Attention pilots

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Attention pilot 1: study description

In this pilot we tested people on the attention pilot, where no feedback was provided and no prediction was collected. We have m_hist, anxiety, mood and certainty ratings for this pilot. This is the experiment on Gorilla: https://app.gorilla.sc/admin/project/115369 This is the task version used: https://app.gorilla.sc/admin/task/712861/editor?version=3
The Externally focused attention condition was presented first, followed by the internally focused attention. Each condition had 24 trials. I will keep the mood and anxiety ratings before they start the task to look at baseline anxiety and mood in the following analysis.

Anxiety and Mood ratings within subjects

There were 3 people that had given the same rating across all trials. Some people show the pattern we expect (lower anxiety, higher mood from IN to OUT conditions) but not everyone.

QUESTION: How can we best plot the group plot? We cannot plot the individual points anymore, as they would become hard to read; we could average within subjects but again not sure if this is the best approach? I also wonder maybe the fact that there was no feedback (per trial, only at the end) was not stressful enough. It would be interesting to pilot it with the feedback and prediction.
Let's also think how to have the feedback across both conditions: we do want to keep feedback constant to be comparable between conditions, right? If so, we would need to have 2 x 48 trials?

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## [1] "21 subjects out of 29 had high social anxiety"
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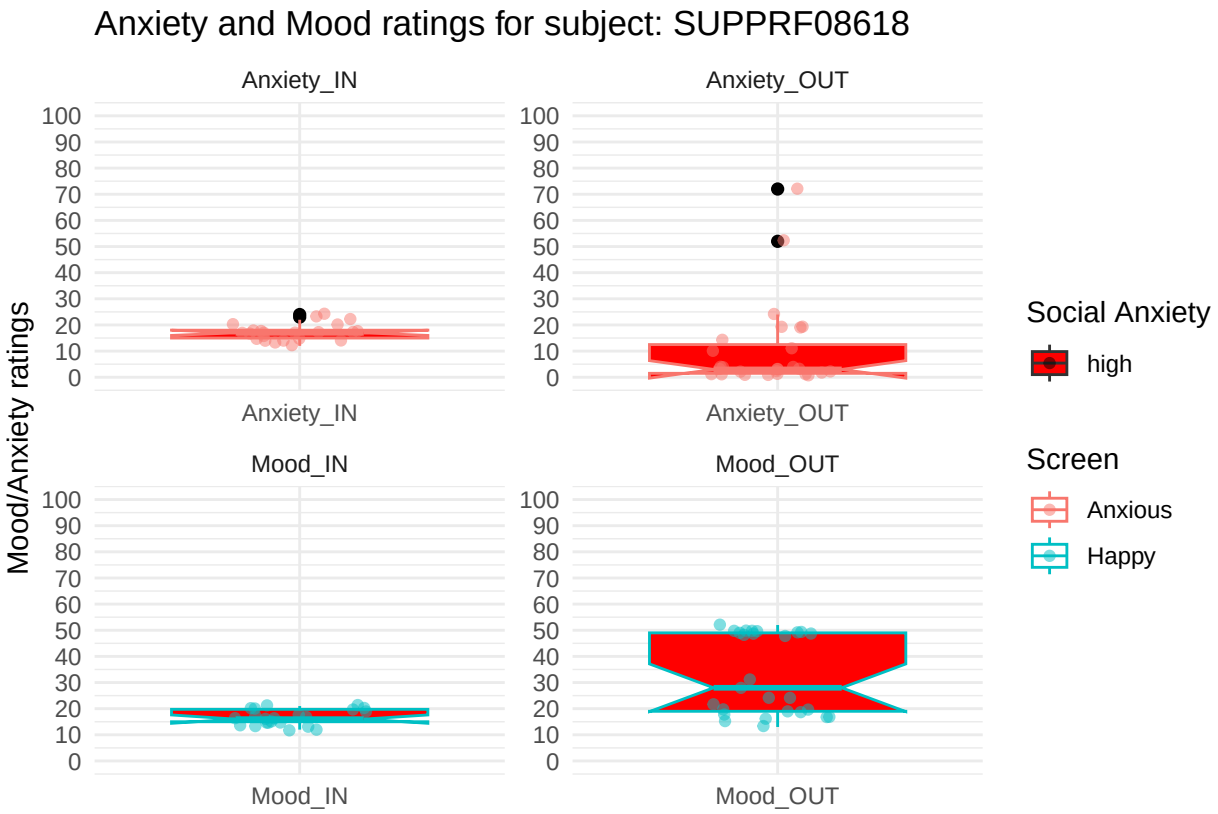

