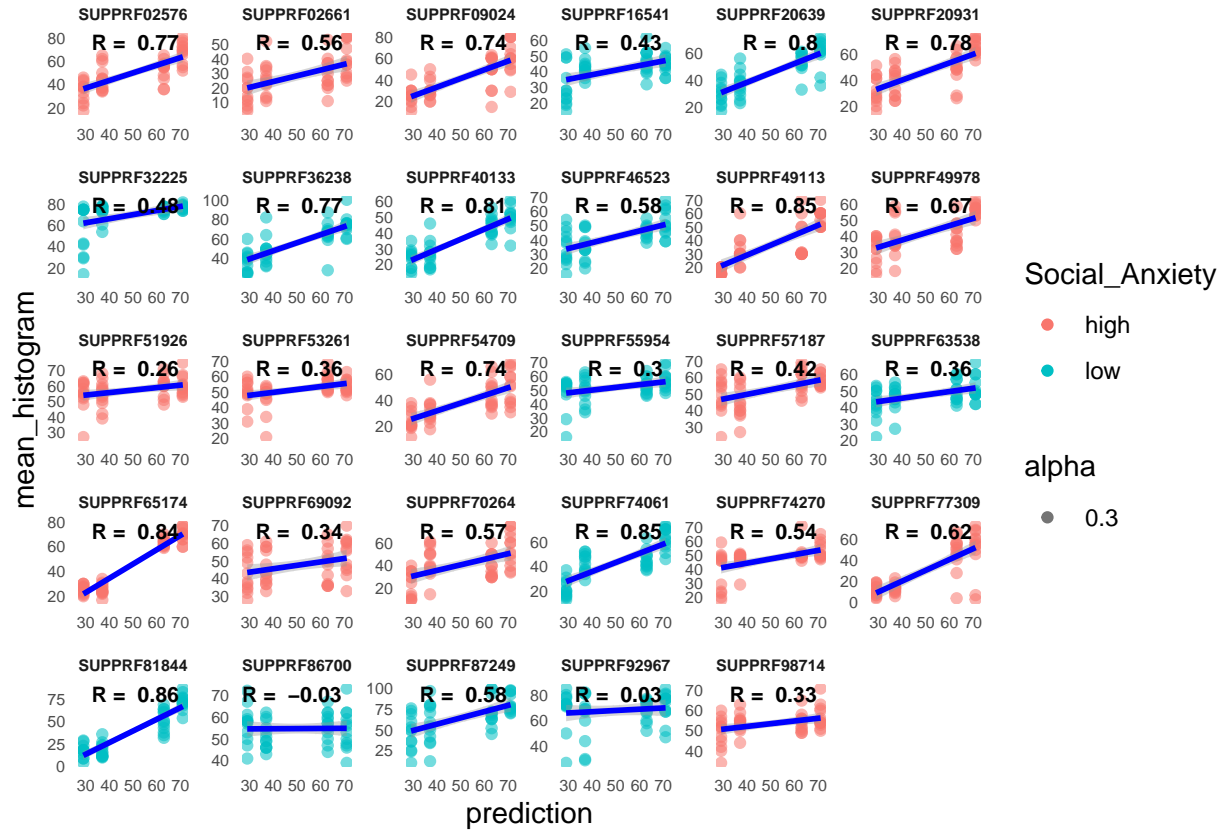
This is the first surprise study using the same task version as pilot 21. We had the following groups of participants with the experiment's corresponding Gorilla link: - Prolific aged 18-25 (n = 30): <https://app.gorilla.sc/admin/experiment/180921/design> - Prolific aged 26-45 (n = 38): <https://app.gorilla.sc/admin/experiment/185160/design> - School students aged 14-18 (n = 30): <https://app.gorilla.sc/admin/experiment/177048/design> - Promunity participants aged 18-25 (n = 24): <https://app.gorilla.sc/admin/experiment/180348/design>