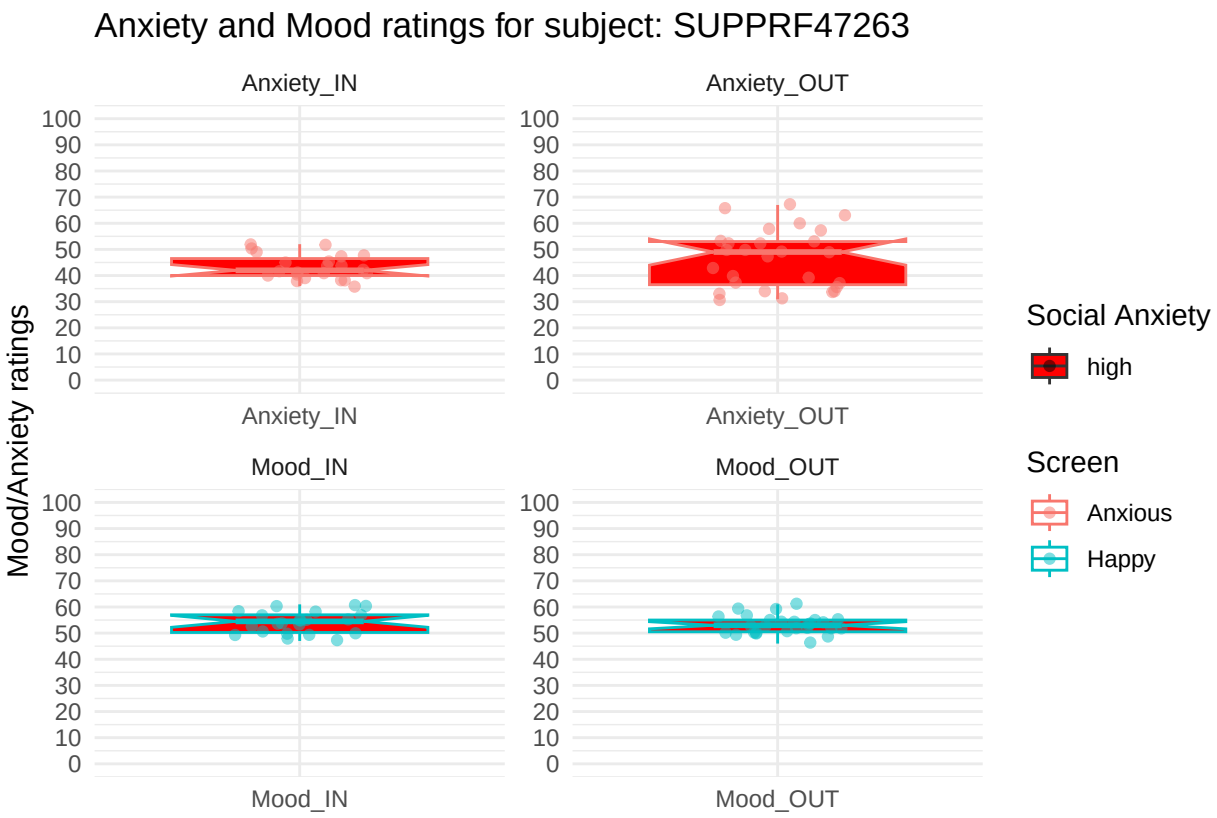
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Mood_OUT
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Screen
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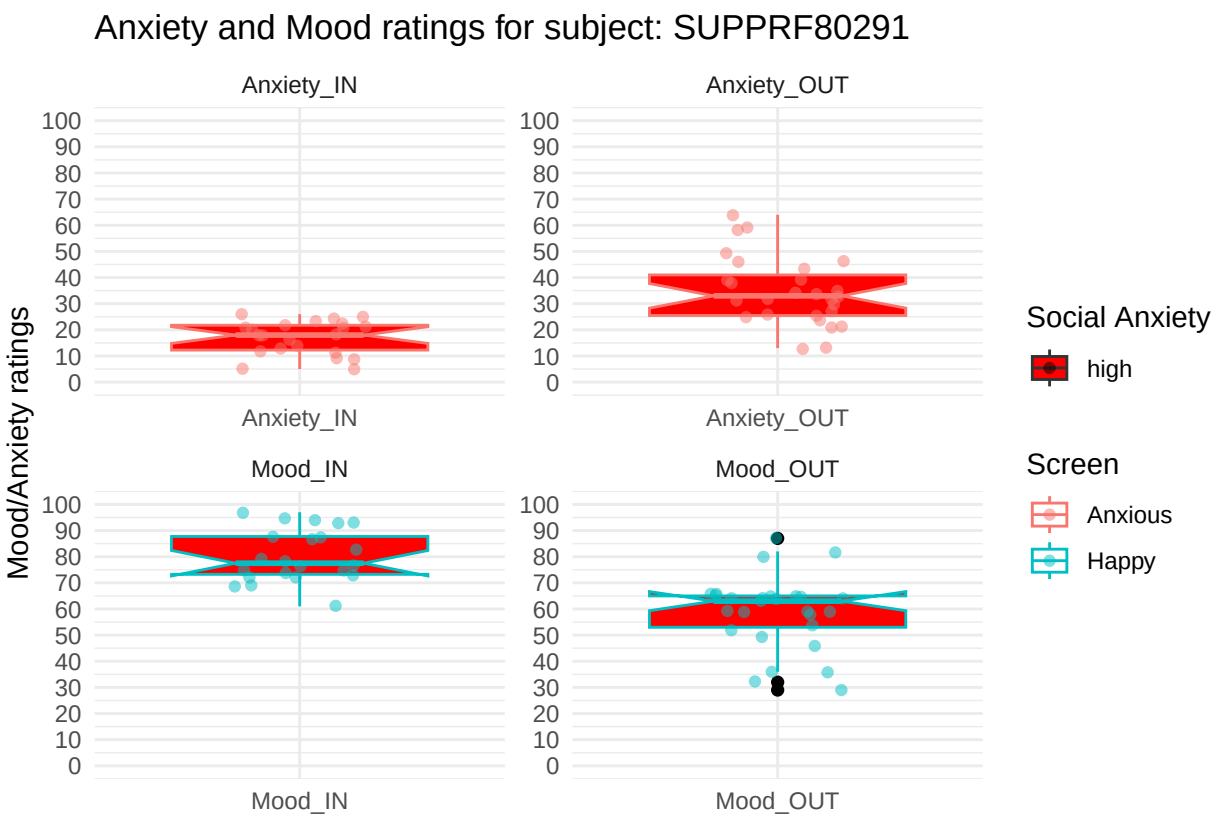
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Mood_IN
Mood_OUT
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high
Screen
Anxious
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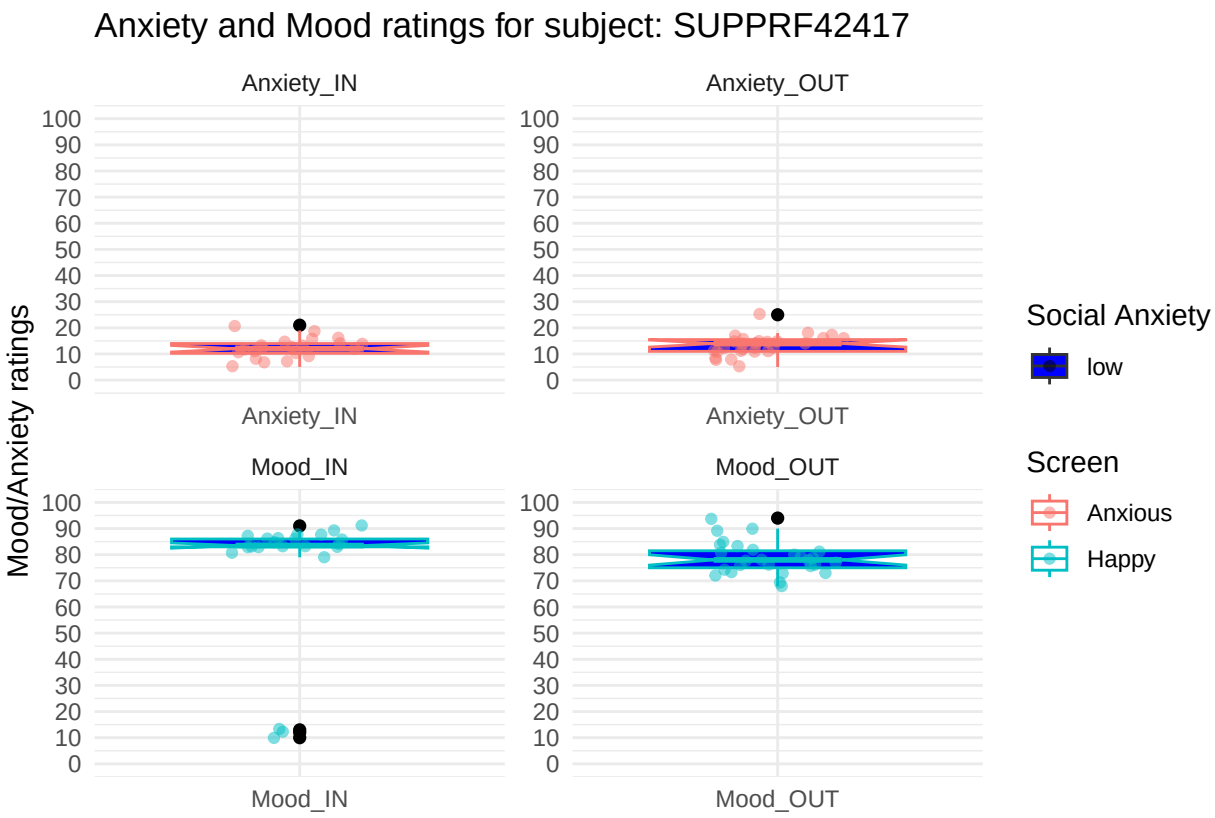
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Screen
Anxious
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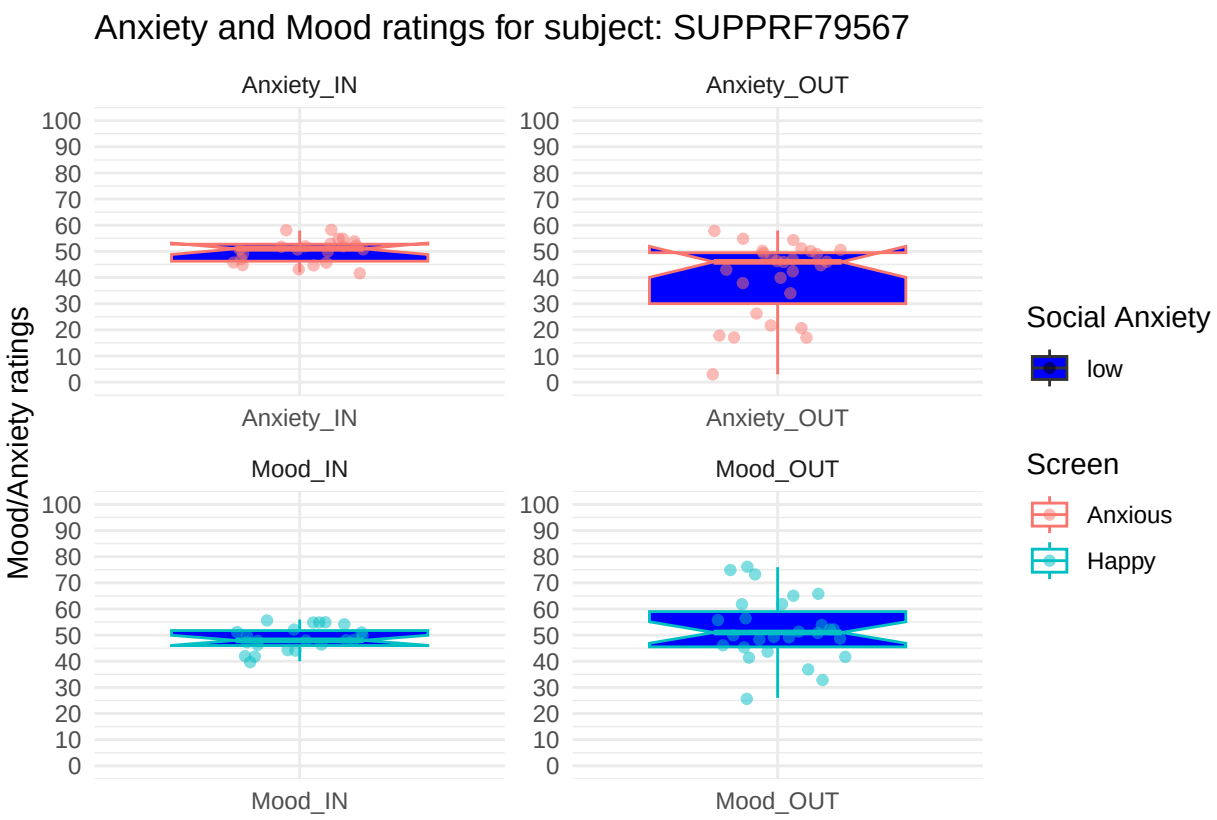
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Anxiety_OUT
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Social Anxiety
low
Screen
Anxious
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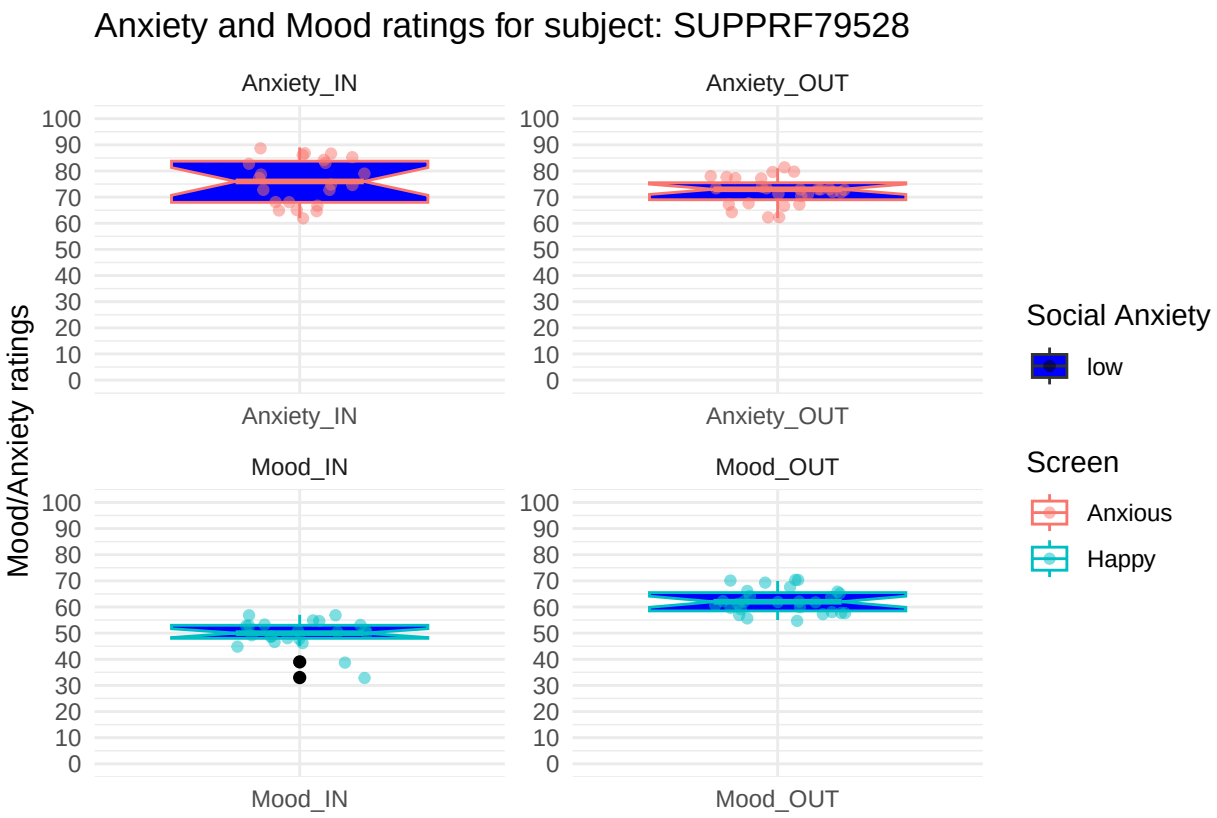
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Mood_IN
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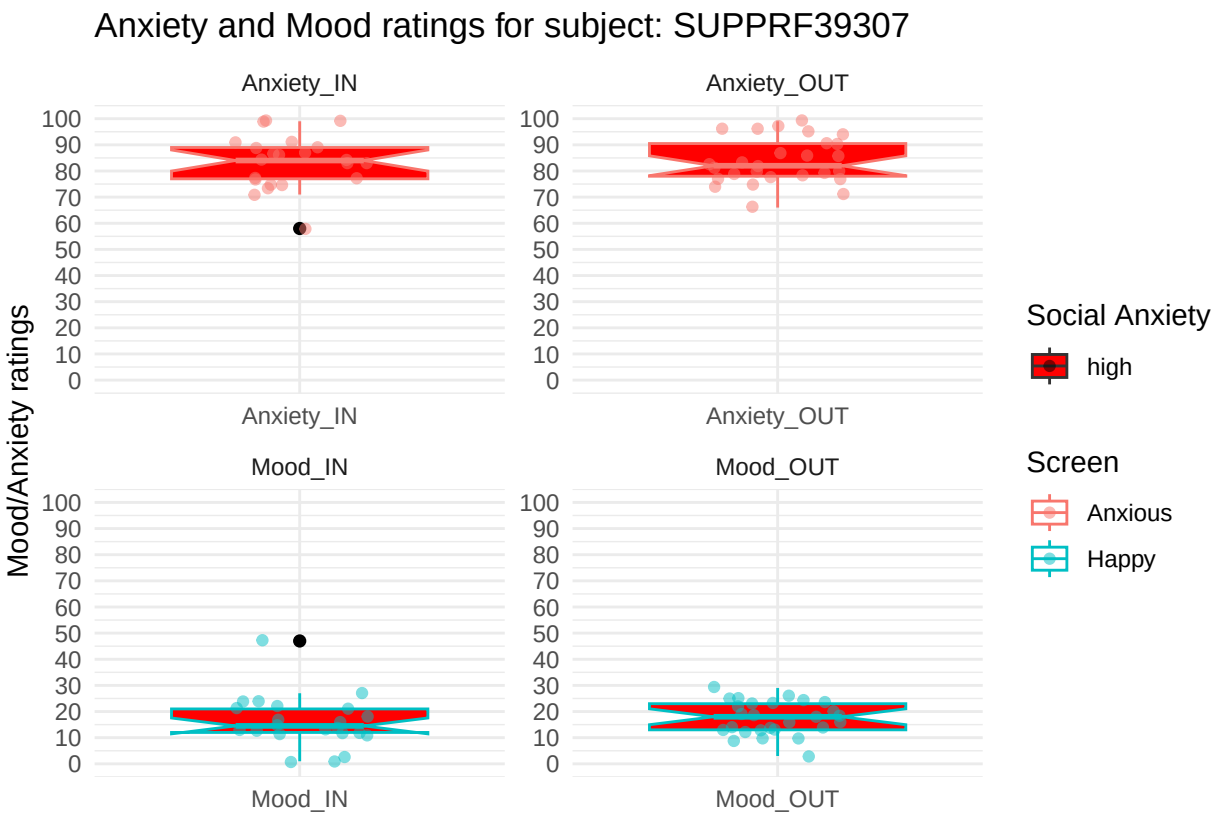
Social Anxiety
low
Screen
Anxious
Happy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Mood_IN
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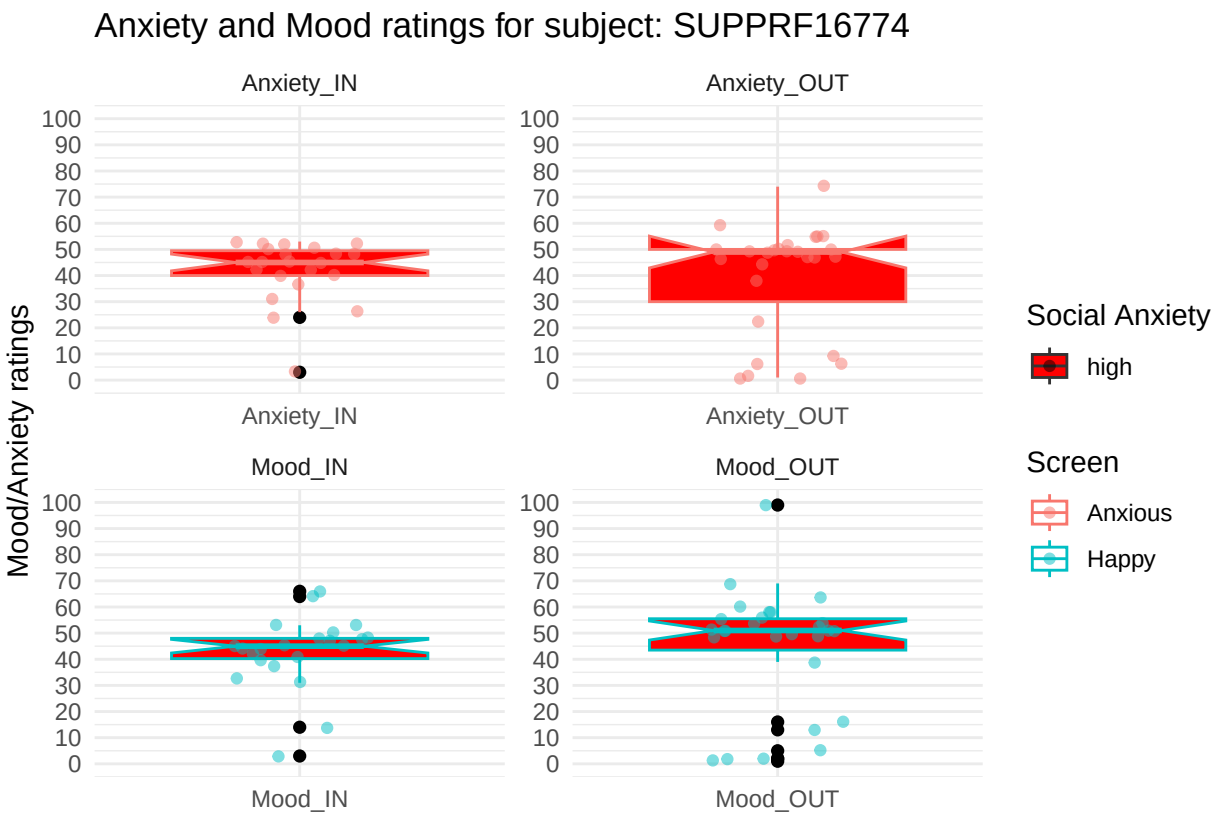
Social Anxiety
high
Screen
Anxious
Happy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Social Anxiety
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Screen
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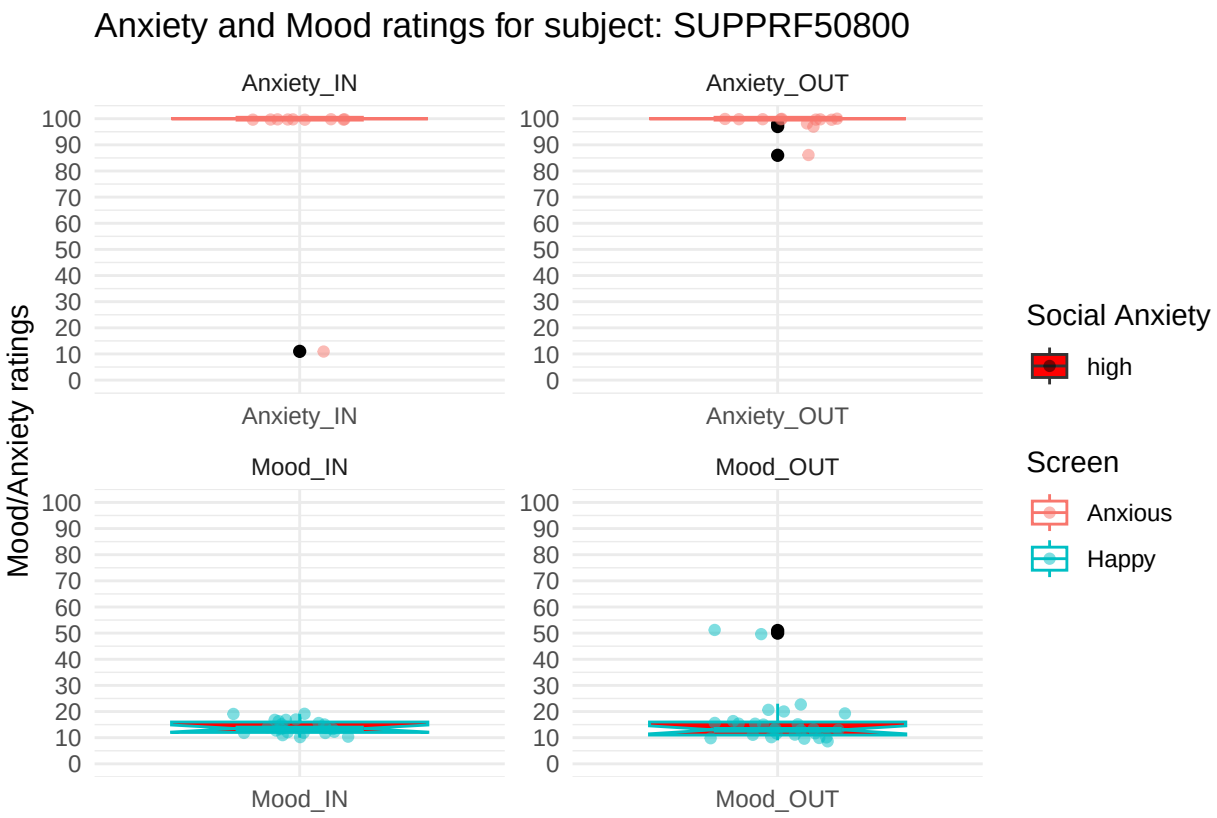
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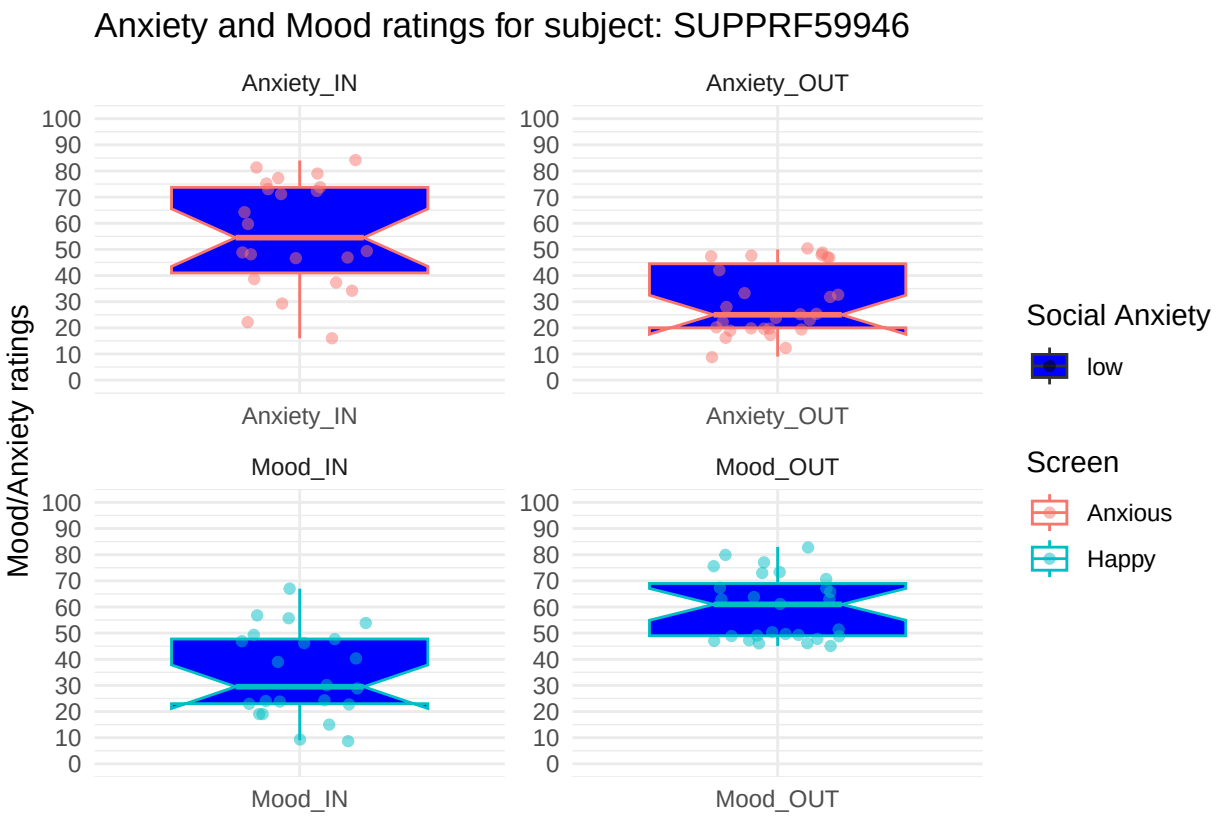
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
Screen
Anxious
Happy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Mood_OUT
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Mood_OUT
Social Anxiety
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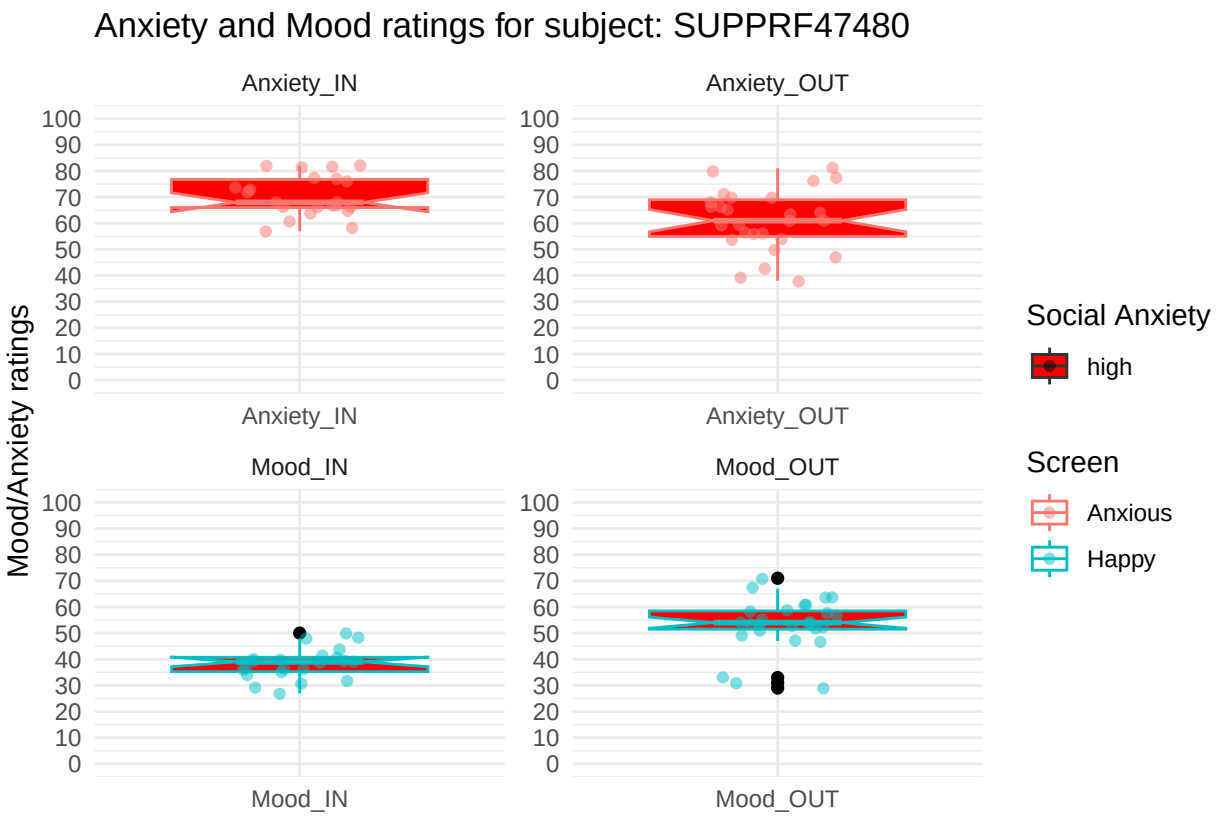
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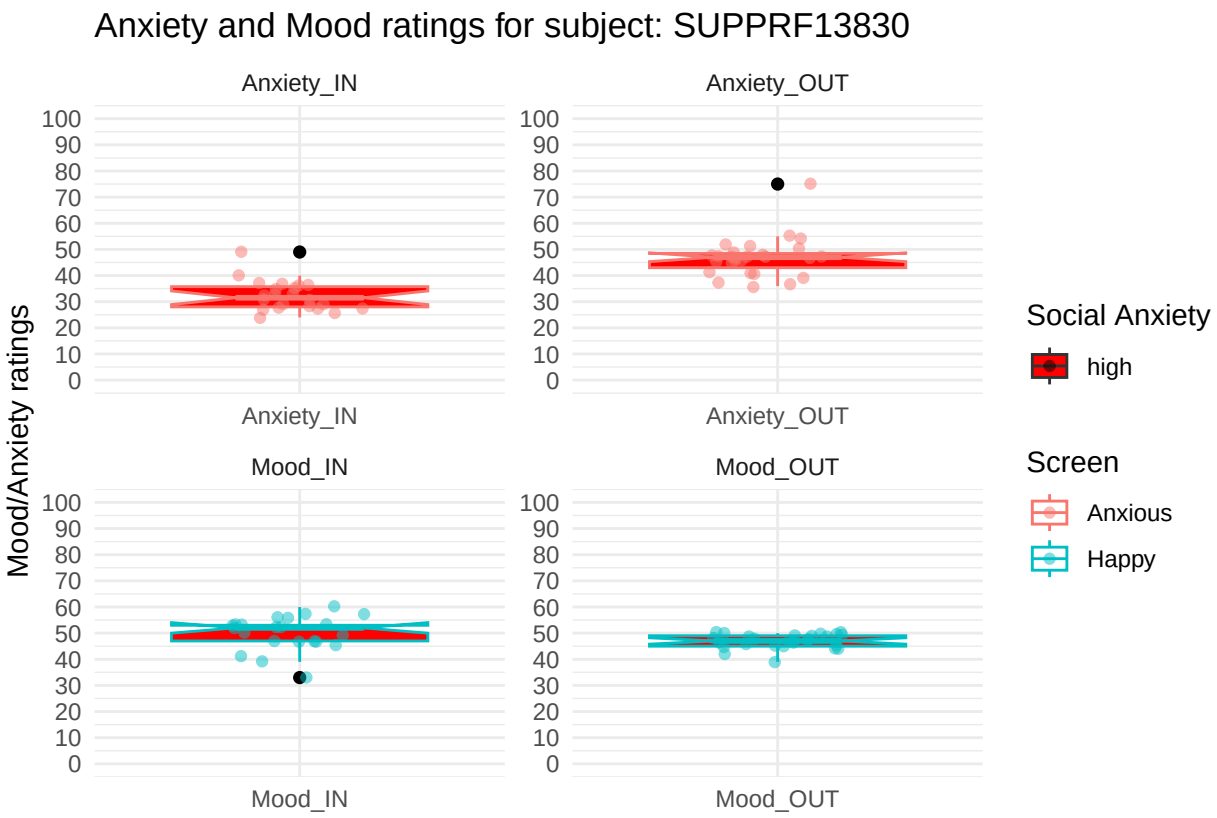
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Social Anxiety
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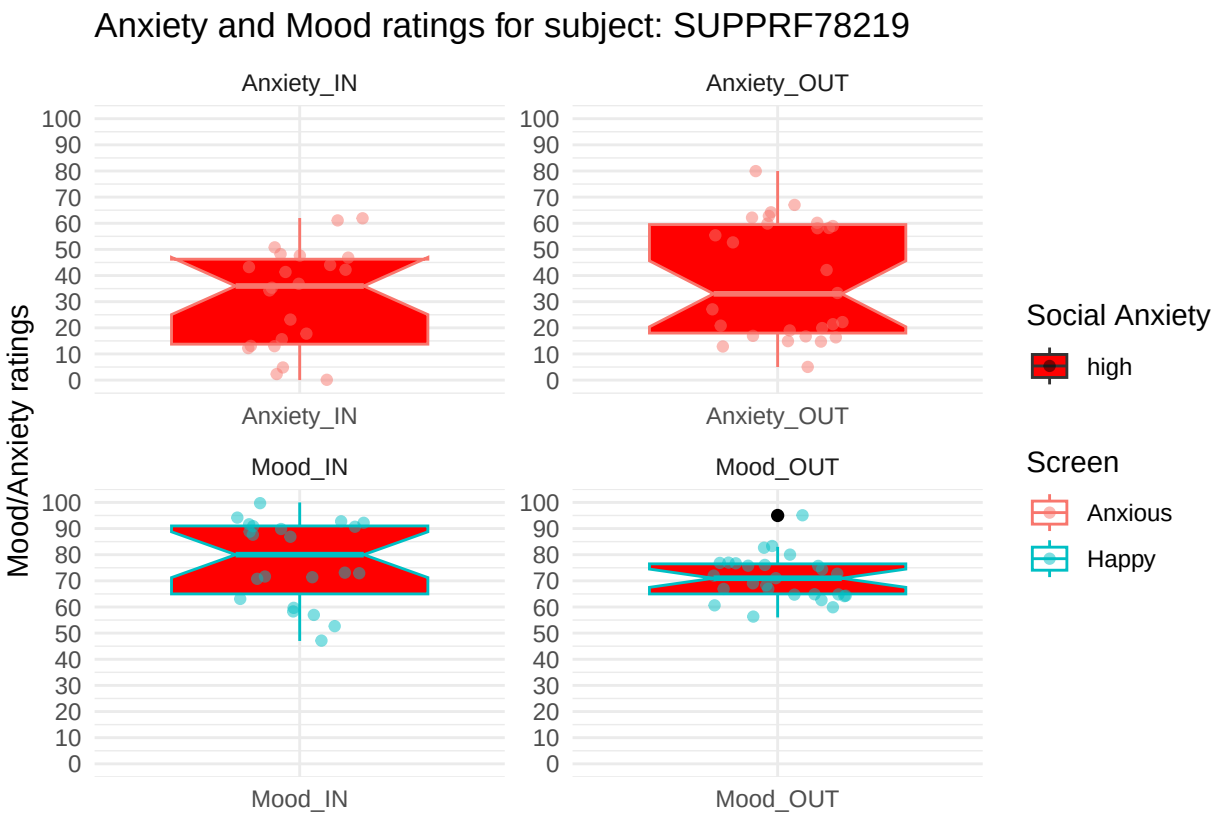
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Social Anxiety
high
Screen
Anxious
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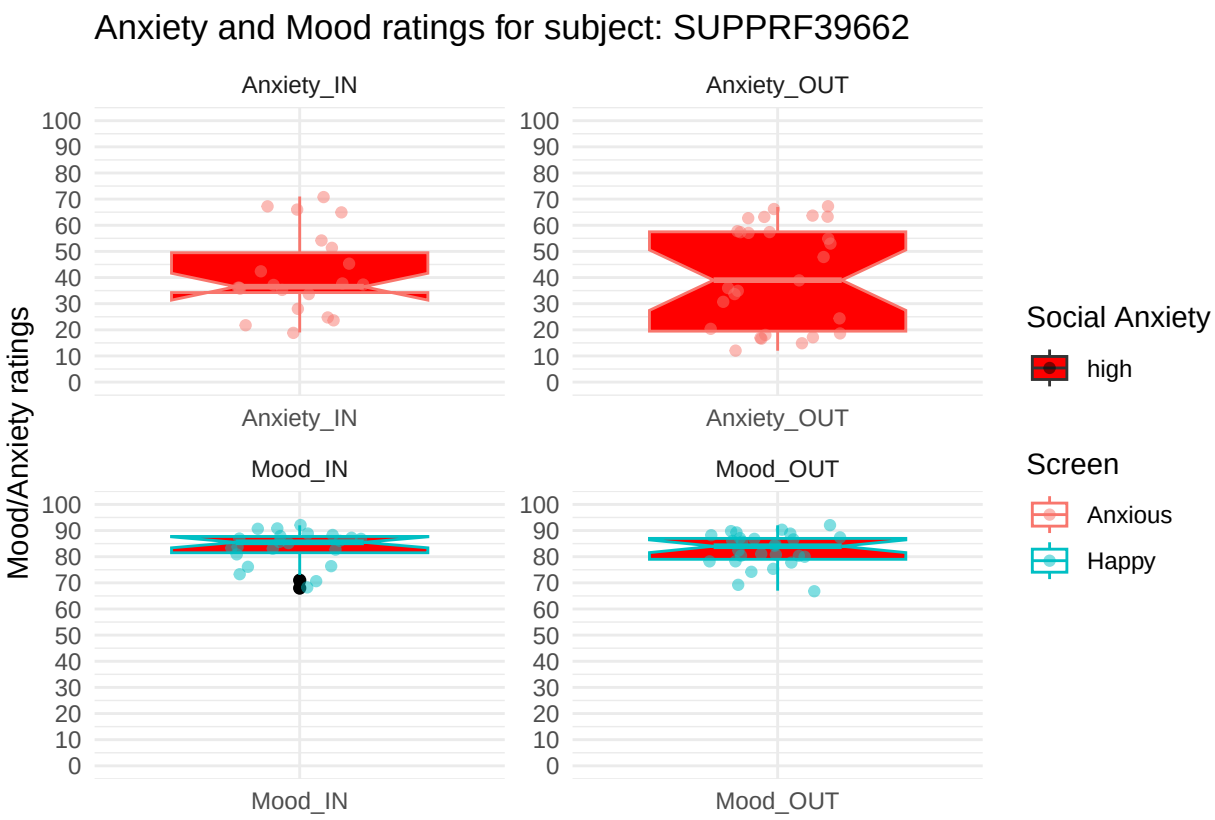
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Anxiety_OUT
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Mood_OUT
Social Anxiety
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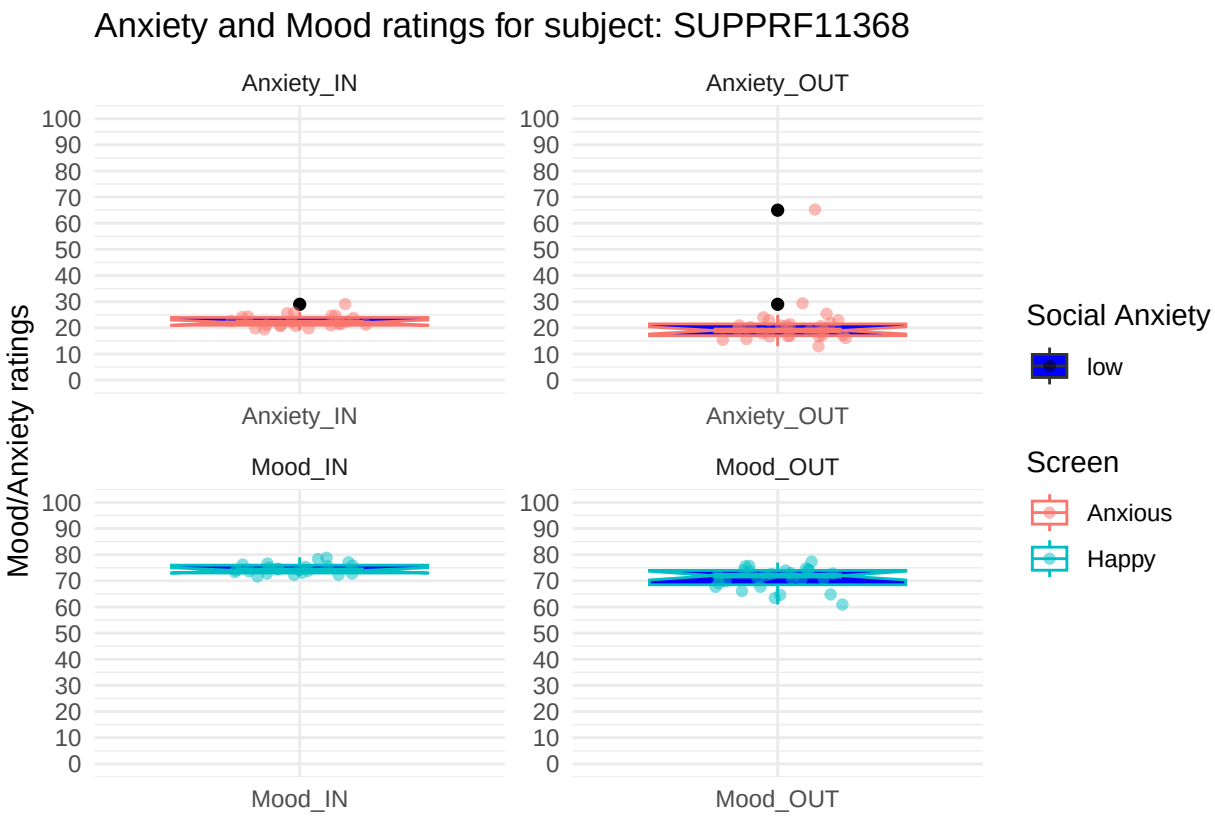
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low
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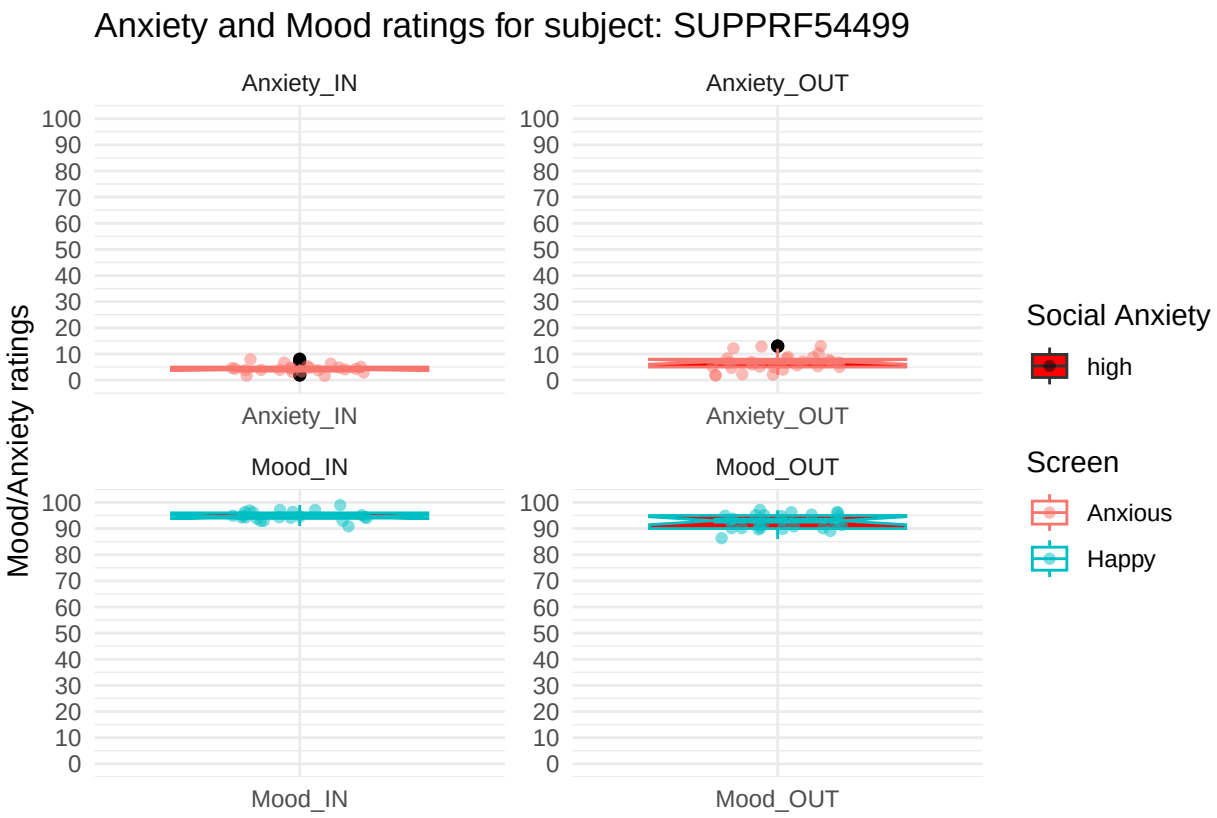
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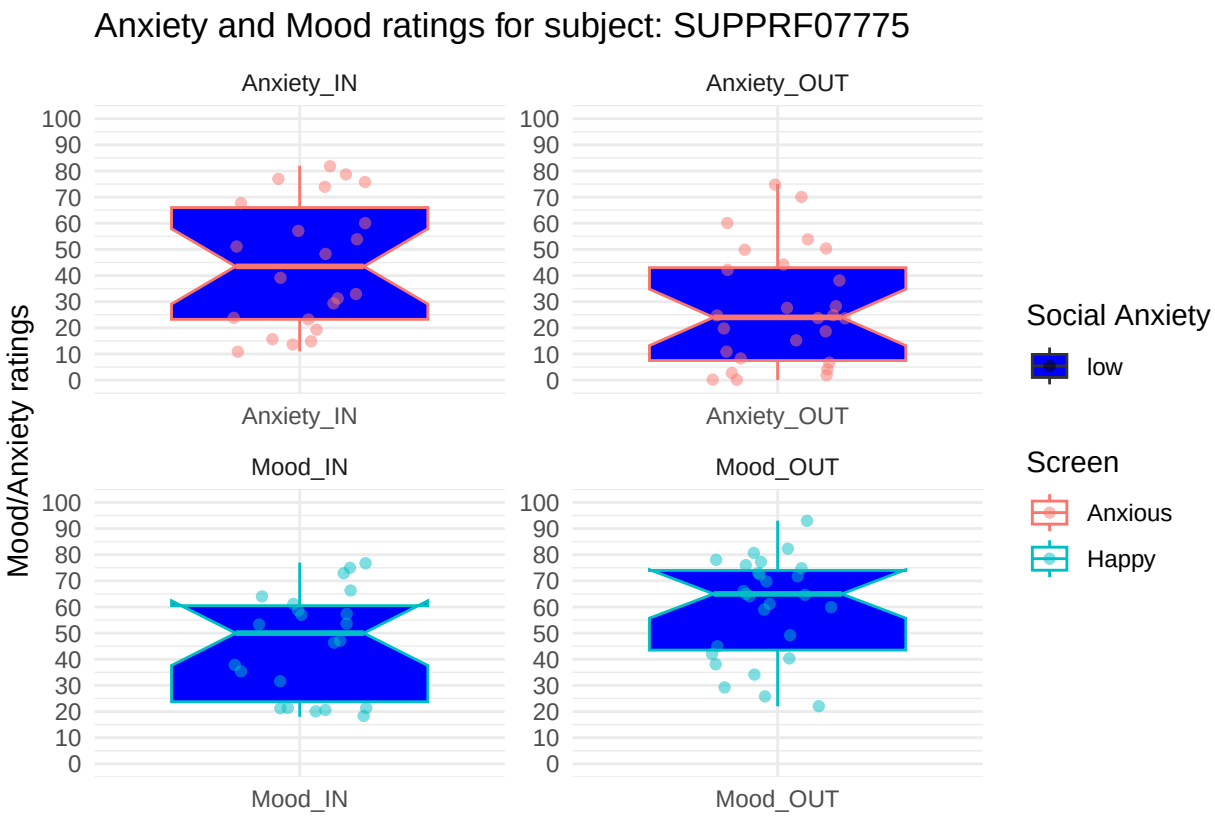
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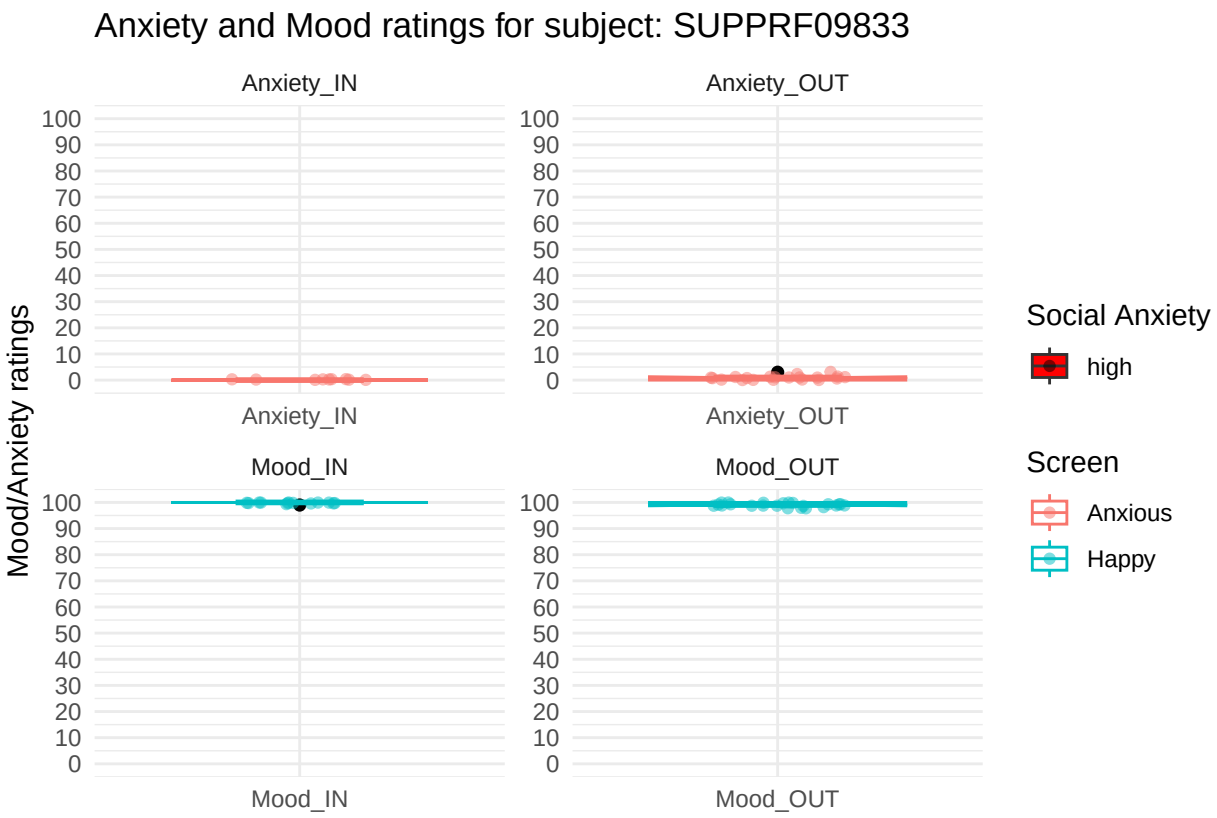
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Mood_OUT
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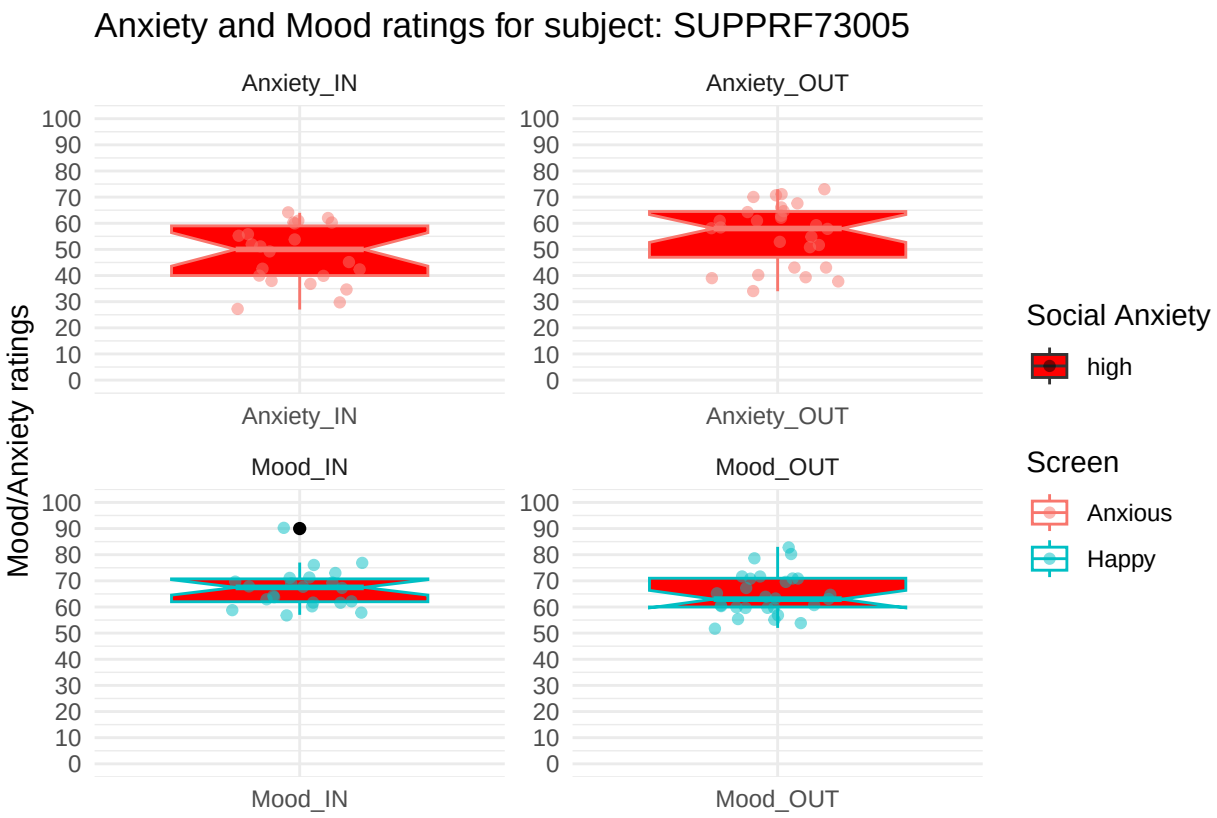
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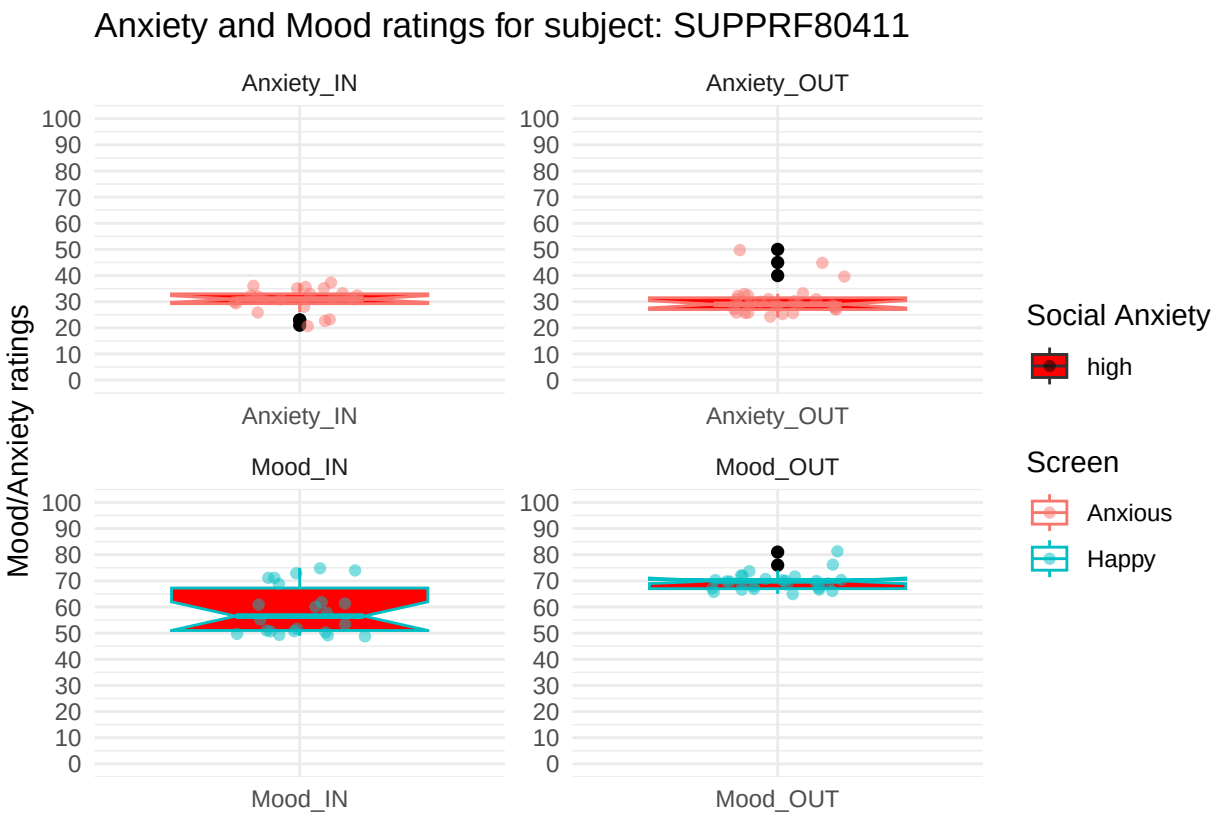
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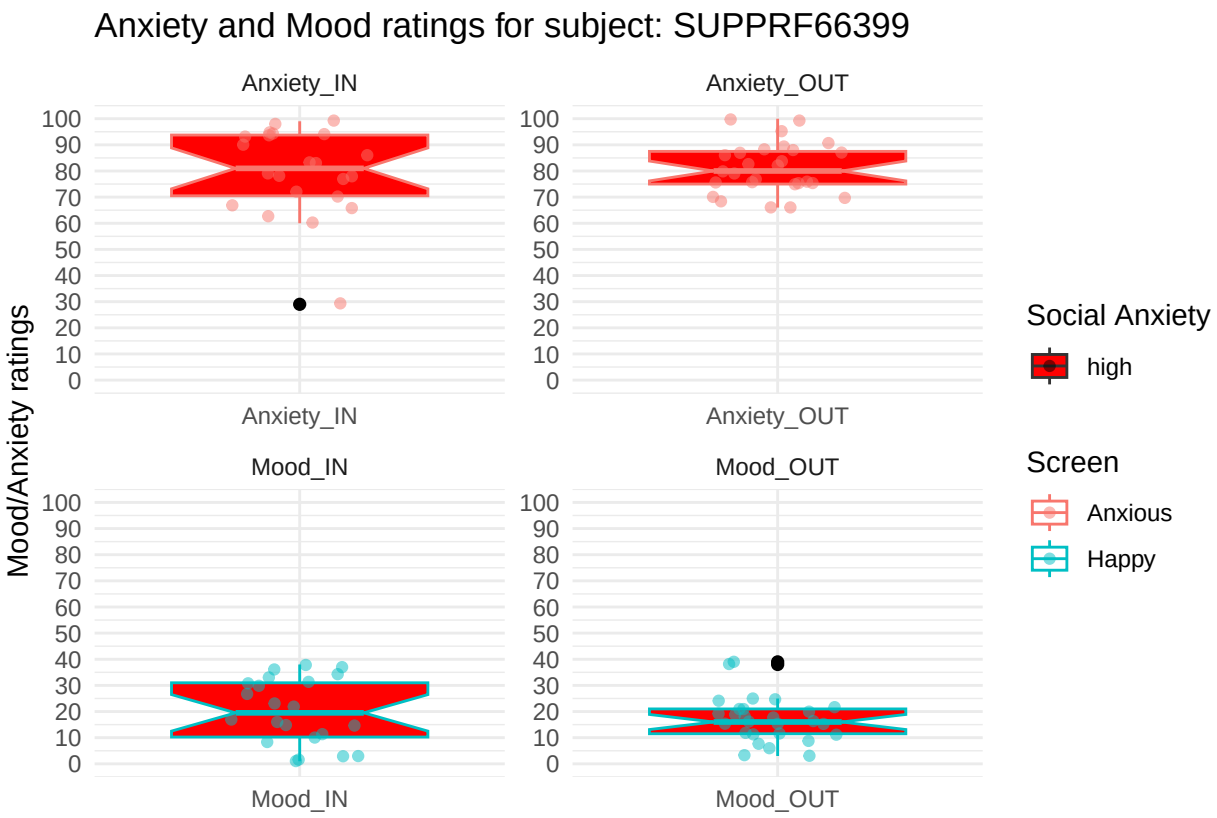
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high
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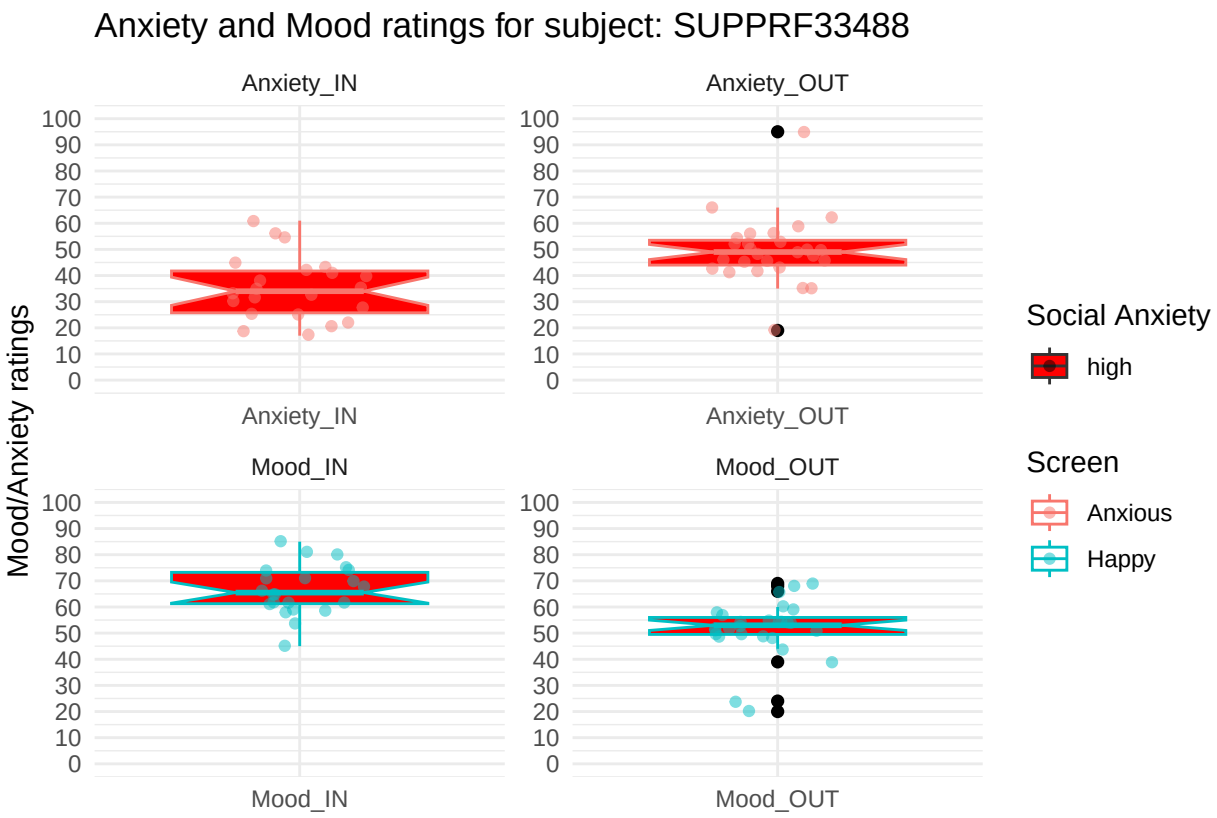
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Social Anxiety
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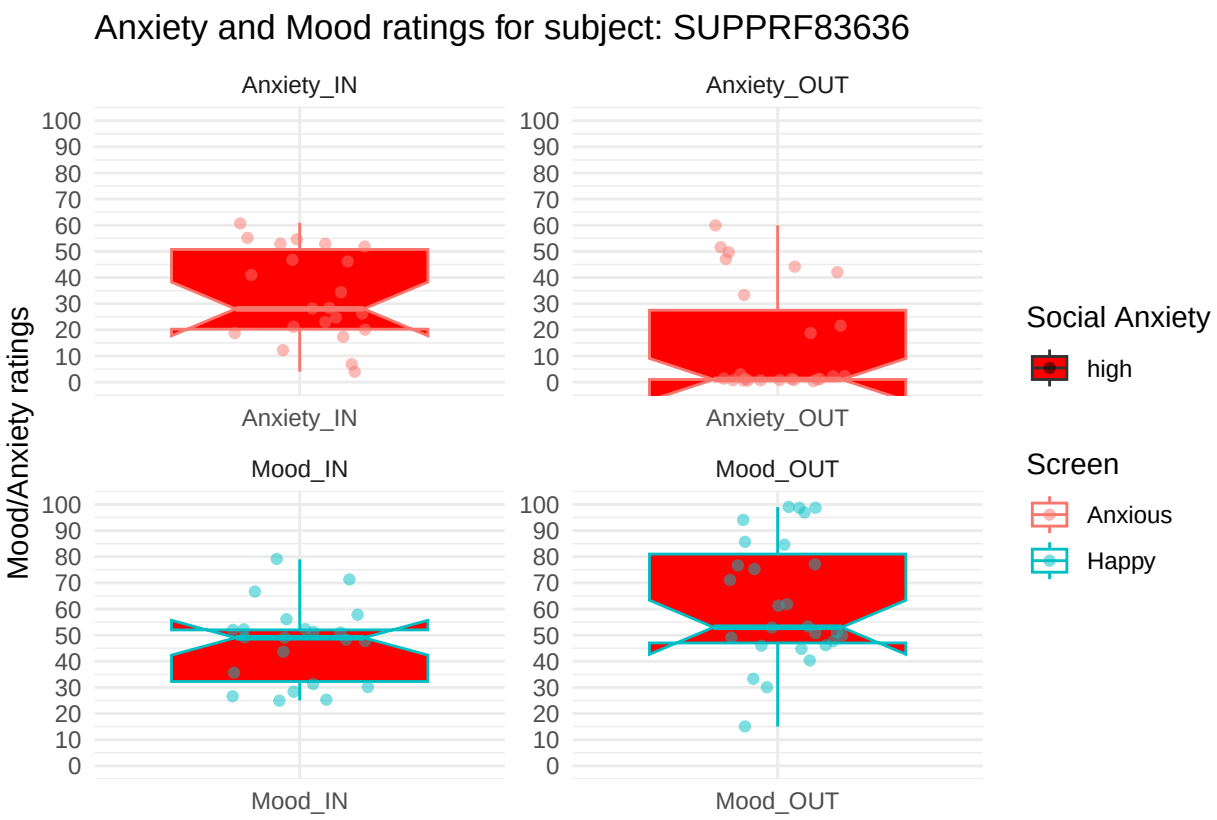
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Social Anxiety
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Screen
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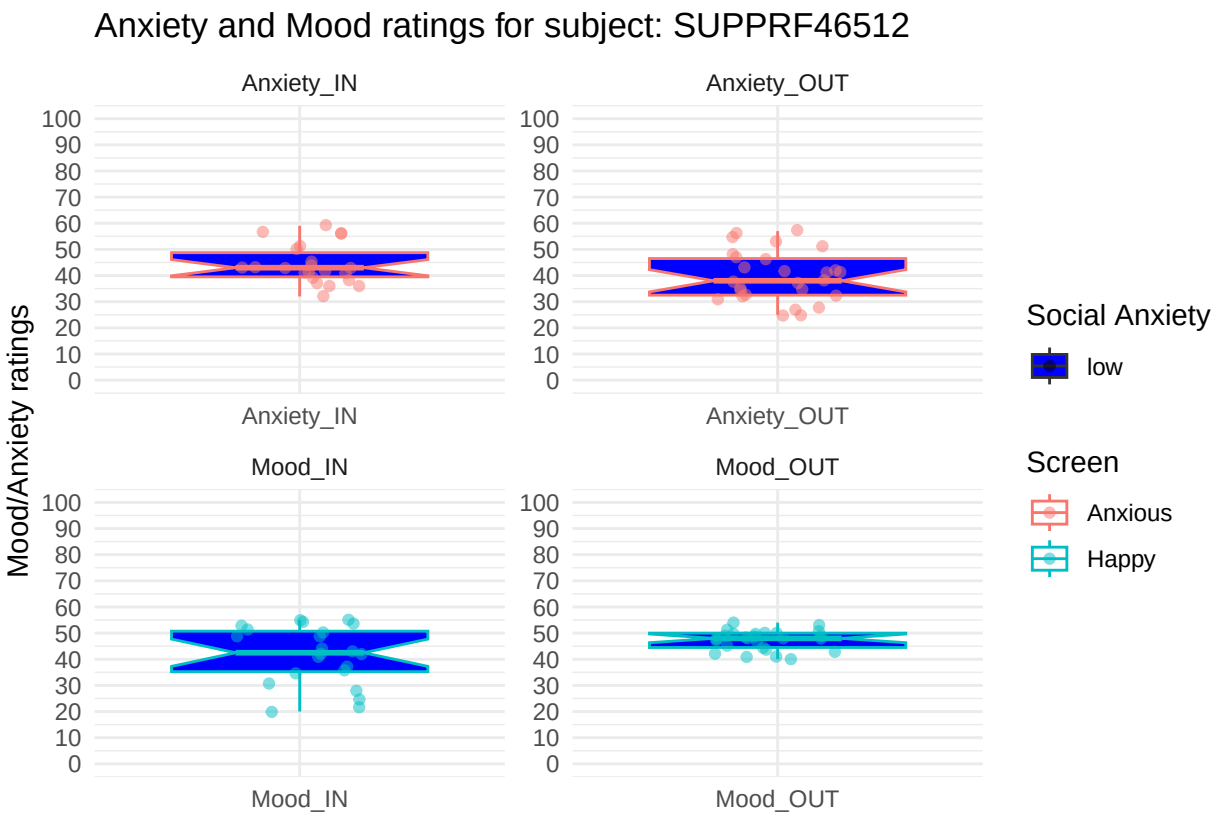
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Mood_IN
Mood_OUT
Social Anxiety
low
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Anxious
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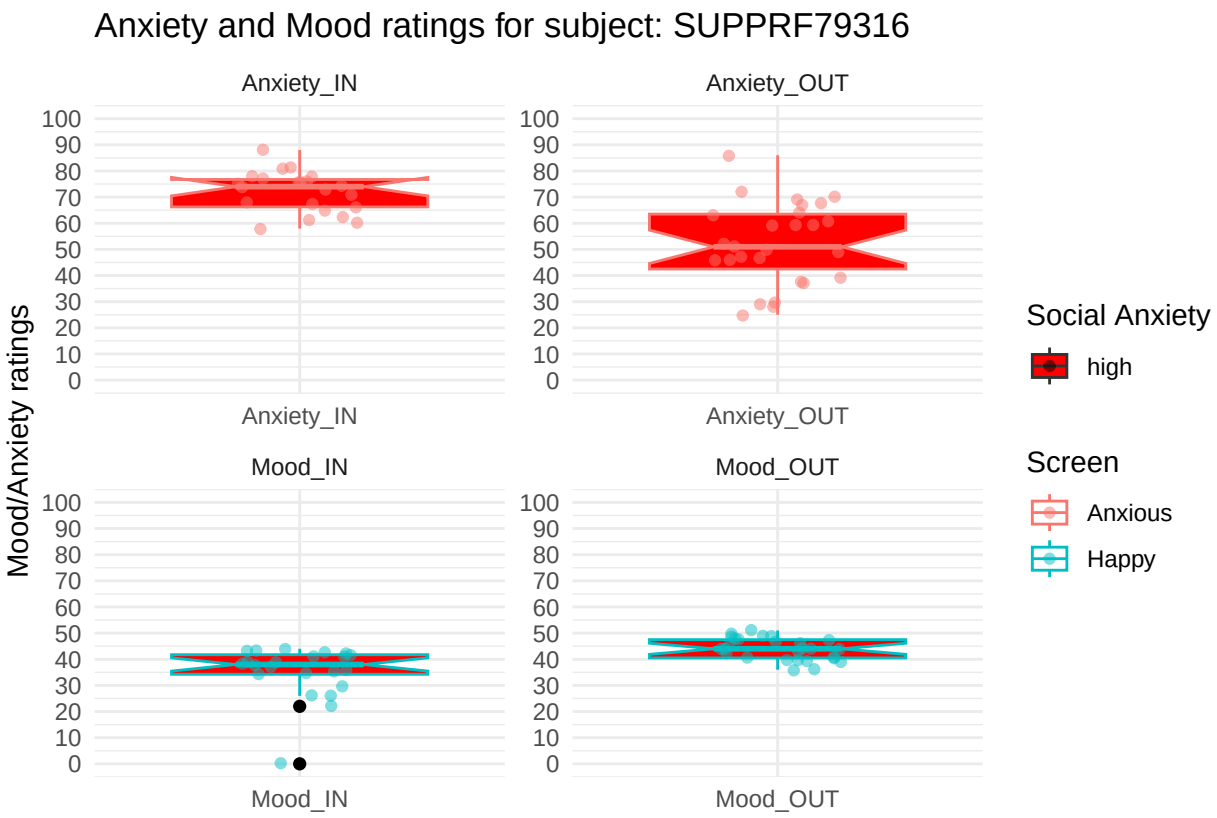
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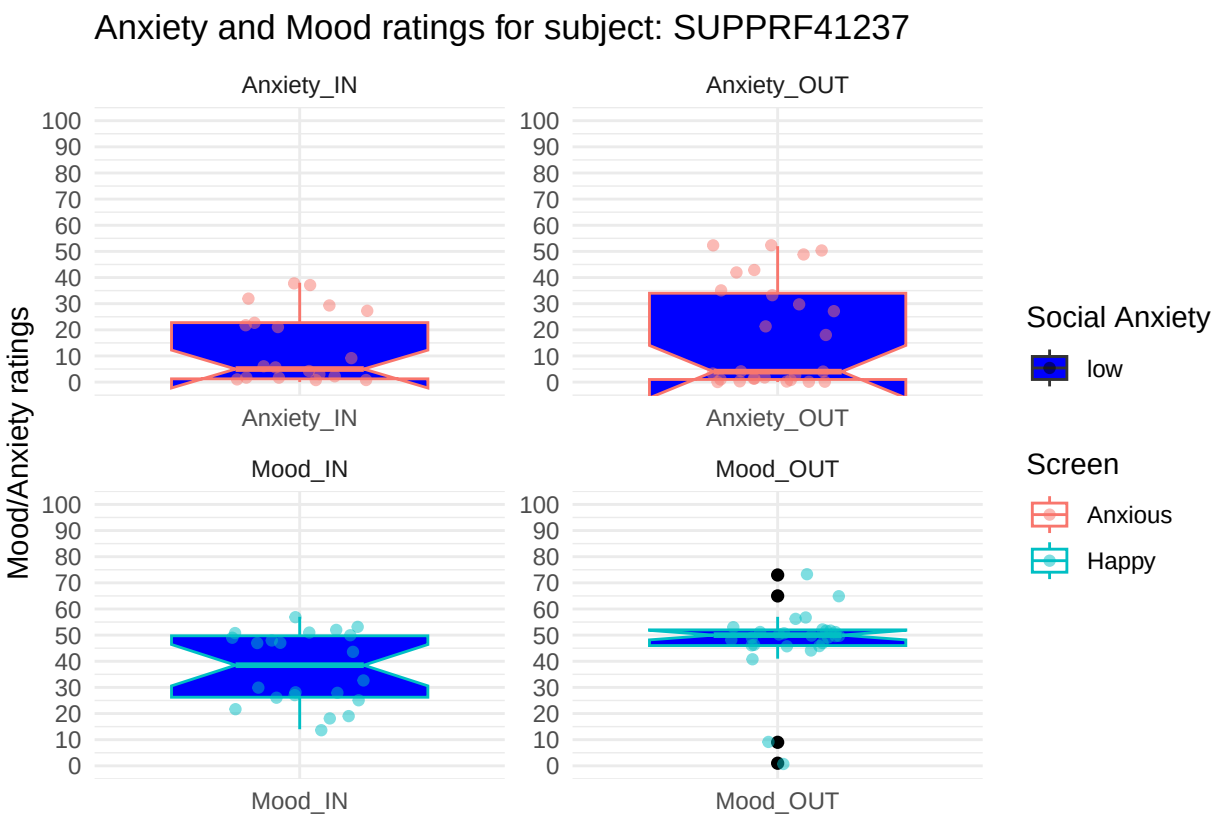
high
Screen
Anxious
Happy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Social Anxiety
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Anxious
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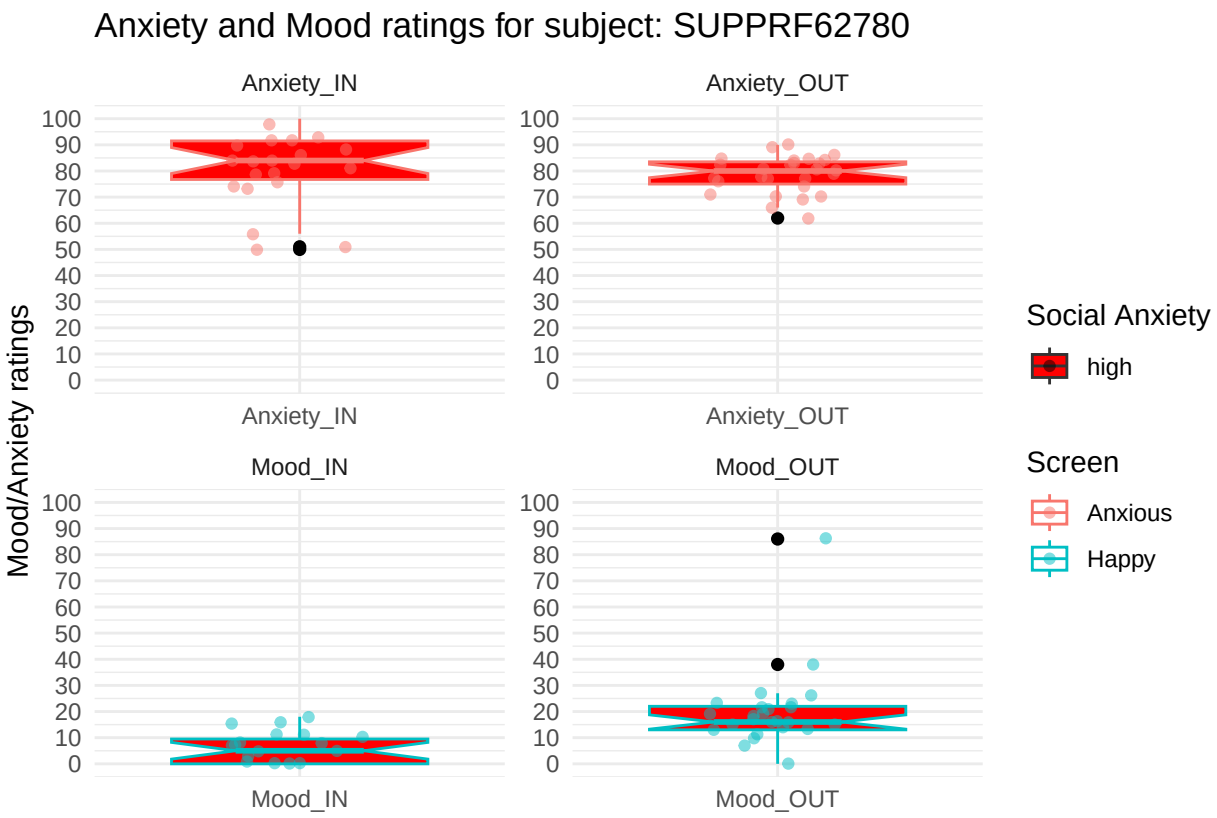
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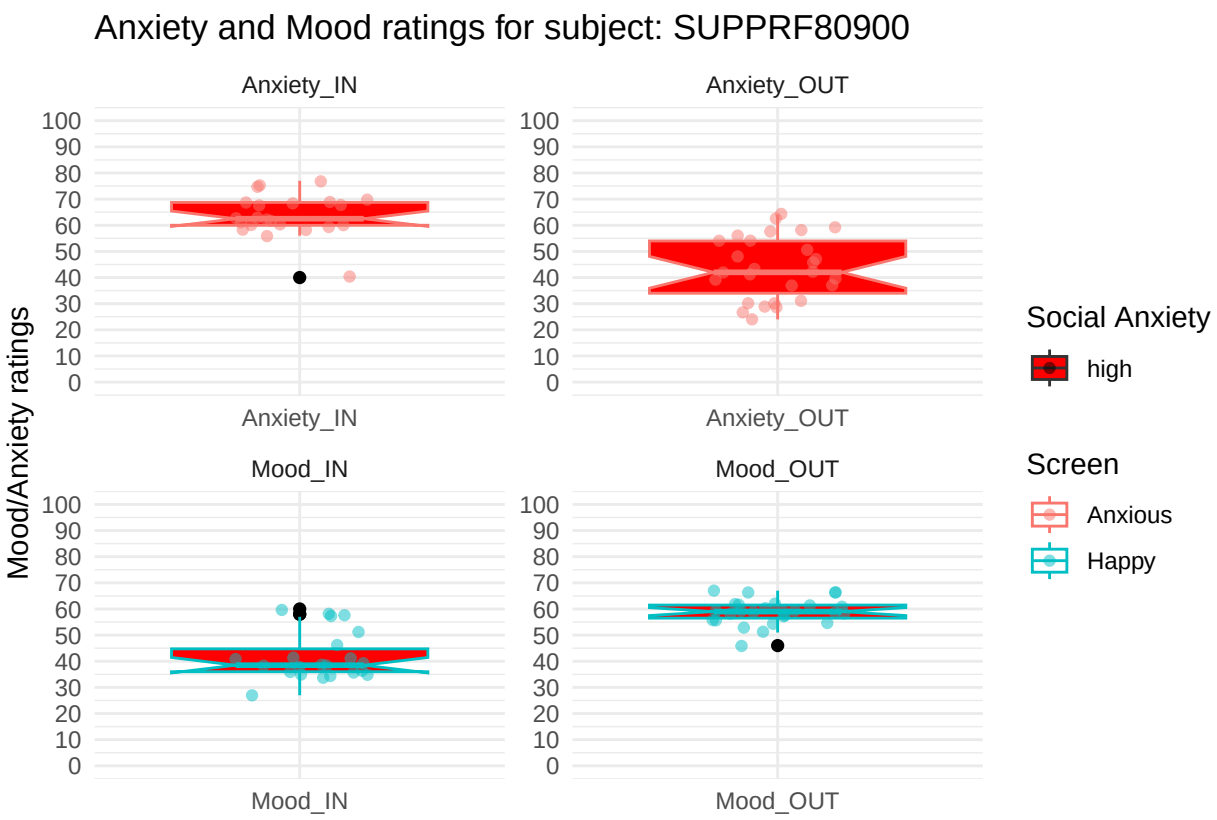
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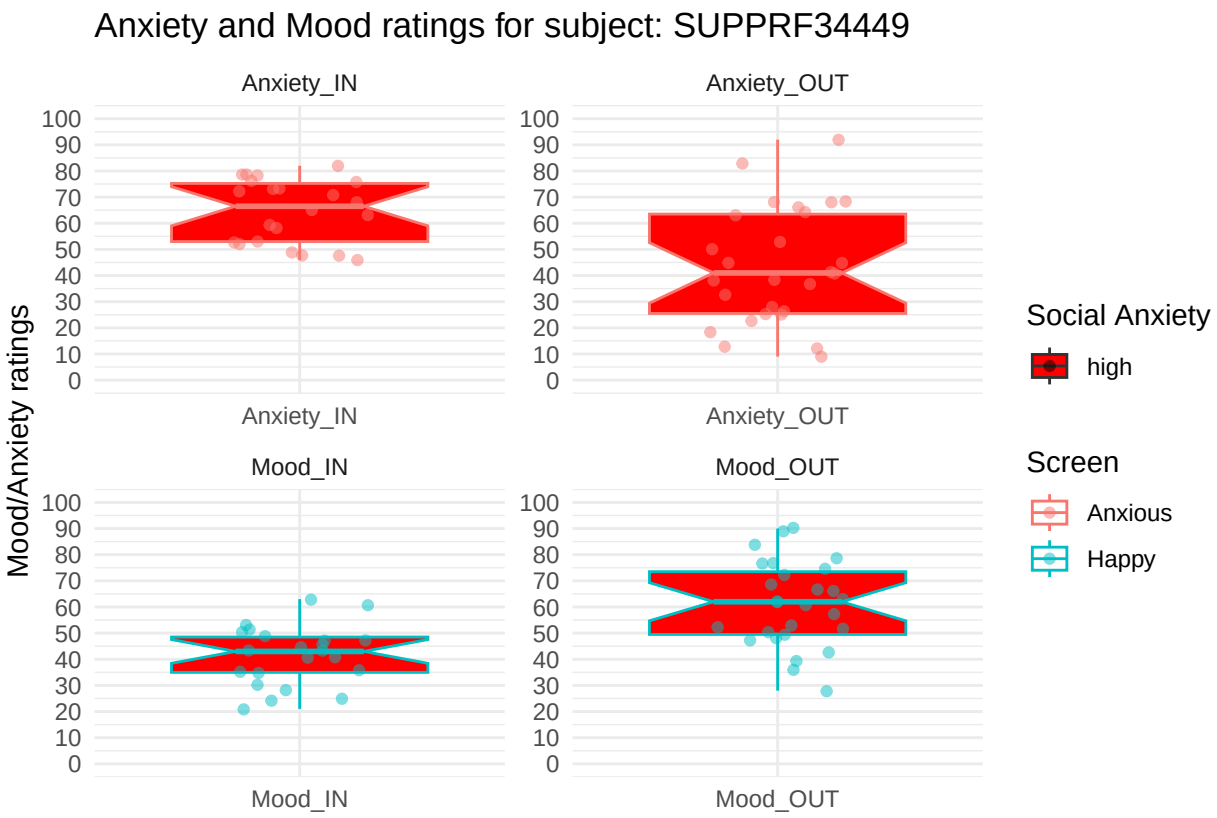
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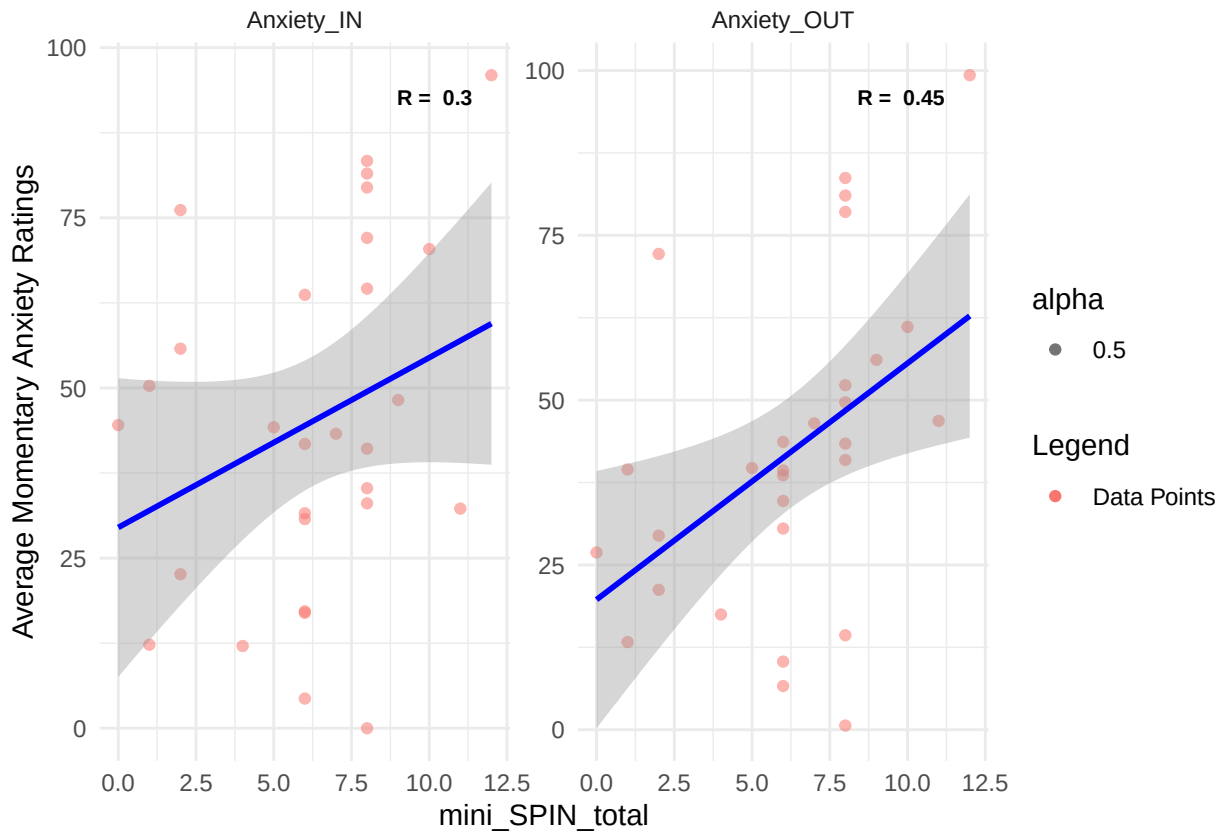
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
Screen
Anxious
Happy