The sample sizes include participants that potentially need to be excluded.

```
## # A tibble: 29 x 2
##   Random_ID Trial.Number
##   <chr>      <int>
## 1 SUPPRF02576      48
## 2 SUPPRF02661      48
## 3 SUPPRF09024      48
## 4 SUPPRF16541      48
## 5 SUPPRF20639      47
## 6 SUPPRF20931      48
## 7 SUPPRF32225      48
## 8 SUPPRF36238      48
## 9 SUPPRF40133      48
## 10 SUPPRF46523      48
## # i 19 more rows
```

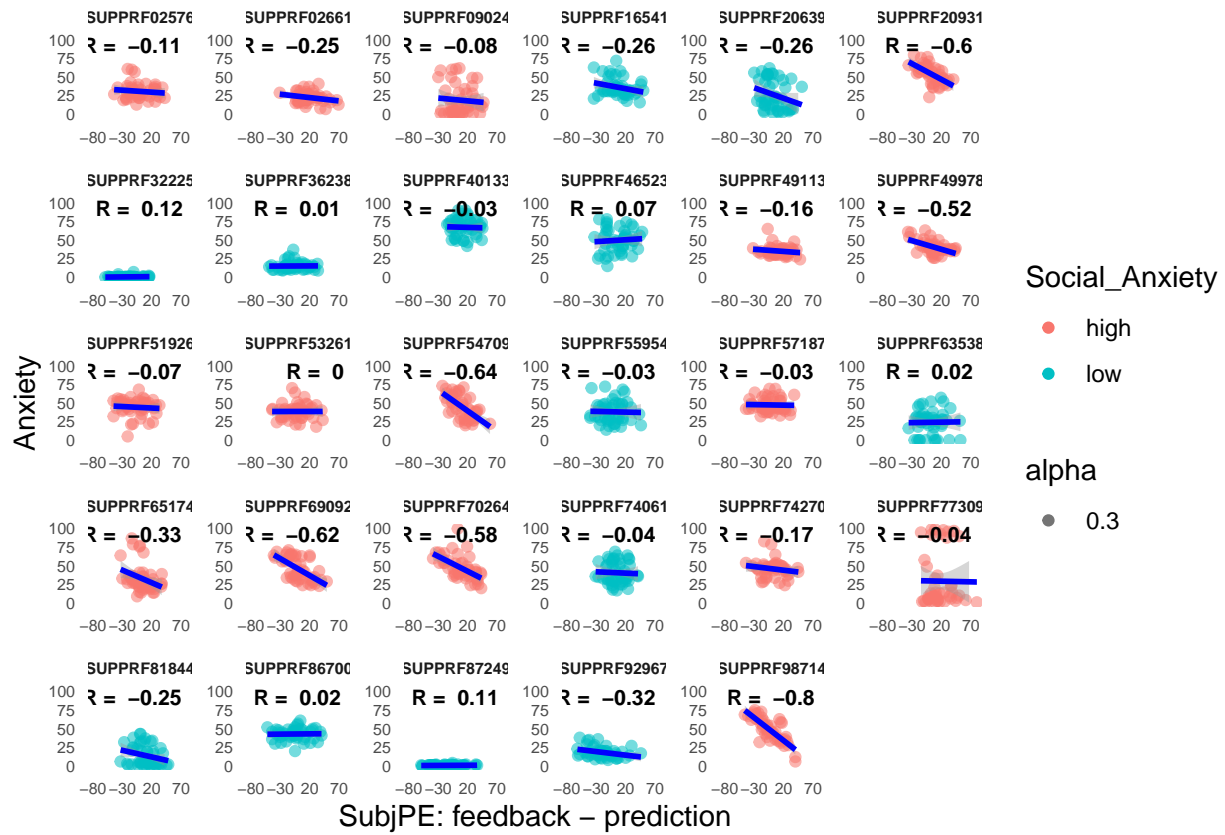
Relationship between prediction and mean histograms (4x only in the beginning)

[1] "average correlation between mean_hist and prediction: 0.558733954912817"



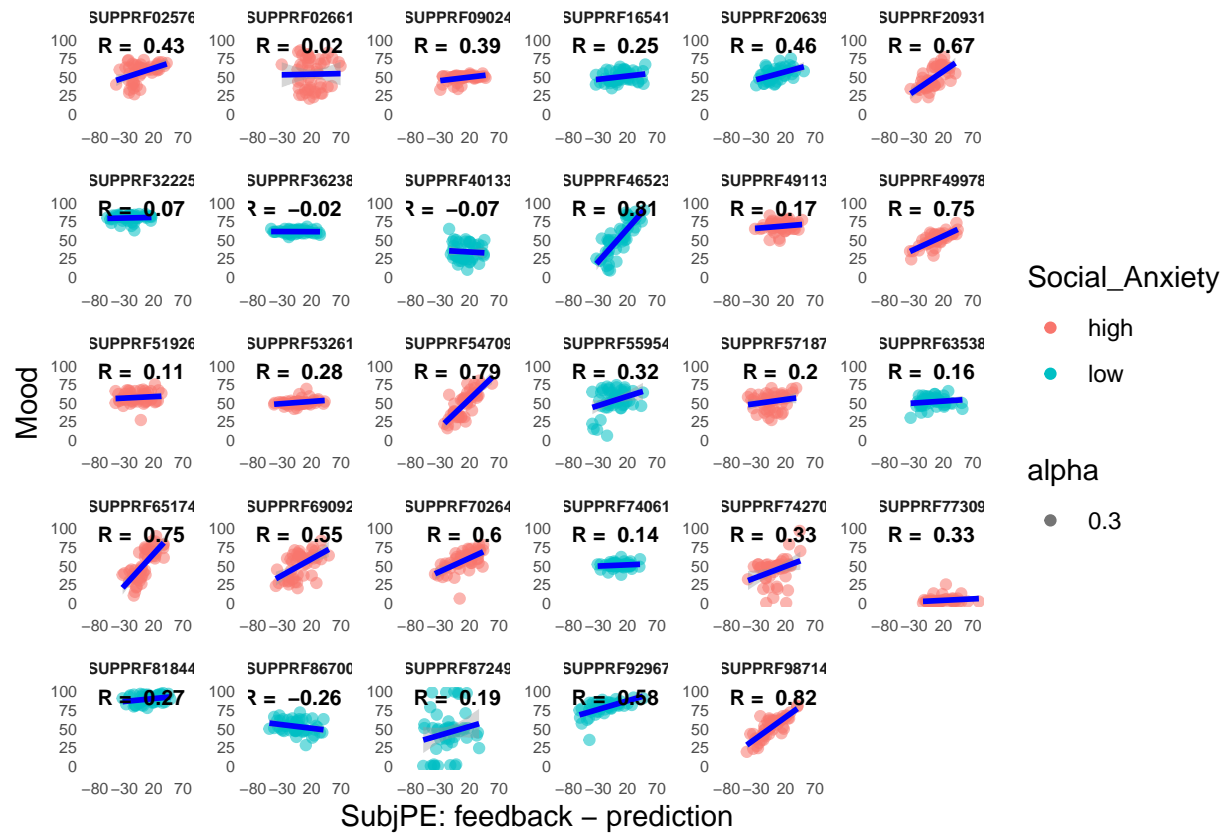
Relationship between Anxiety and SubjPE

[1] "average correlation between anxiety and SubjPE: -0.201292617081705"