Relationship between mini_SPIN and momentary anxiety ratings

The plot below show the relationship between the (average) anxiety ratings on the task and total mini_SPIN scores.

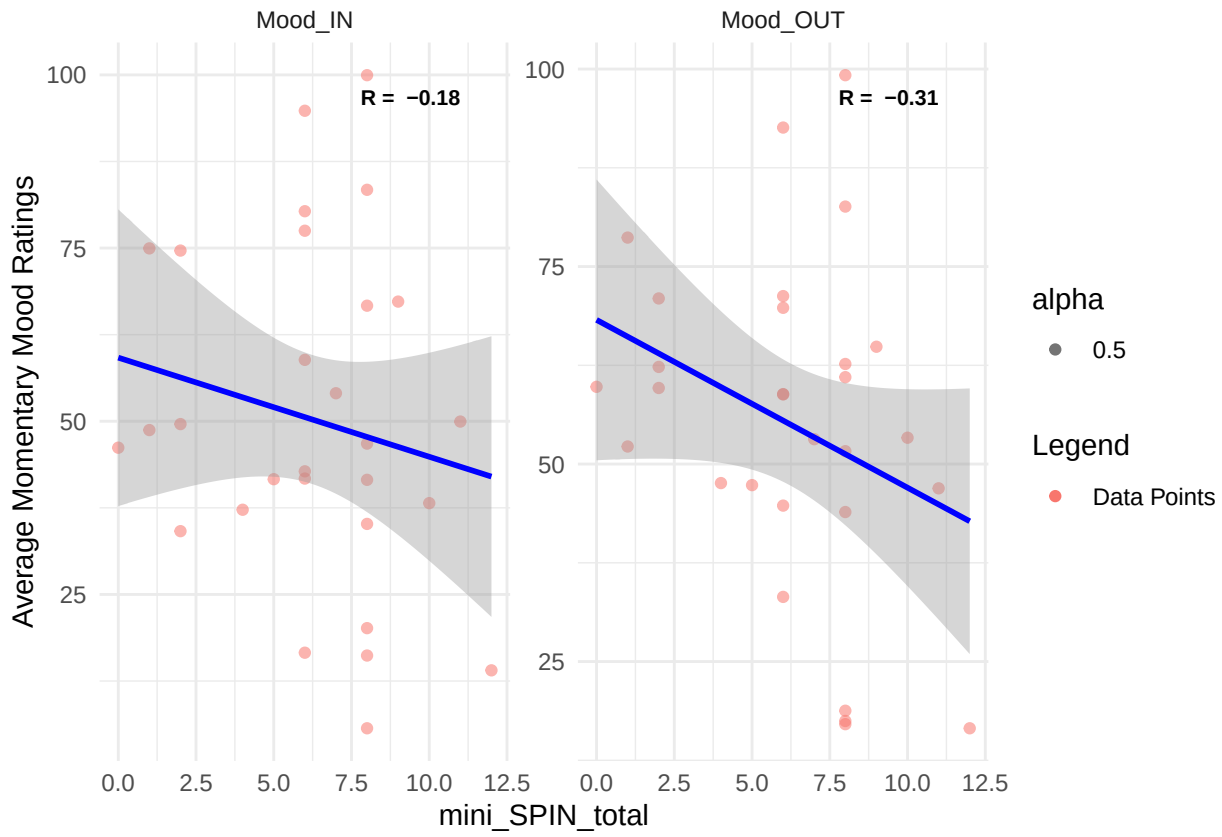
```
## [1] "correlation between mini_SPIN_total and average anxiety ratings: 0.371658363191696"
```



Relationship between mini_SPIN and momentary mood ratings

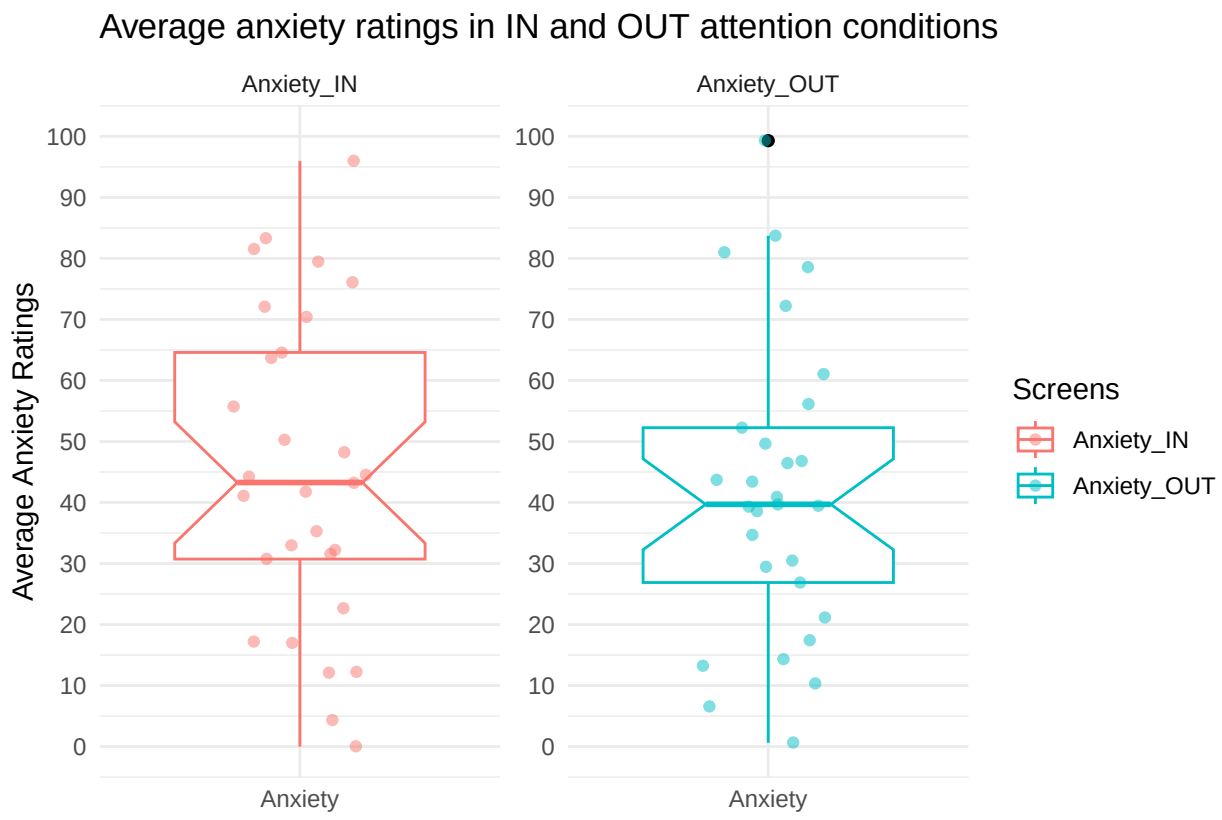
The plot below show the relationship between (average) mood ratings on the task and the total mini_SPIN scores.

```
## [1] "correlation between mini_SPIN_total and average anxiety ratings: -0.244178582278169"
```



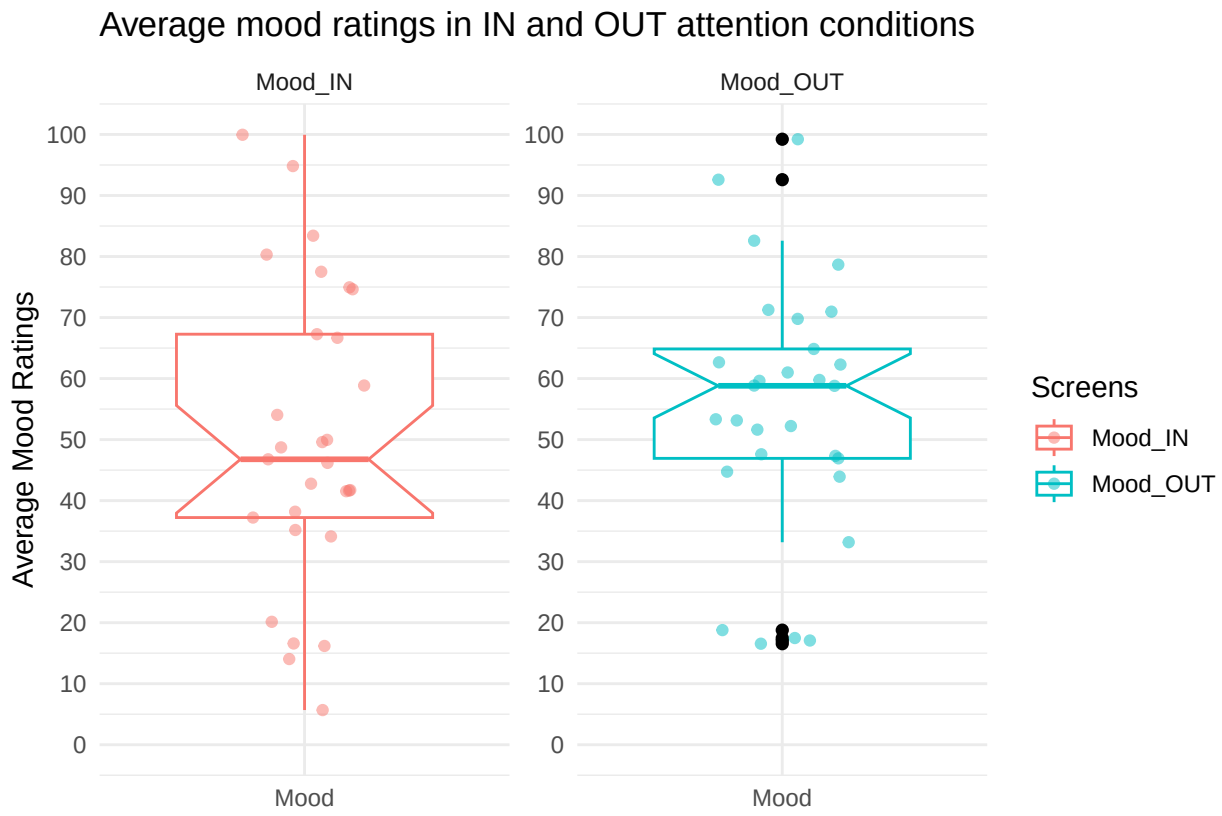
Average Anxiety in IN and OUT attention conditions

The plot below show the average anxiety ratings in IN and OUT attention conditions where people paid internal and external attention respectively. I think without the outlier (black dot), the difference becomes bigger, will test it later.