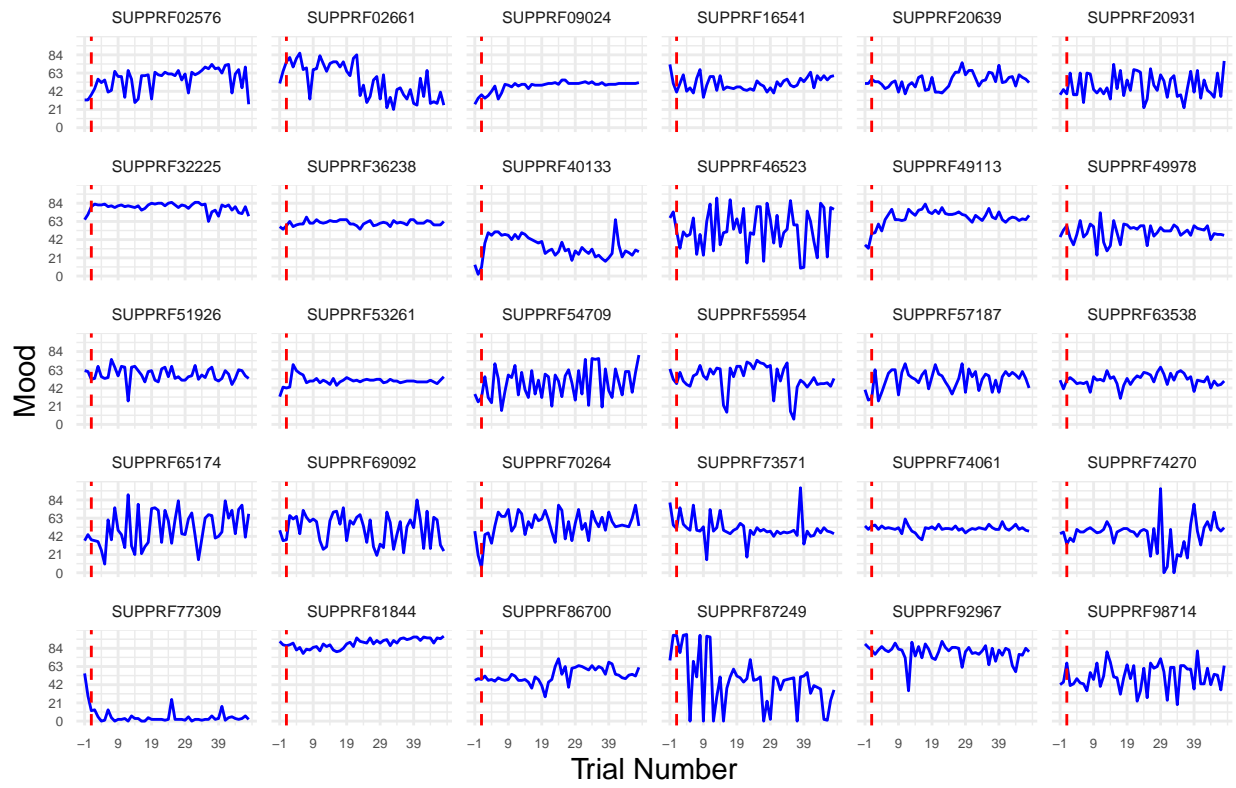
Relationship between Mood and SubjPE

[1] "average correlation between mood and SubjPE: 0.34815728535879"