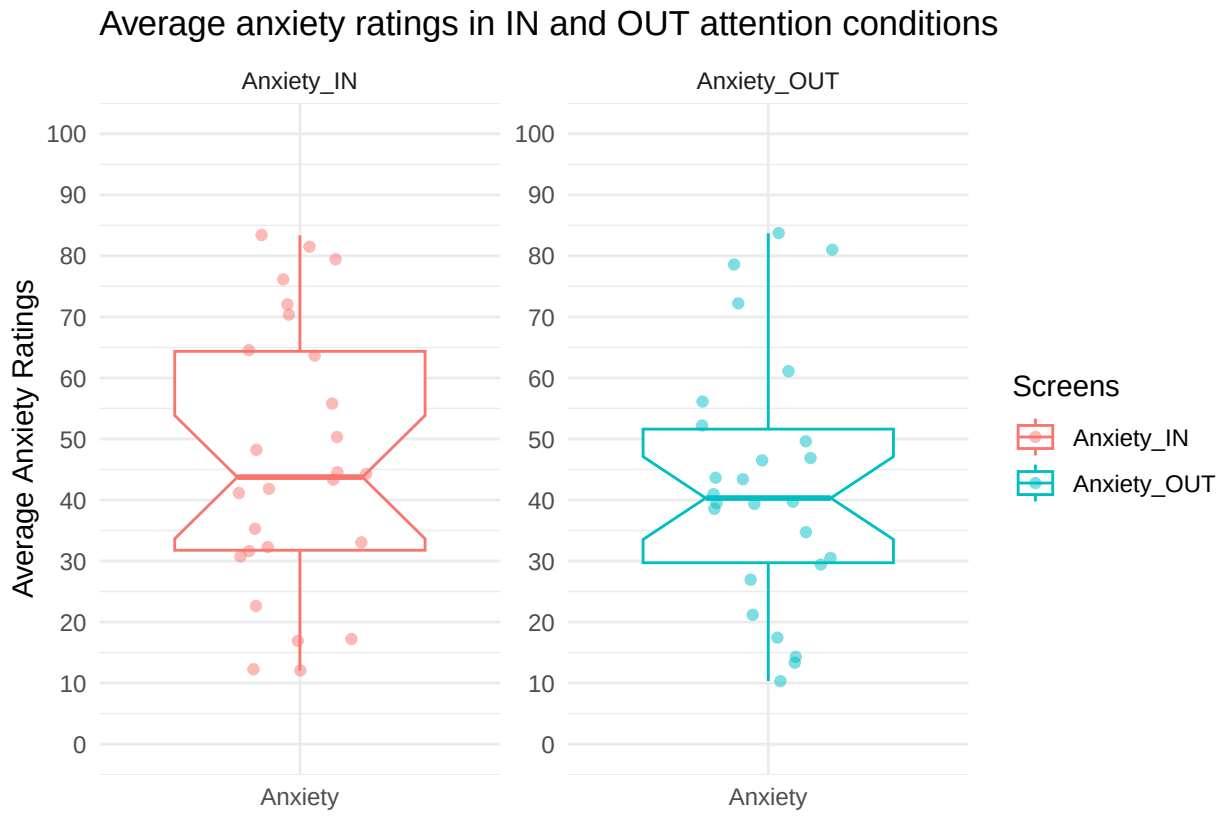
Average Mood in IN and OUT attention conditions

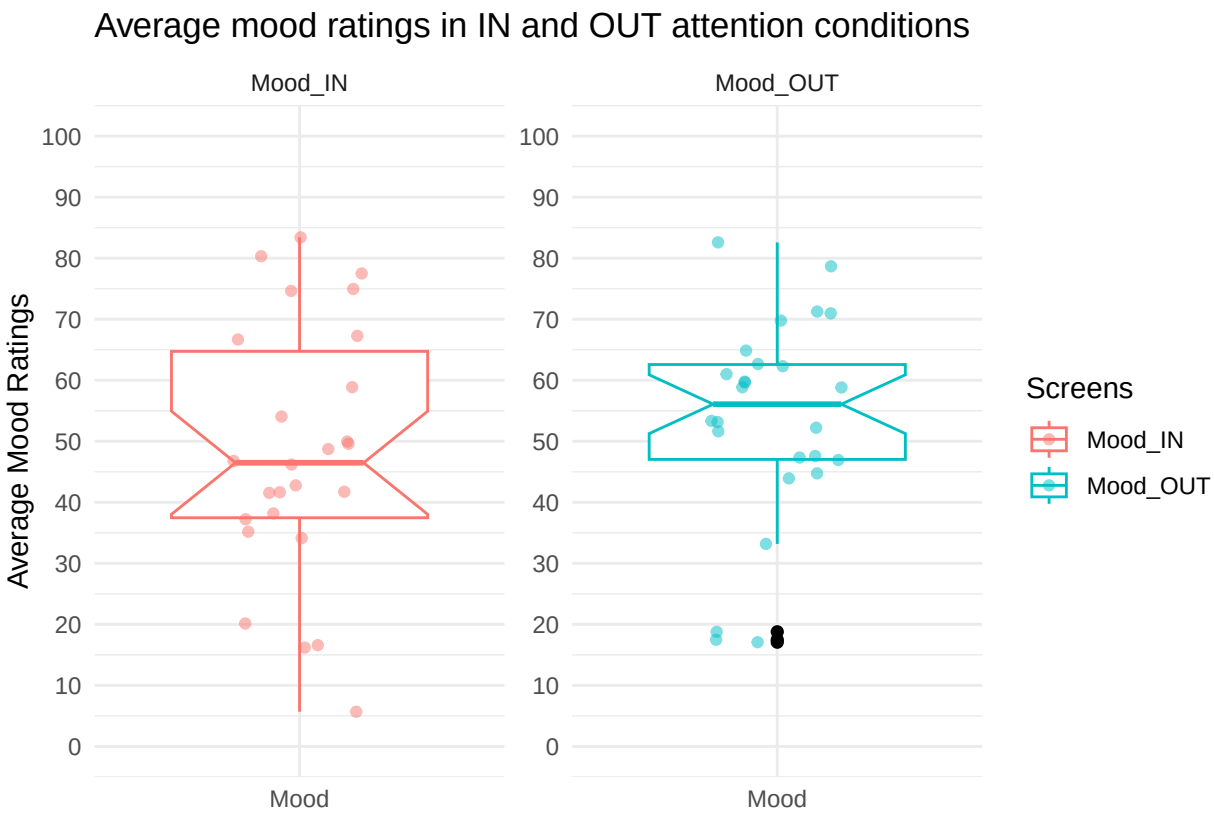
The plot below show the average mood ratings in IN and OUT attention conditions where people paid internal and external attention respectively.



Repeating the group plots after excluding outliers

I have excluded the following subjects to see how the group plots change:"SUPPRF09833", "SUPPRF54499", "SUPPRF50800". They all had rated the same scores for anxiety and mood throughout the task (their histograms above are flat).




Average mood ratings in IN and OUT attention conditions
Mood_IN
Mood_OUT
Average Mood Ratings
100
90
80
70
60
50
40
30
20
10
0
Mood
Mood
Screens
Mood_IN
Mood_OUT

Between condition tests

Since in this version we only had the mood and anxiety ratings without feedback and prediction, let's have a look at between condition differences per emotion rating (Mood and Anxiety) using two paired t-tests. We could look at the slopes for both attention conditions using a model with only the intercept?

```
##
##  Paired t-test
##
## data:  Mood_IN and Mood_OUT
## t = -2.4443, df = 28, p-value = 0.02107
## alternative hypothesis: true mean difference is not equal to 0
## 95 percent confidence interval:
##  -8.7567902 -0.7715971
## sample estimates:
## mean difference
##       -4.764194
```

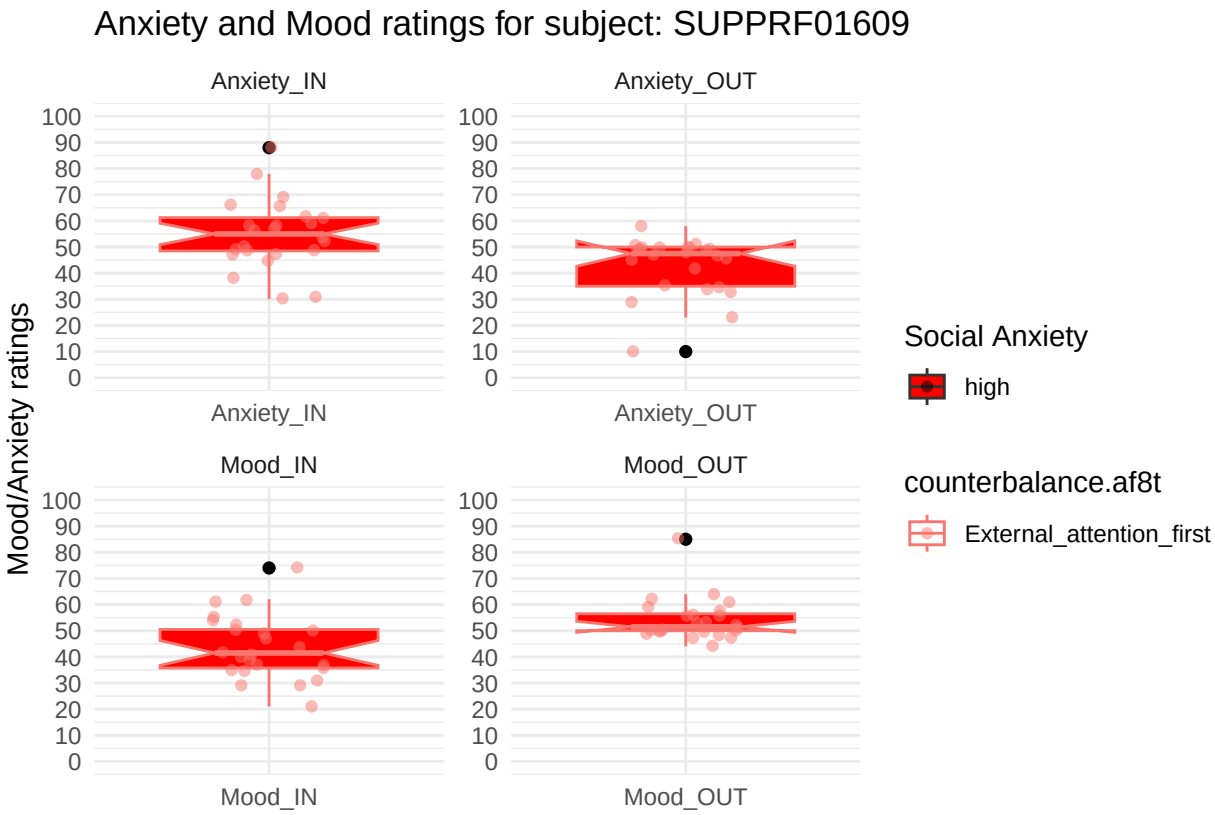
```
##
##  Paired t-test
##
## data:  Anxiety_IN and Anxiety_OUT
## t = 1.4346, df = 28, p-value = 0.1625
## alternative hypothesis: true mean difference is not equal to 0
## 95 percent confidence interval:
##  -1.282521  7.277064
## sample estimates:
## mean difference
##        2.997272
```

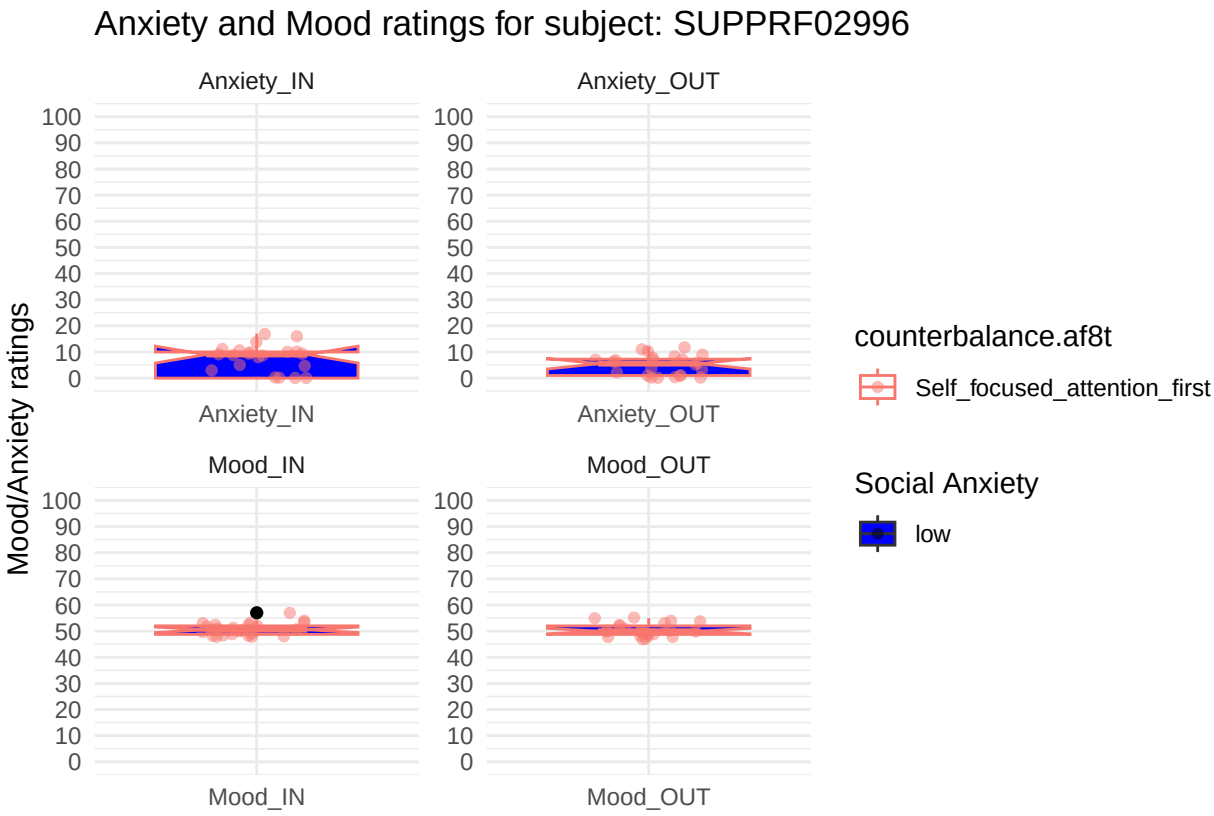
Attention pilot 2: study description

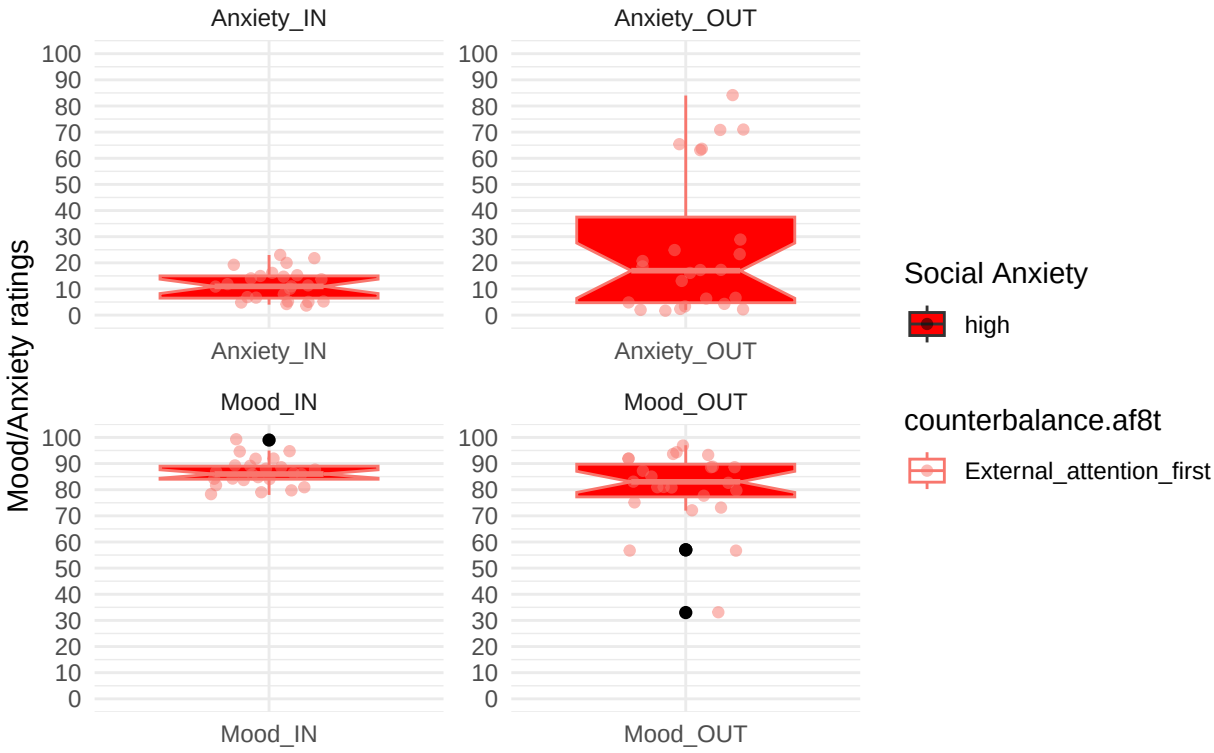
This pilot was the same as before but we had 59 people counterbalancing the order of conditions between them. Another difference with previous attention pilot is that around 51% of people had high social anxiety scores, and this was 72% in attention pilot 1.

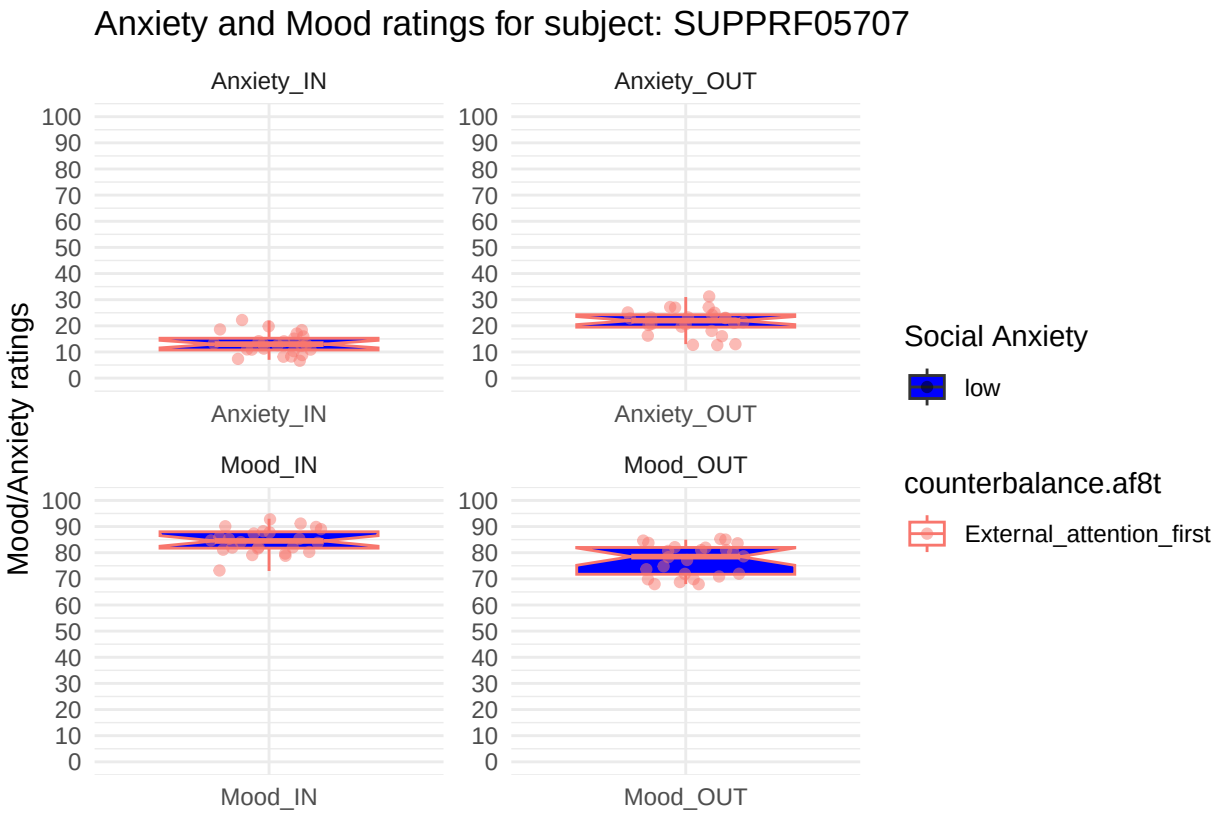
This was the Gorilla experiment:https://app.gorilla.sc/admin/experiment/157047/design This was the task used: https://app.gorilla.sc/admin/task/725729/editor?version=10

```
## [1] "30 subjects out of 58 had high social anxiety"
```

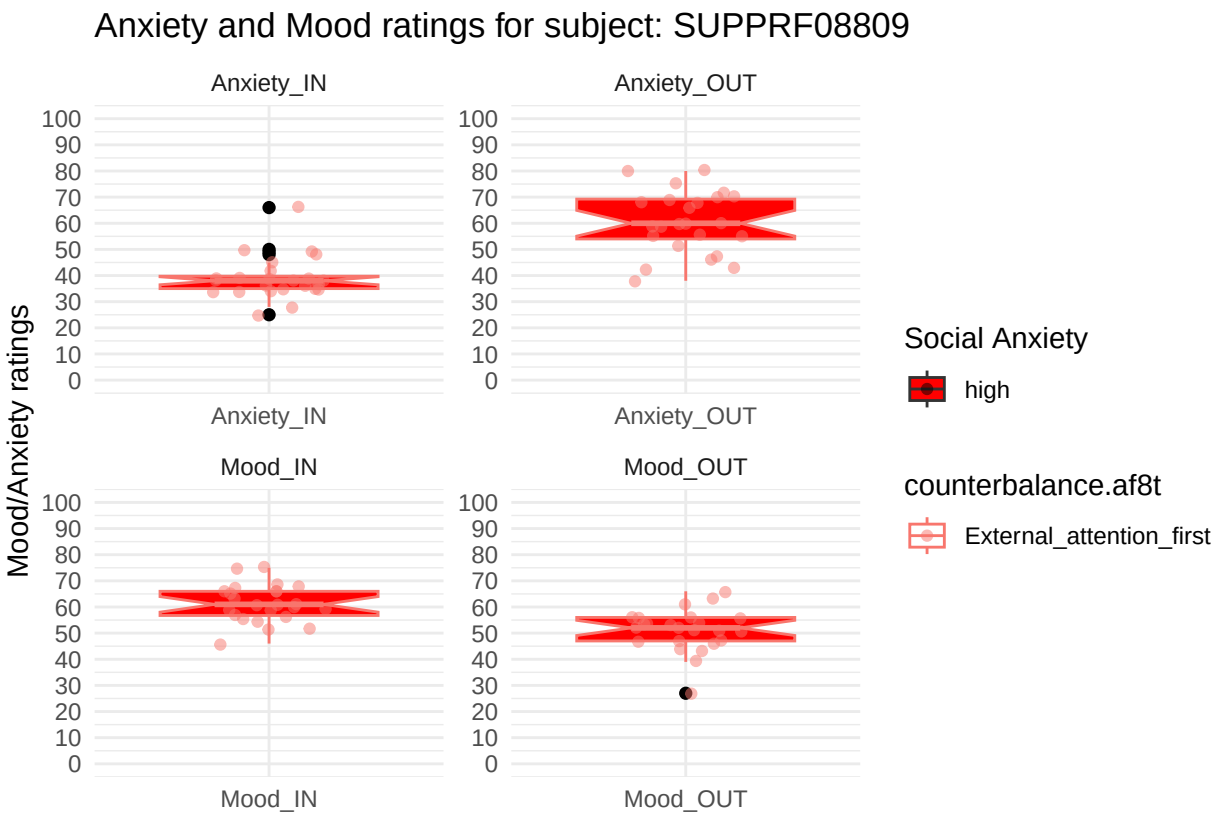


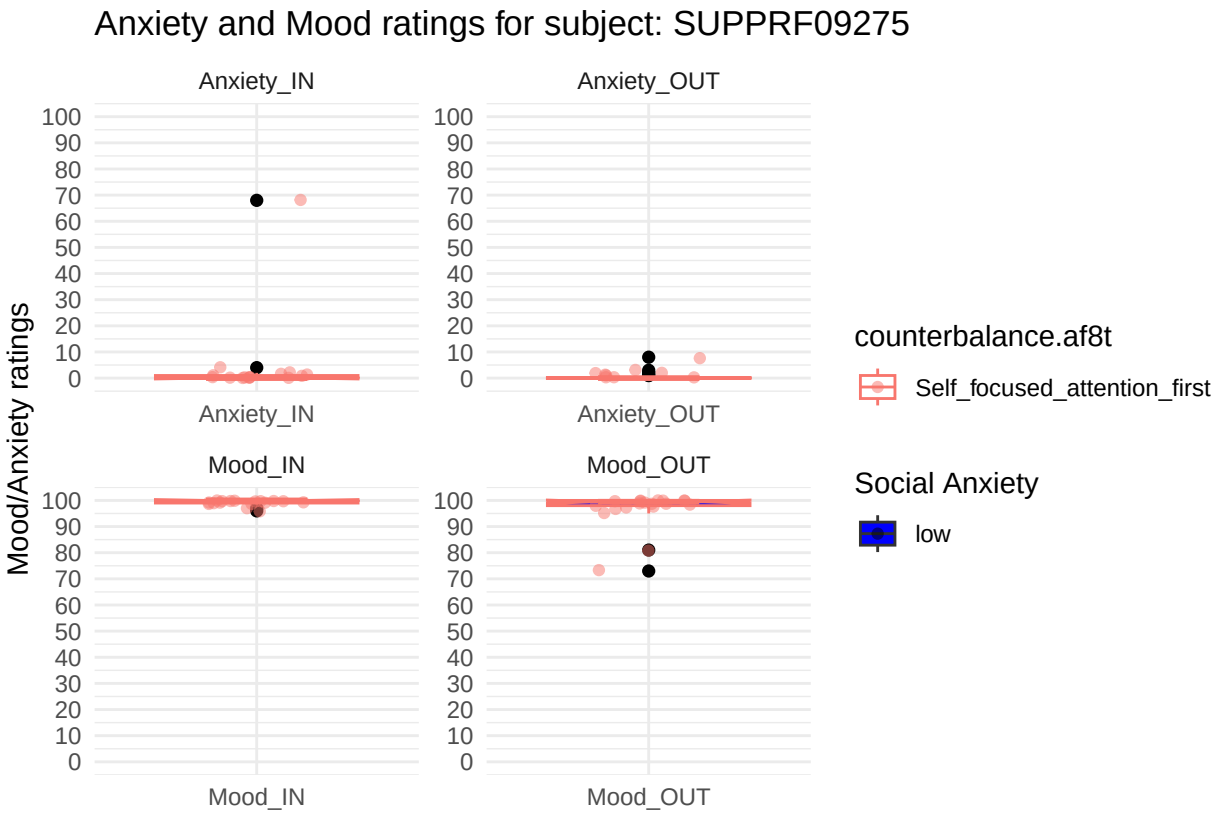

Anxiety and Mood ratings for subject: SUPPRF02996
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

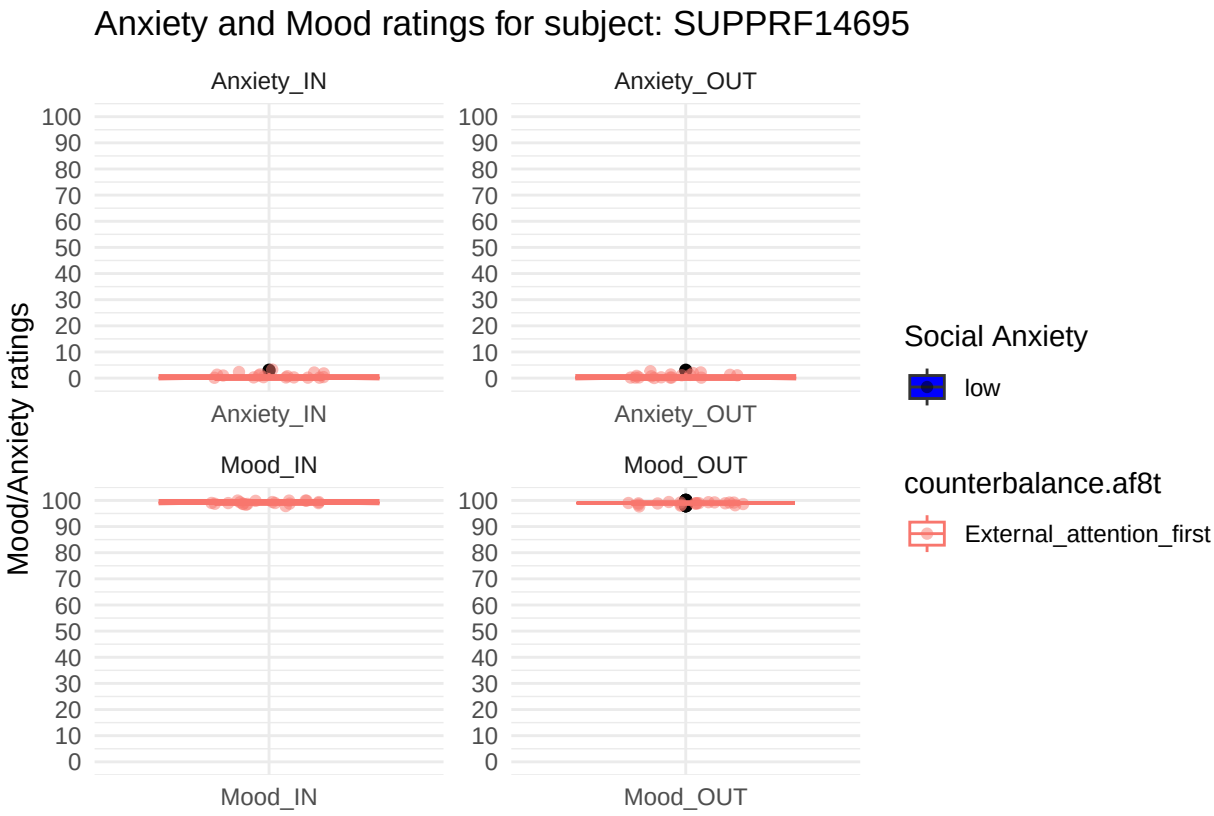

Anxiety and Mood ratings for subject: SUPPRF04851
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first

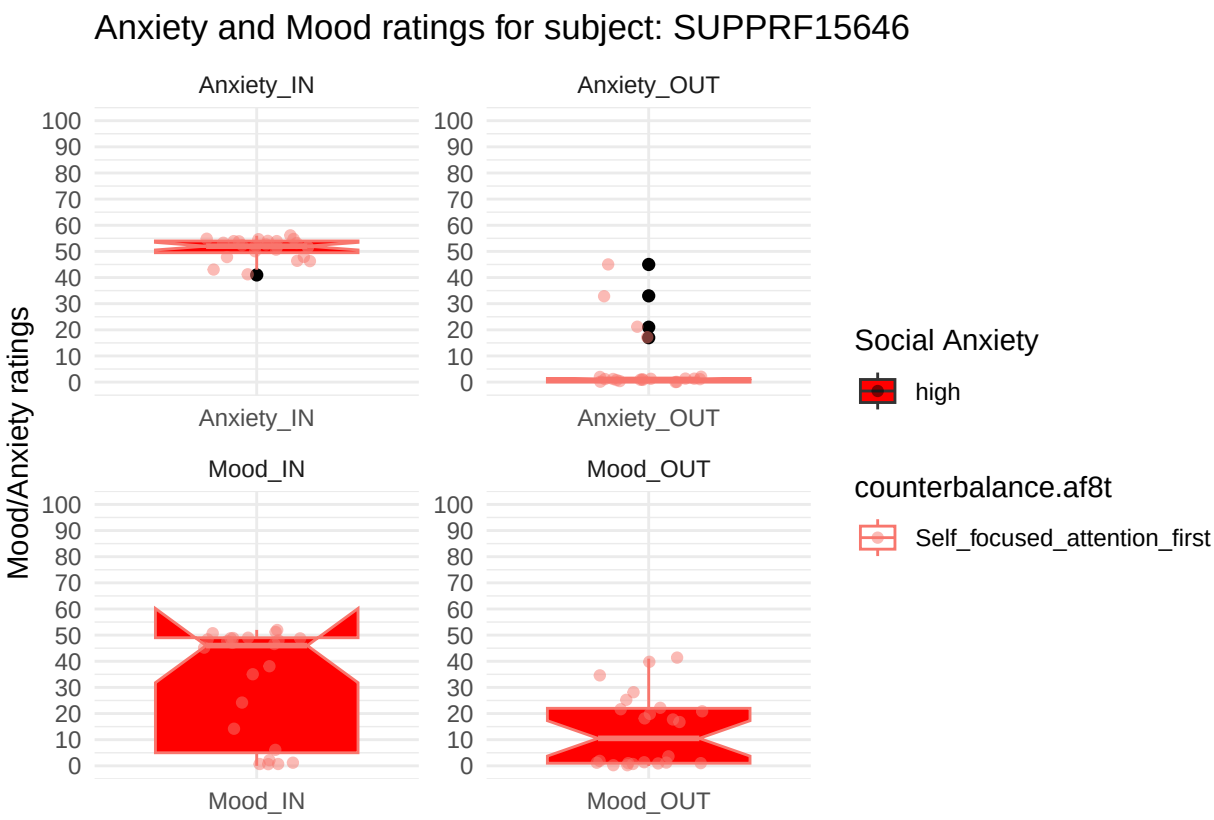

Anxiety and Mood ratings for subject: SUPPRF05707
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

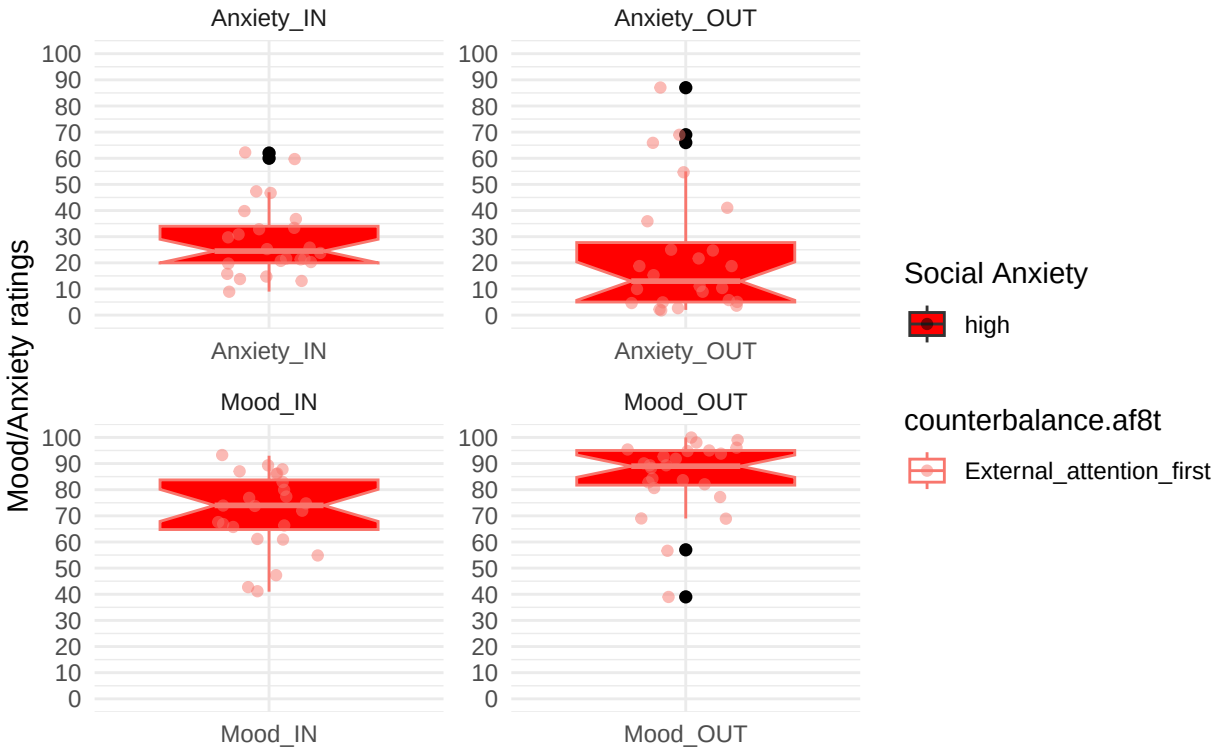

Anxiety and Mood ratings for subject: SUPPRF07871
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

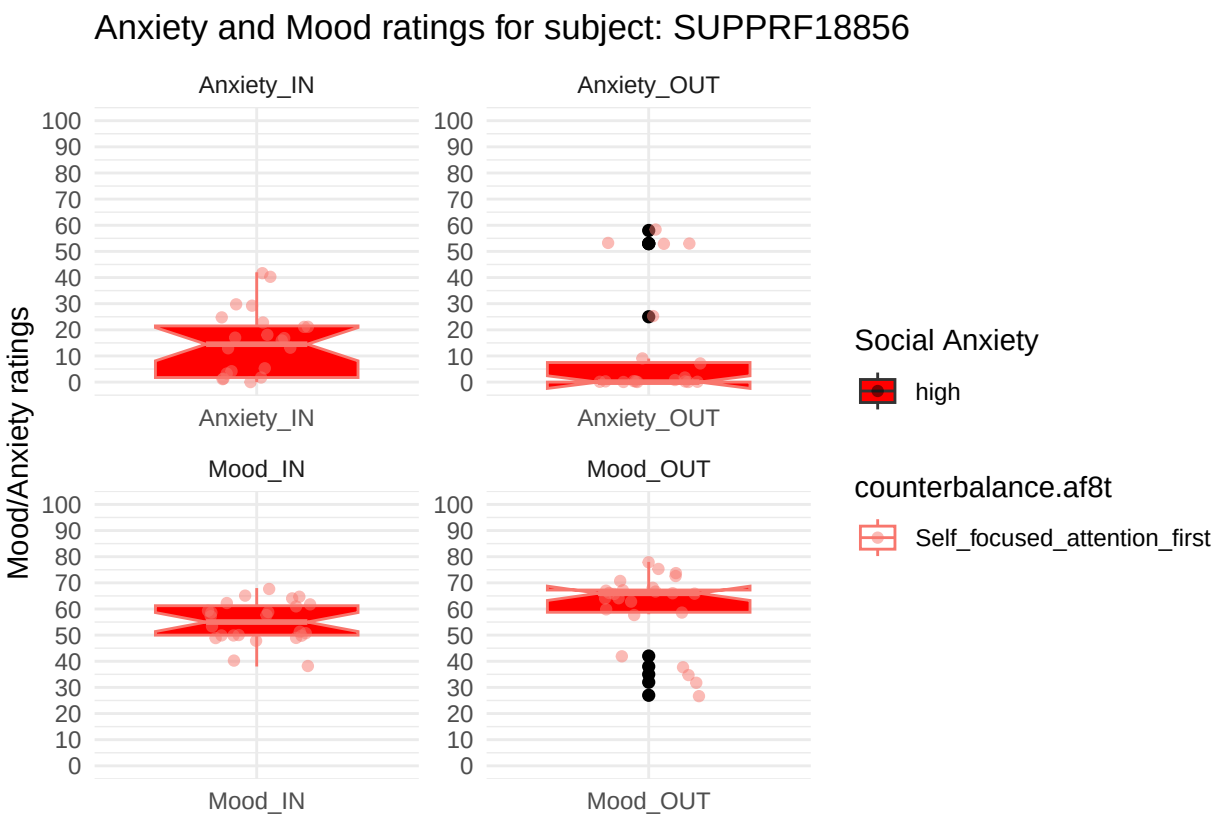

Anxiety and Mood ratings for subject: SUPPRF08809
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF09275
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

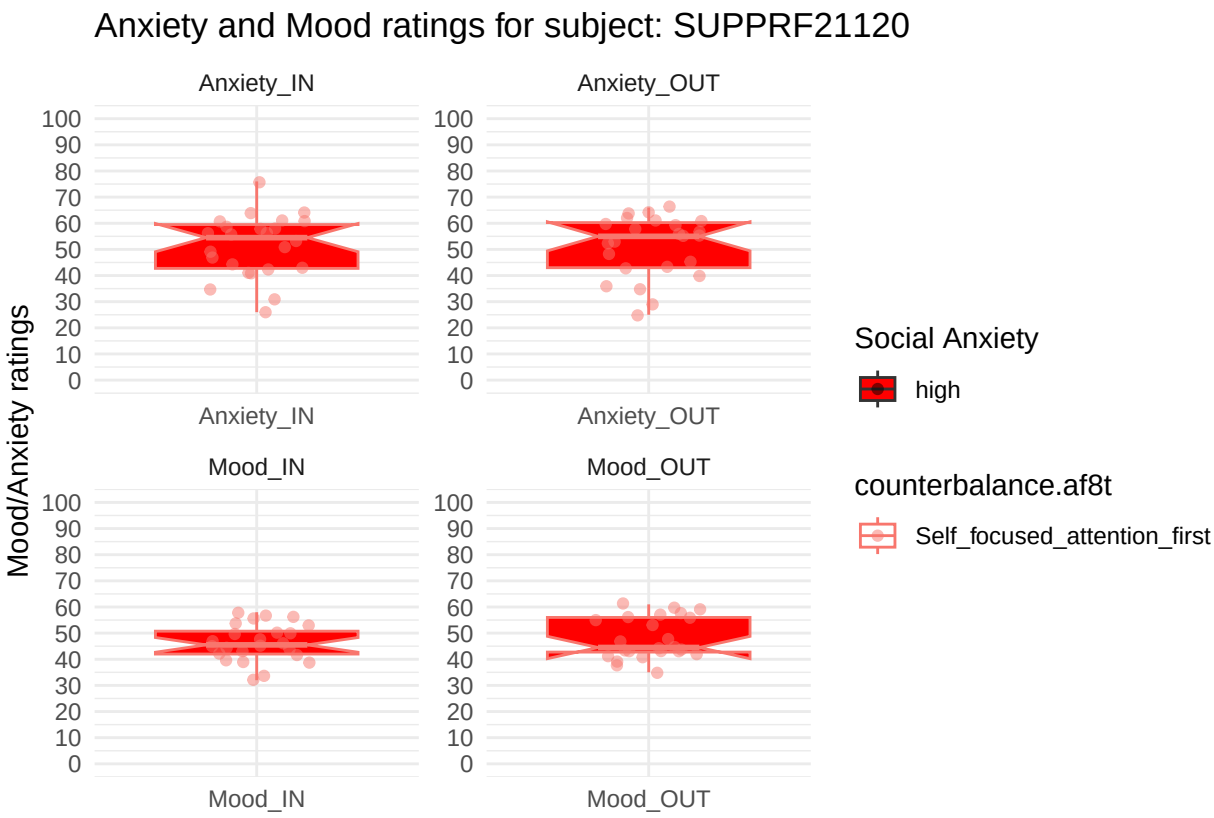

Anxiety and Mood ratings for subject: SUPPRF14695
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

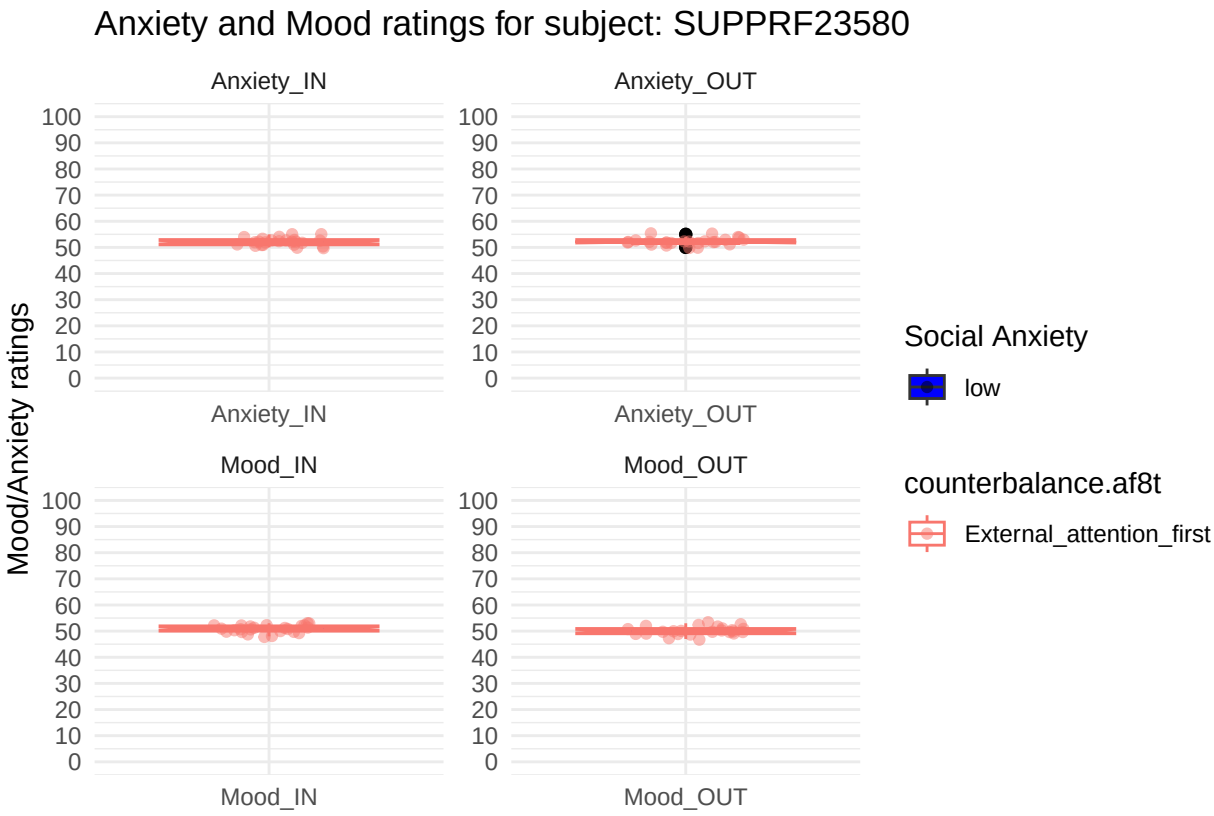

Anxiety and Mood ratings for subject: SUPPRF15646
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

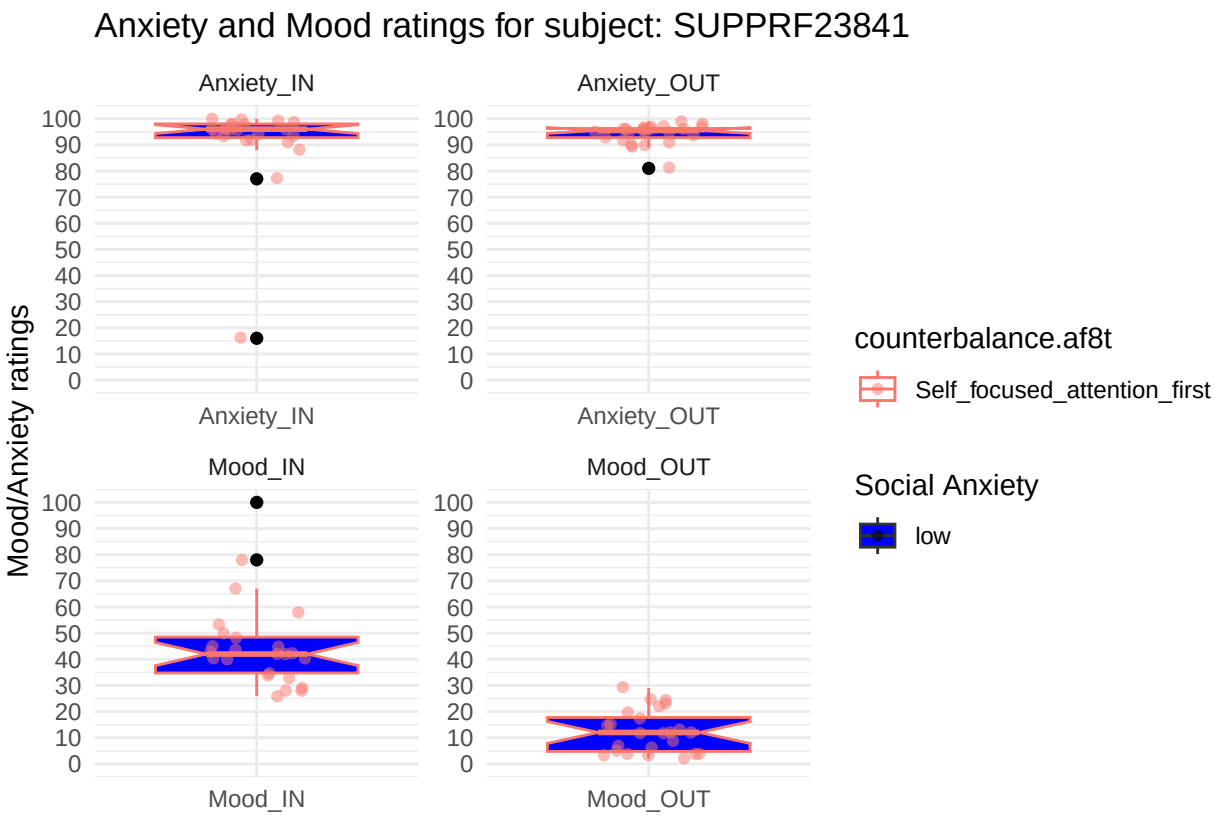

Anxiety and Mood ratings for subject: SUPPRF16834
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first