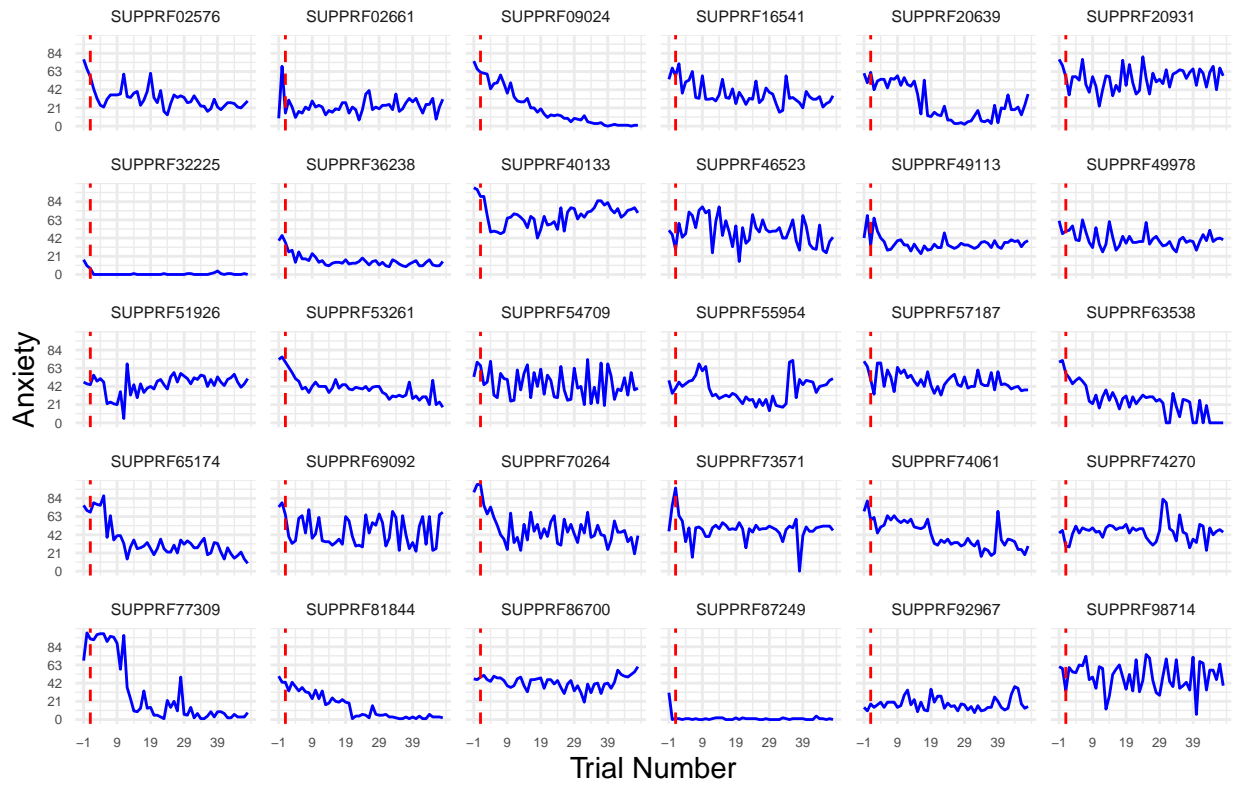
Mood over time

Mood across time



Anxiety over time

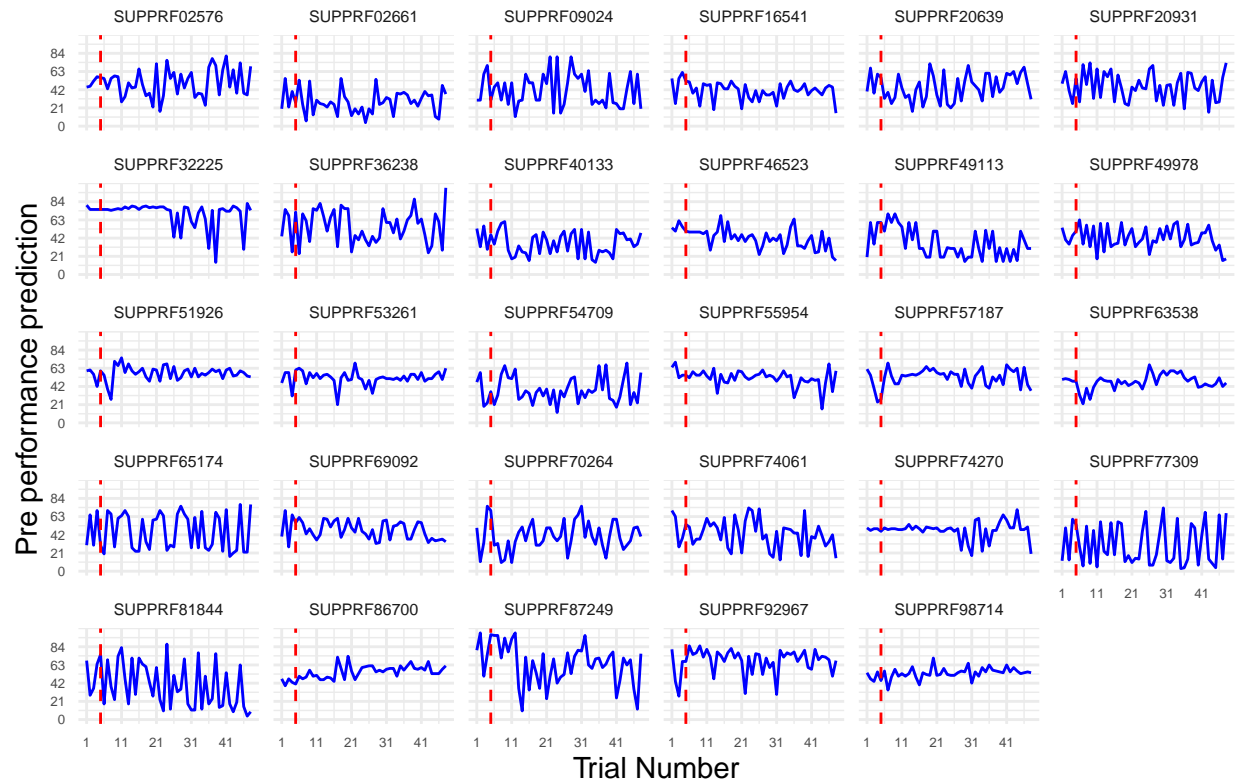
Anxiety across time