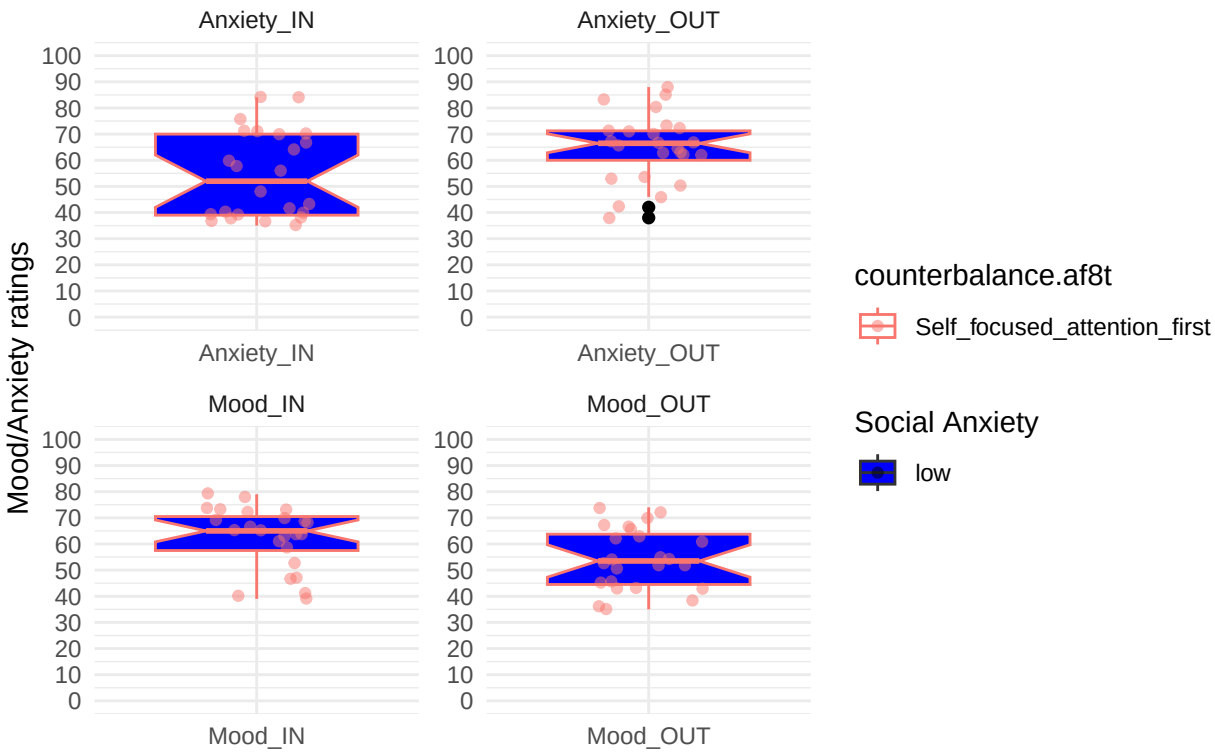

Anxiety and Mood ratings for subject: SUPPRF18856
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

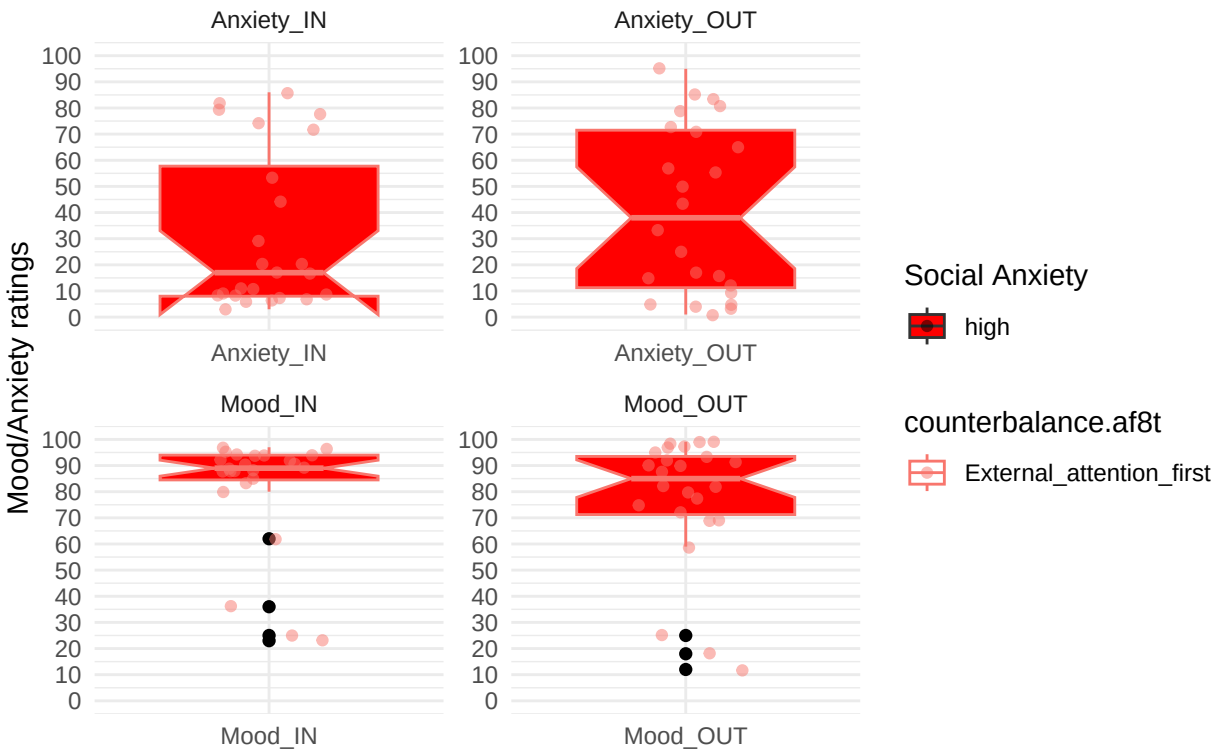

Anxiety and Mood ratings for subject: SUPPRF21062
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first

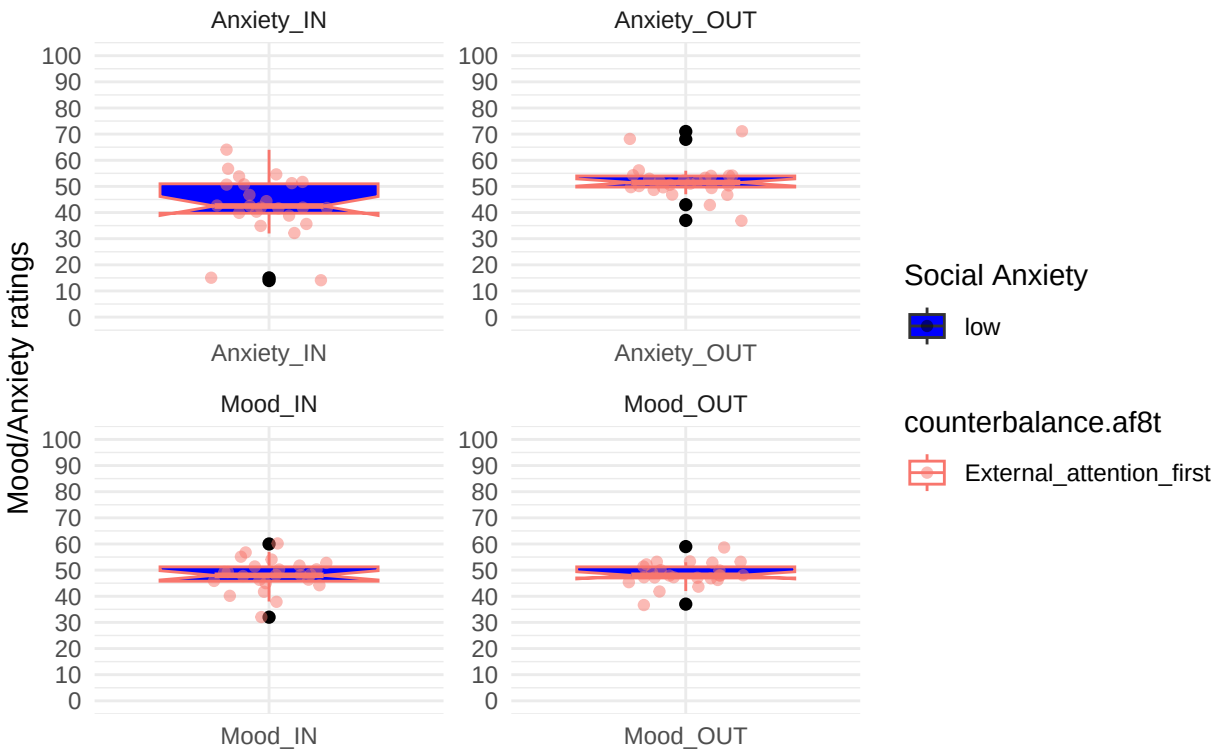

Anxiety and Mood ratings for subject: SUPPRF21120
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF23580
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

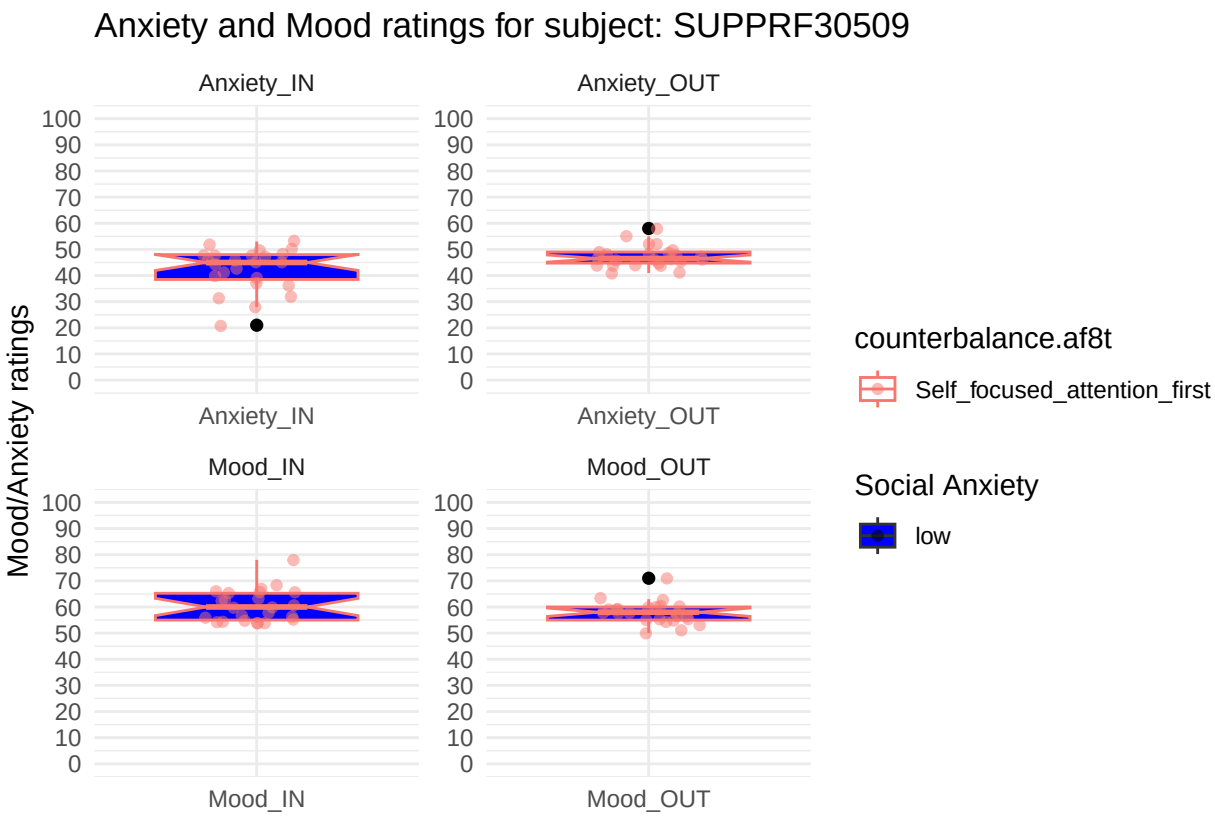

Anxiety and Mood ratings for subject: SUPPRF23841
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

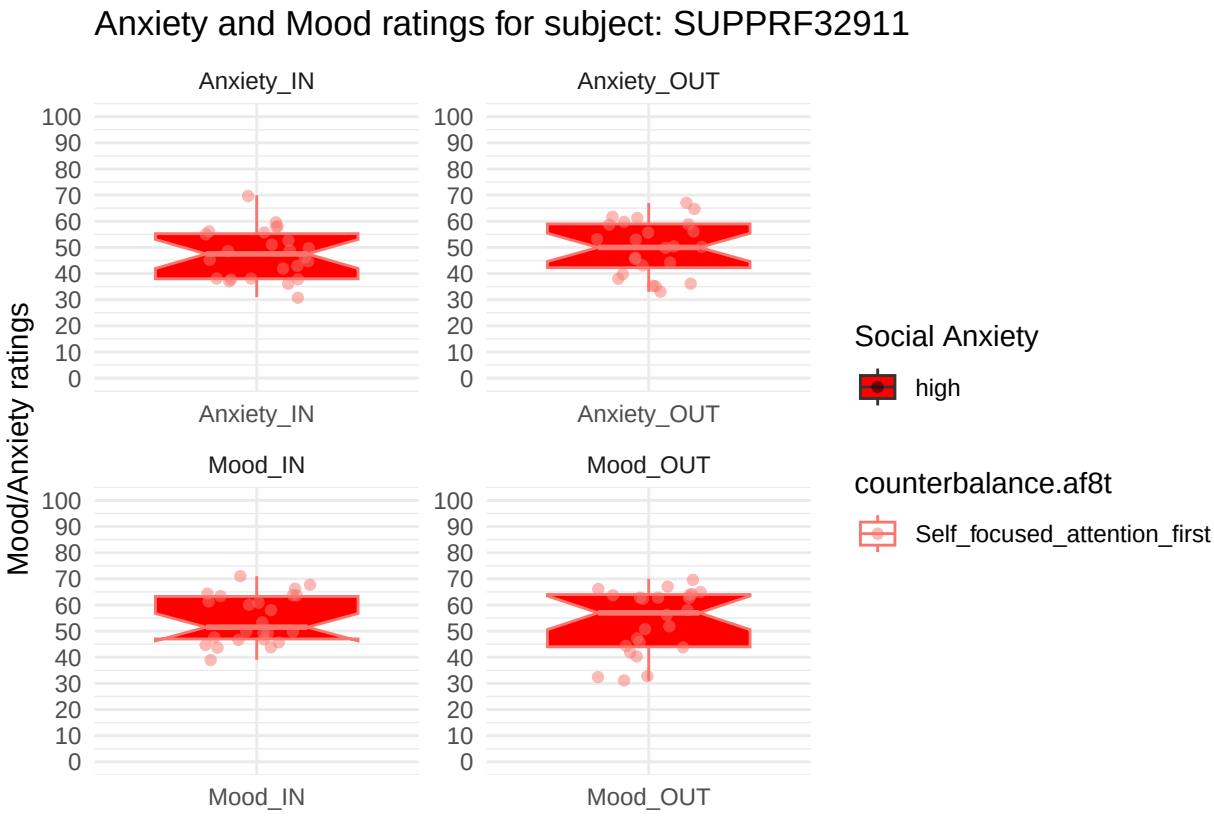

Anxiety and Mood ratings for subject: SUPPRF24527
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

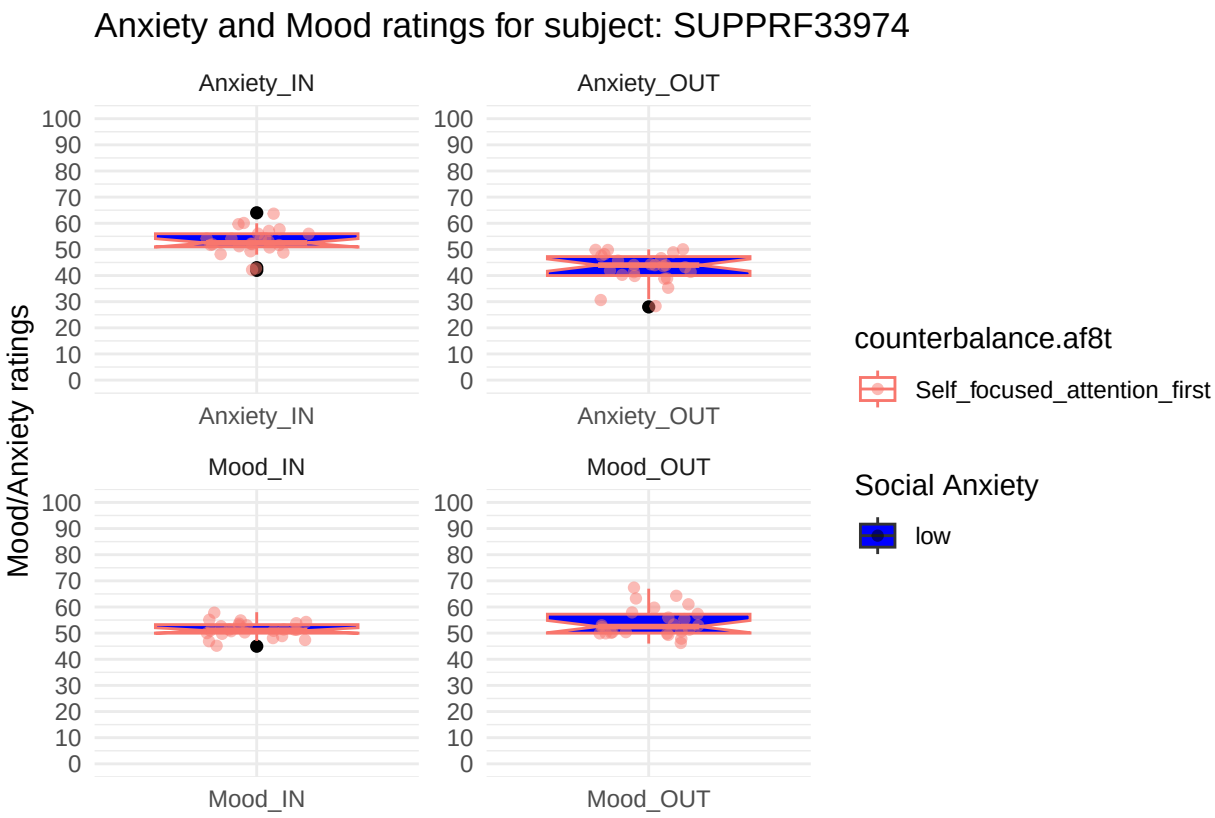

Anxiety and Mood ratings for subject: SUPPRF25764
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first

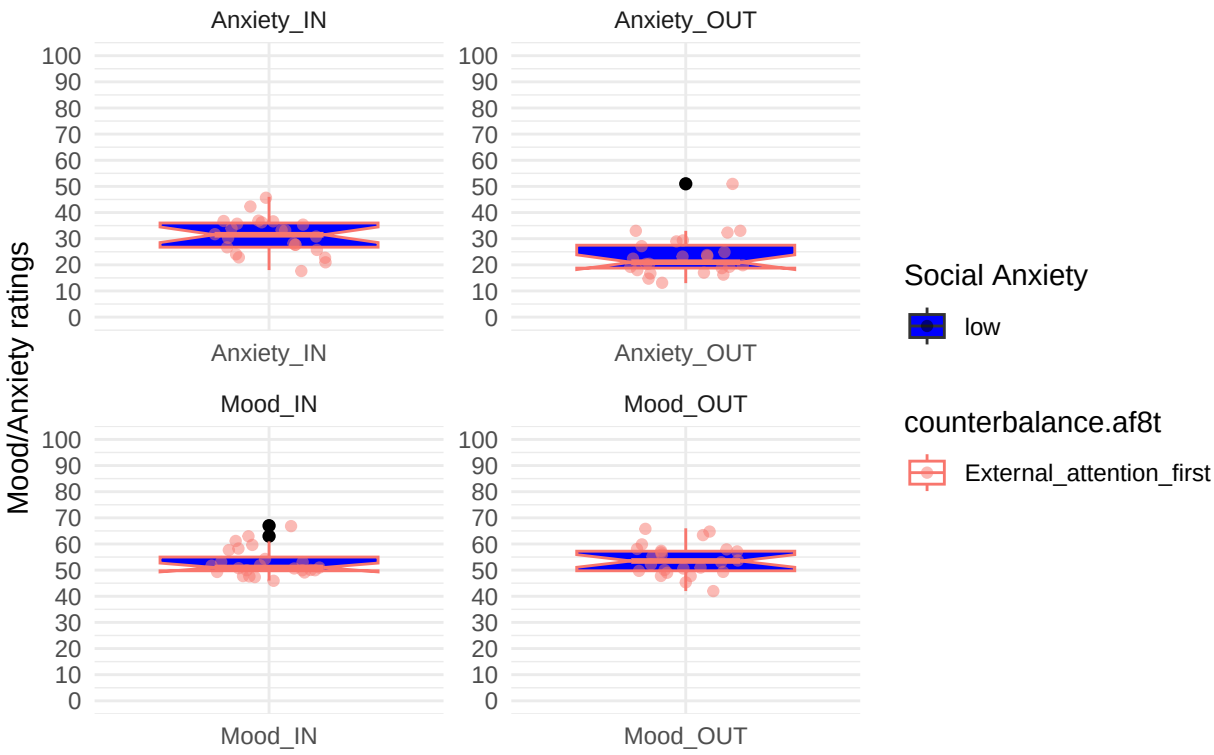

Anxiety and Mood ratings for subject: SUPPRF28854
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

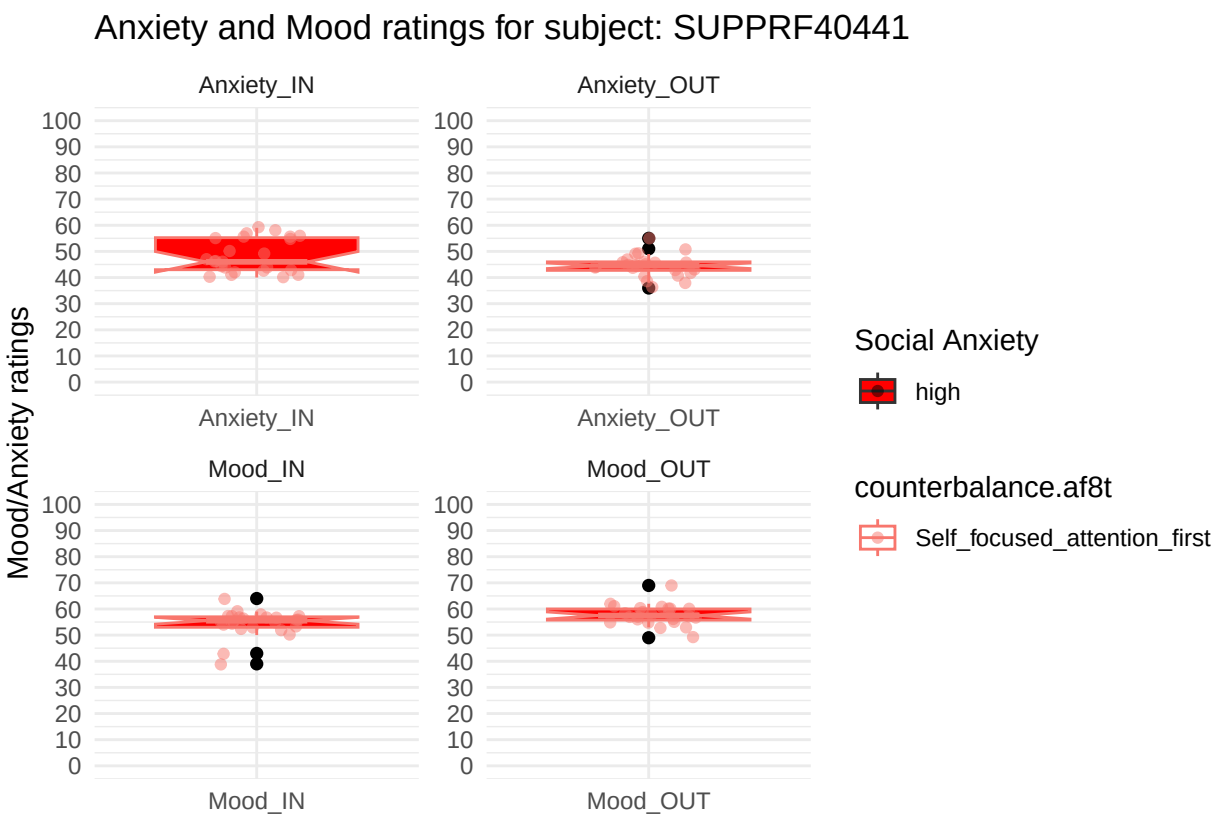

Anxiety and Mood ratings for subject: SUPPRF30141
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first