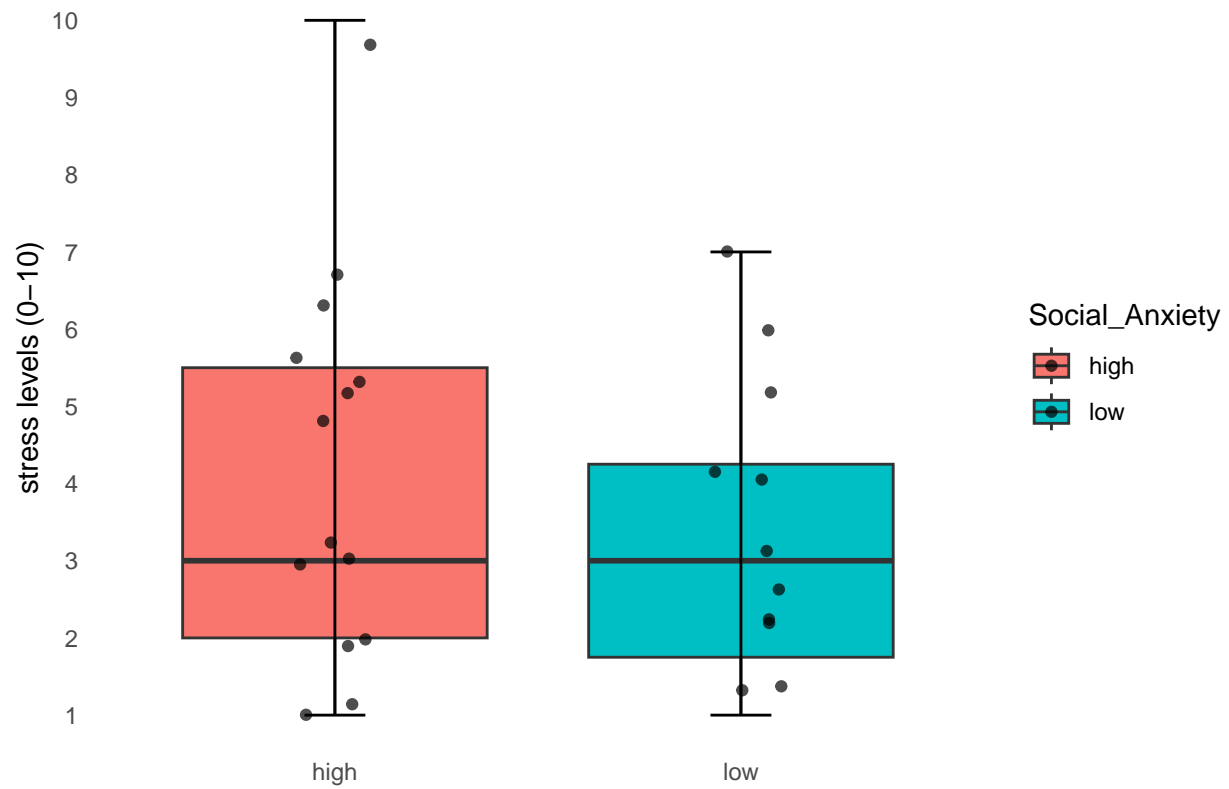
Prediction before performance over time

Red line presents until what points histograms were presented (4 first trials only).

Prediction before performance across time



Stress levels and social anxiety



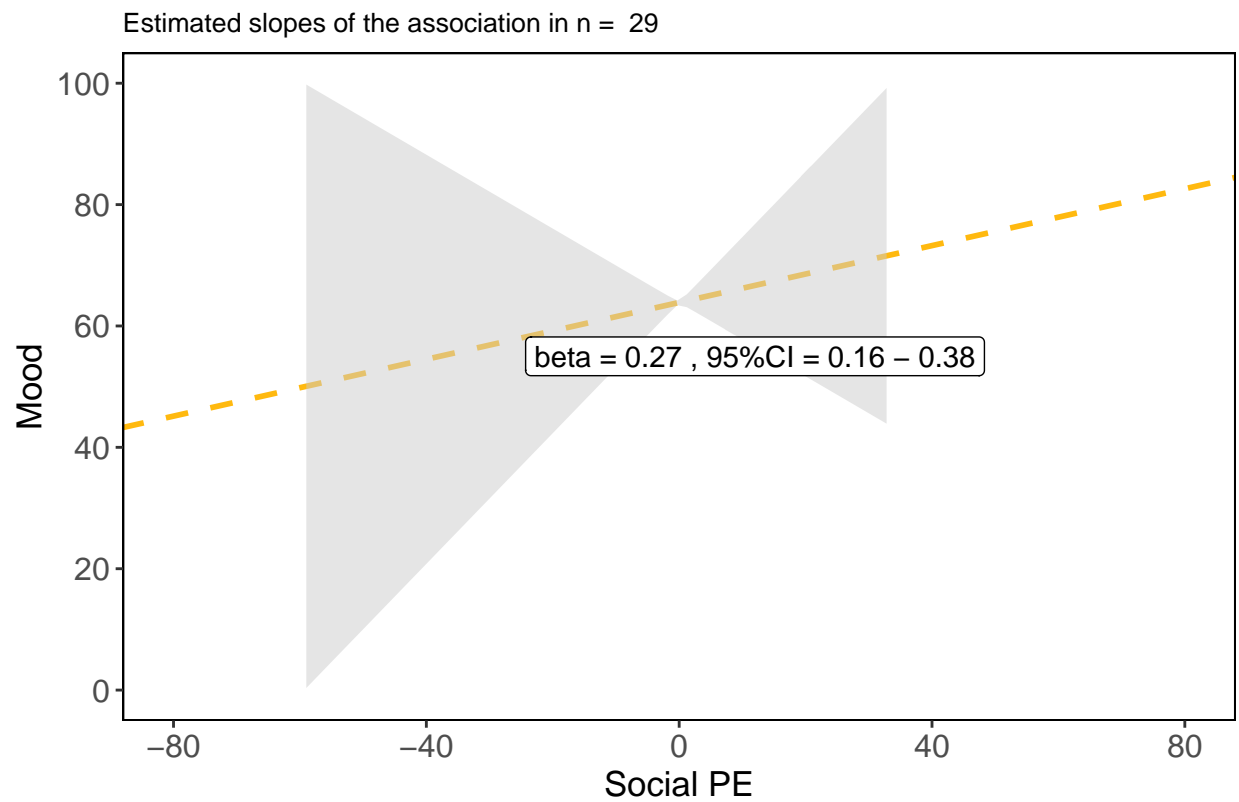
LME models for Mood and SubjPE

The best model seems to be: $\text{Mood} \sim \text{SubjPE} + \text{mini_SPIN_total} + (\text{SubjPE} \mid \text{Random_ID})$

[1] 10907.3

[1] 11066.05

[1] 10903.28



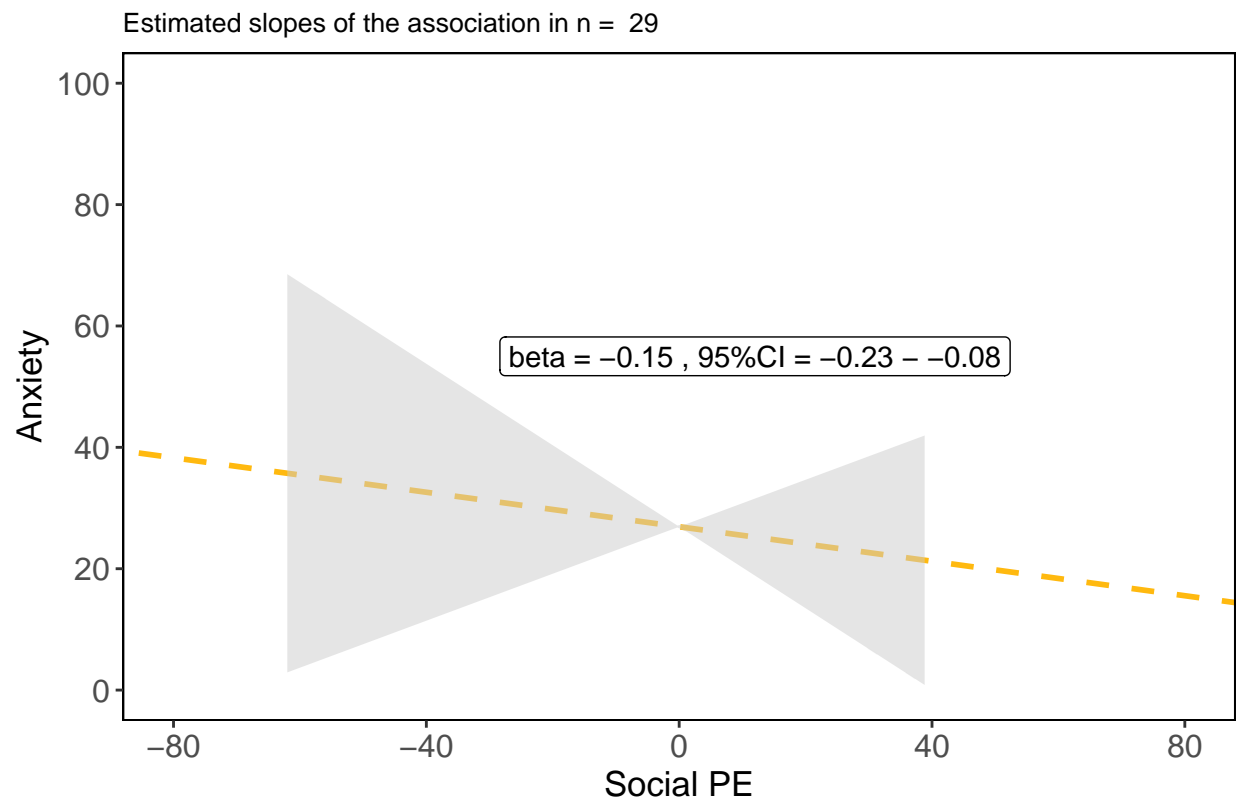
LME models for Anxiety and SubjPE

The best model seems to be: $\text{Anxiety} \sim \text{SubjPE} + \text{mini_SPIN_total} + (\text{SubjPE} \mid \text{Random_ID})$

[1] 11352.22

[1] 11384.38

[1] 11350.67



ICC for Mood

```
## # Intraclass Correlation Coefficient
##
##     Adjusted ICC: 0.544
##     Unadjusted ICC: 0.544
```

ICC for Anxiety

```
## # Intraclass Correlation Coefficient
##
##     Adjusted ICC: 0.537
##     Unadjusted ICC: 0.537
```