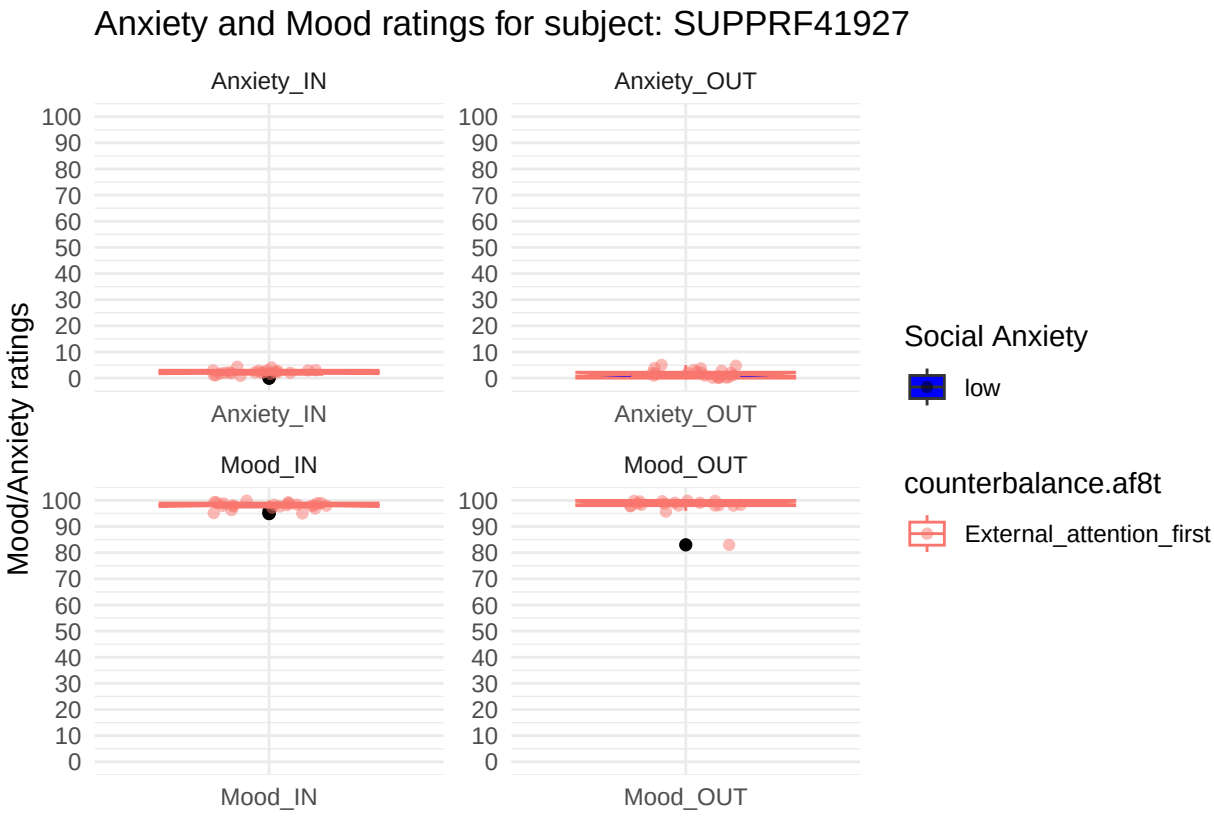

Anxiety and Mood ratings for subject: SUPPRF30509
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

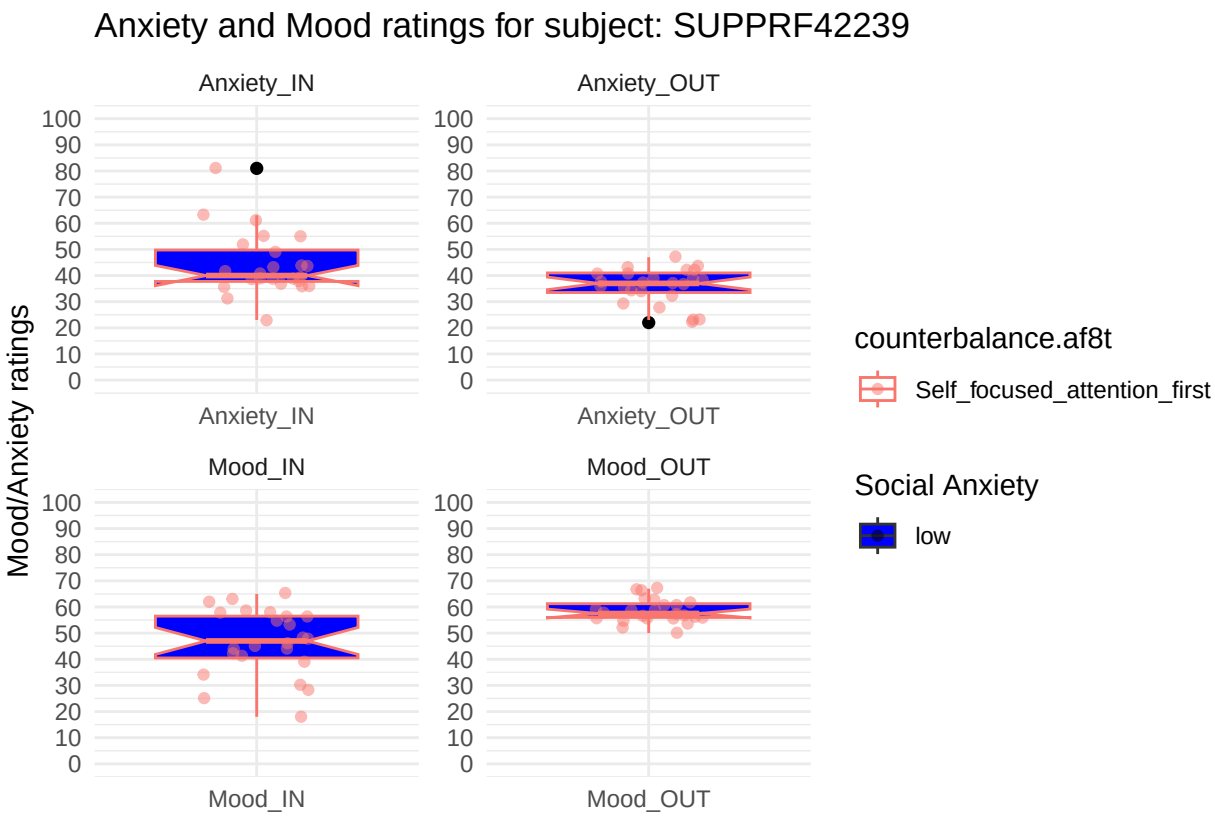

Anxiety and Mood ratings for subject: SUPPRF32911
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

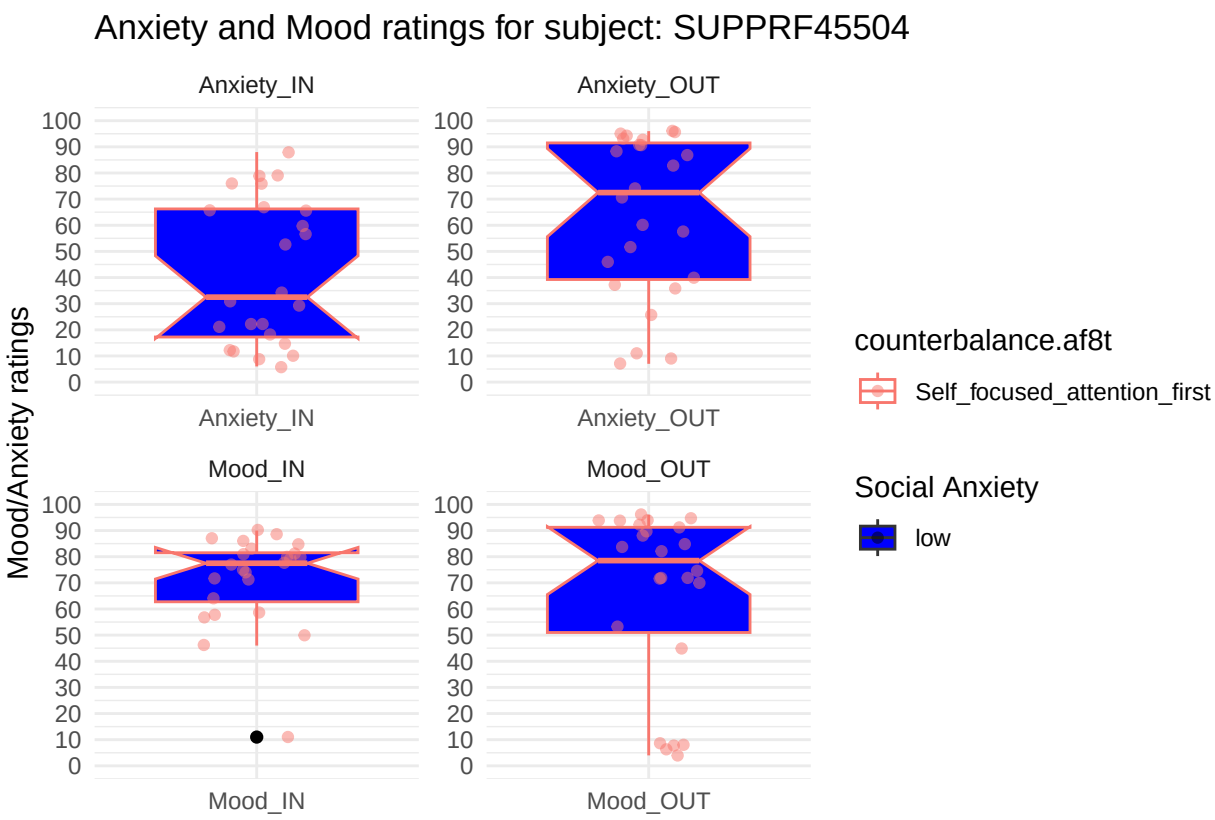

Anxiety and Mood ratings for subject: SUPPRF33974
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

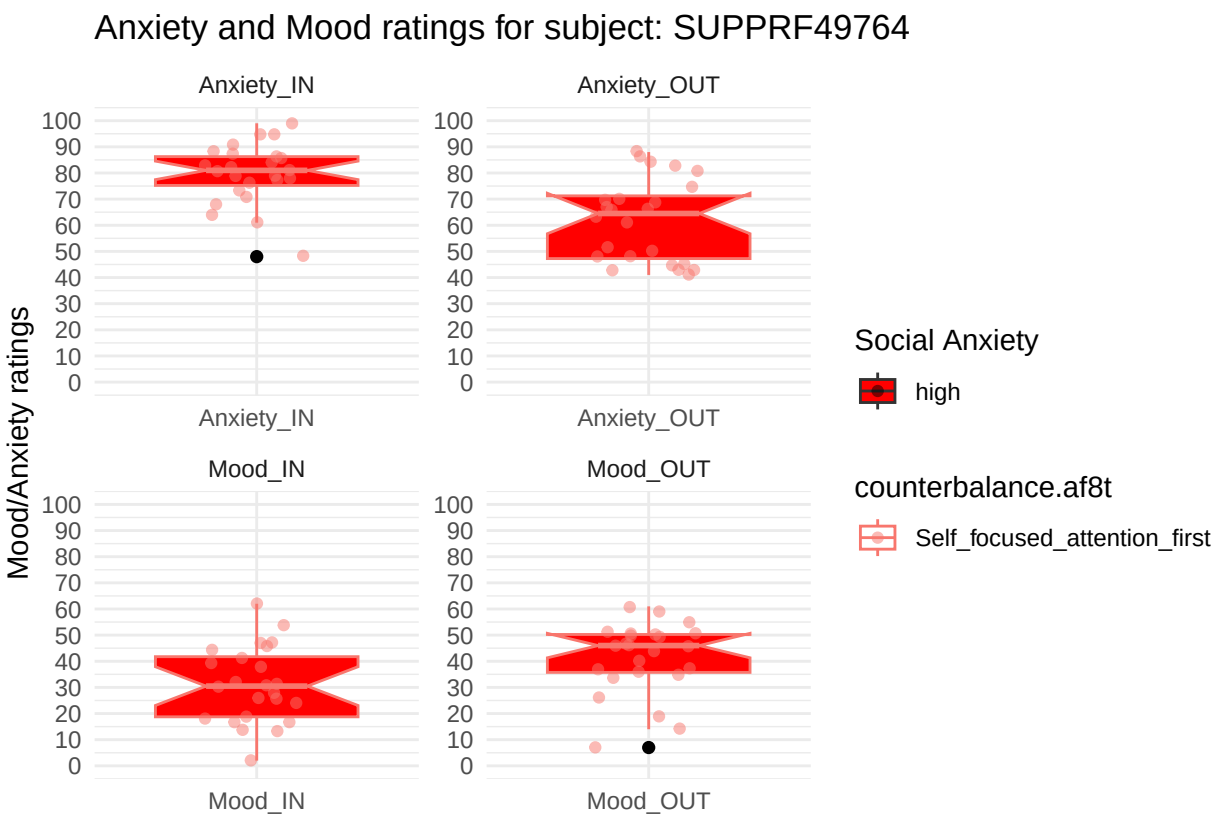

Anxiety and Mood ratings for subject: SUPPRF37742
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

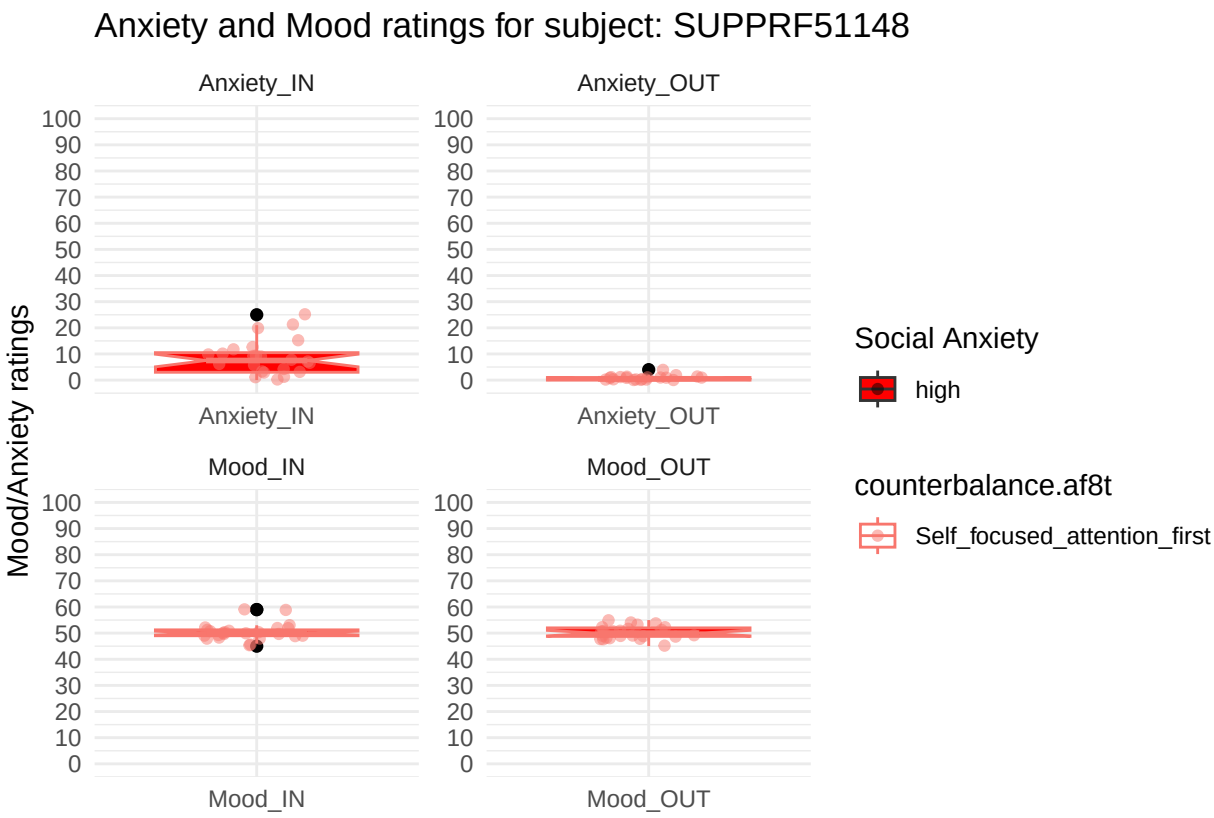

Anxiety and Mood ratings for subject: SUPPRF40441
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

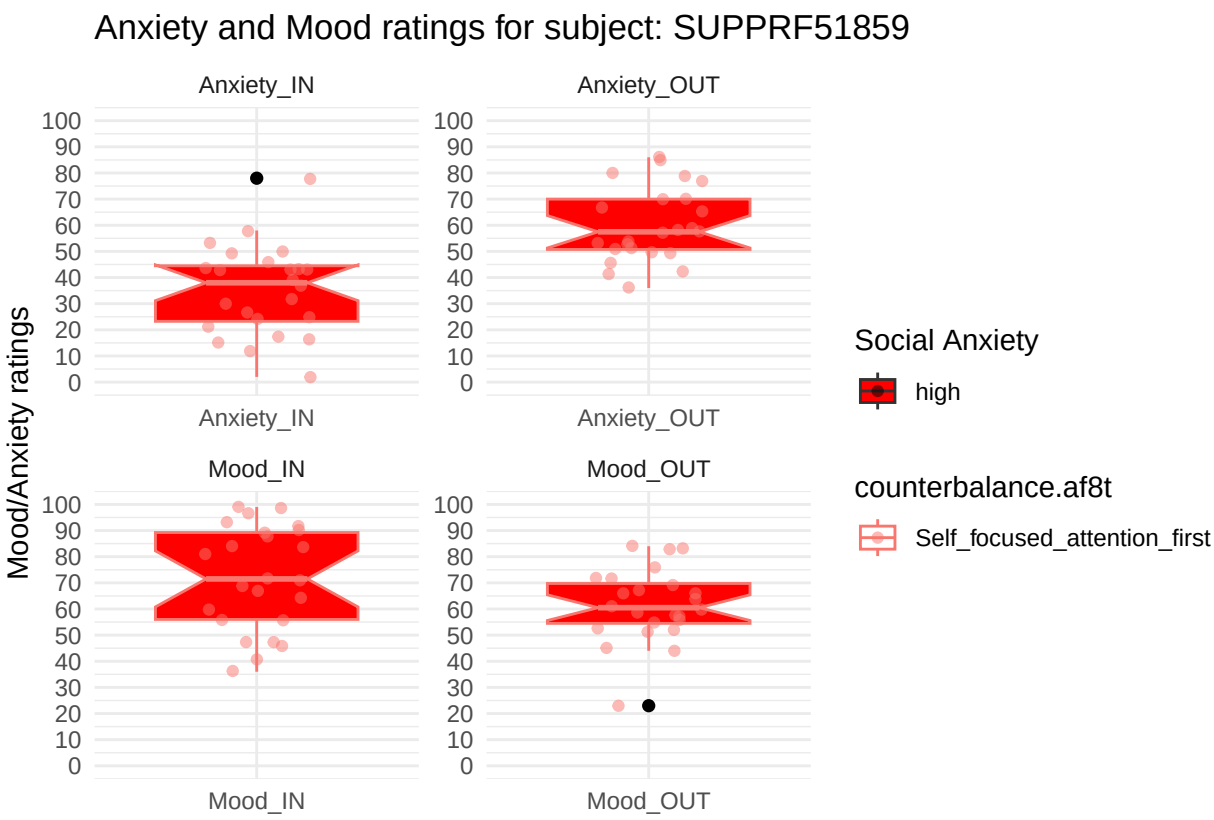

Anxiety and Mood ratings for subject: SUPPRF41927
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

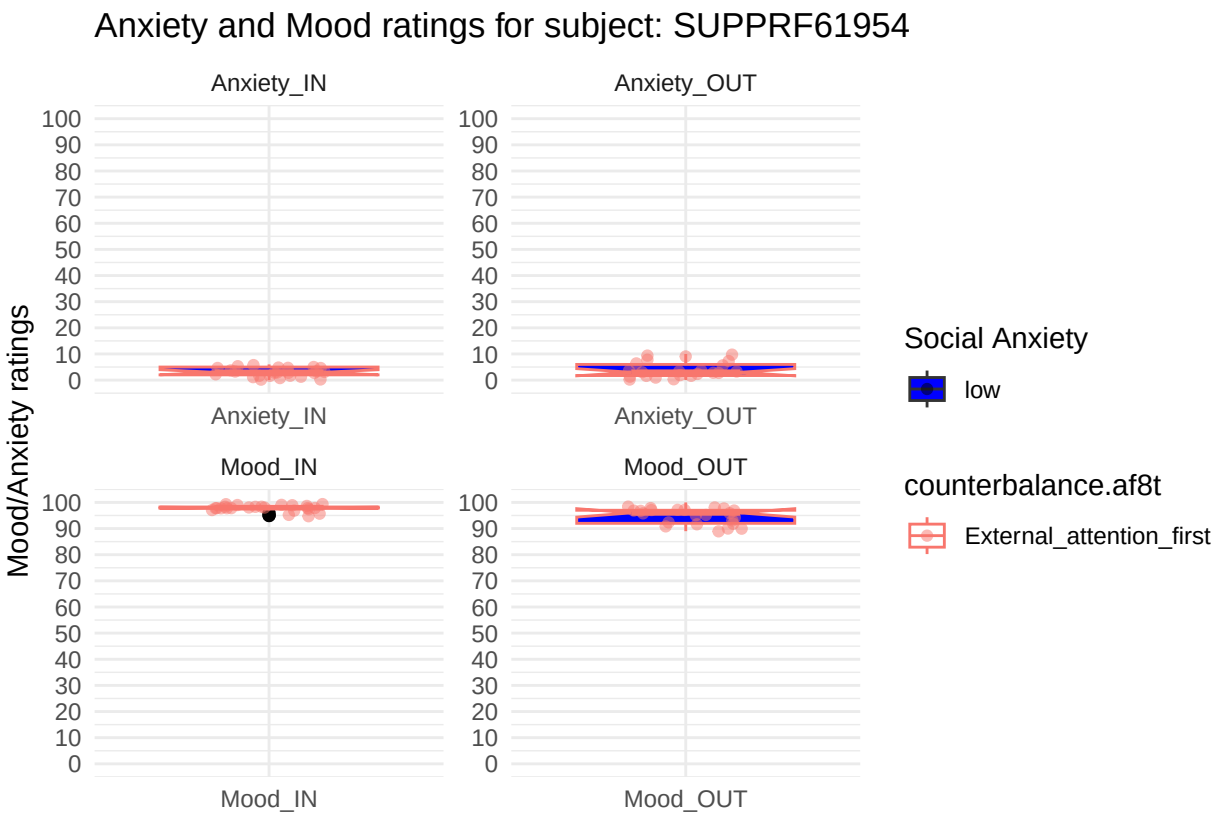

Anxiety and Mood ratings for subject: SUPPRF42239
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

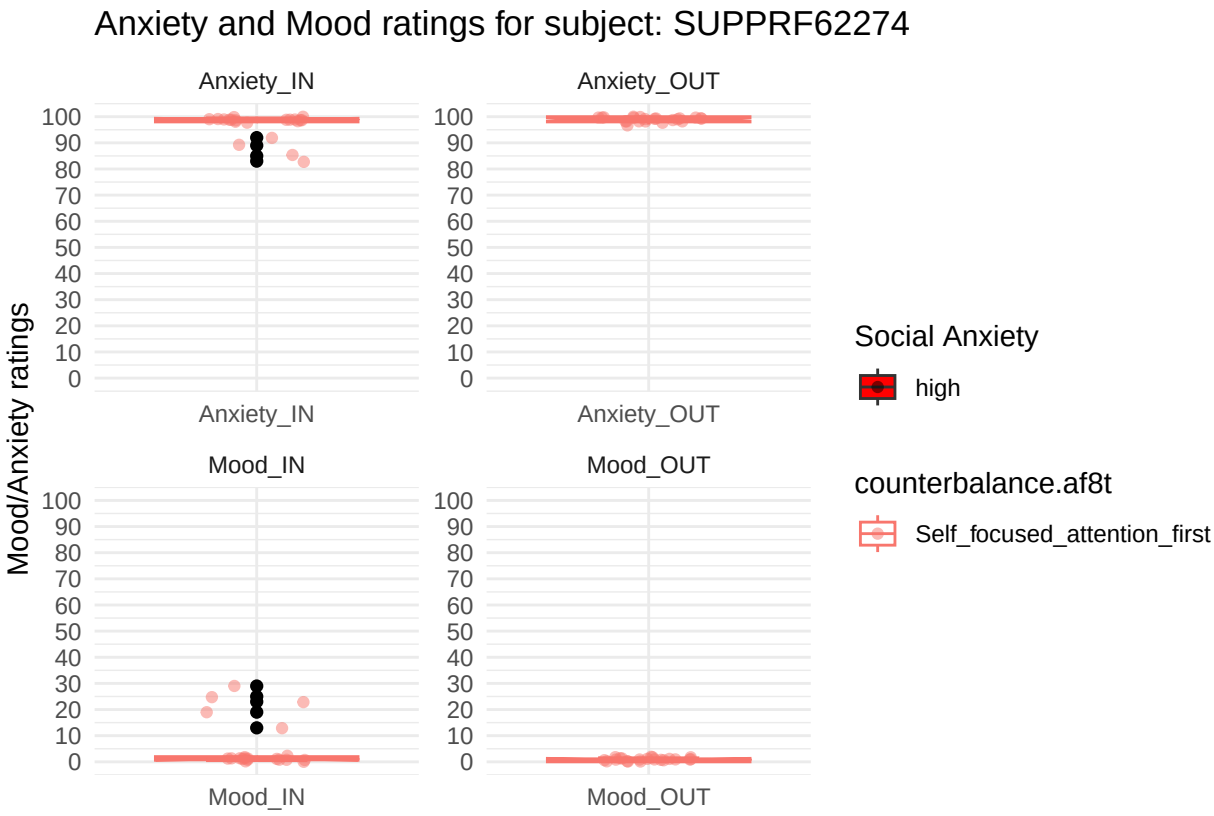

Anxiety and Mood ratings for subject: SUPPRF45504
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low

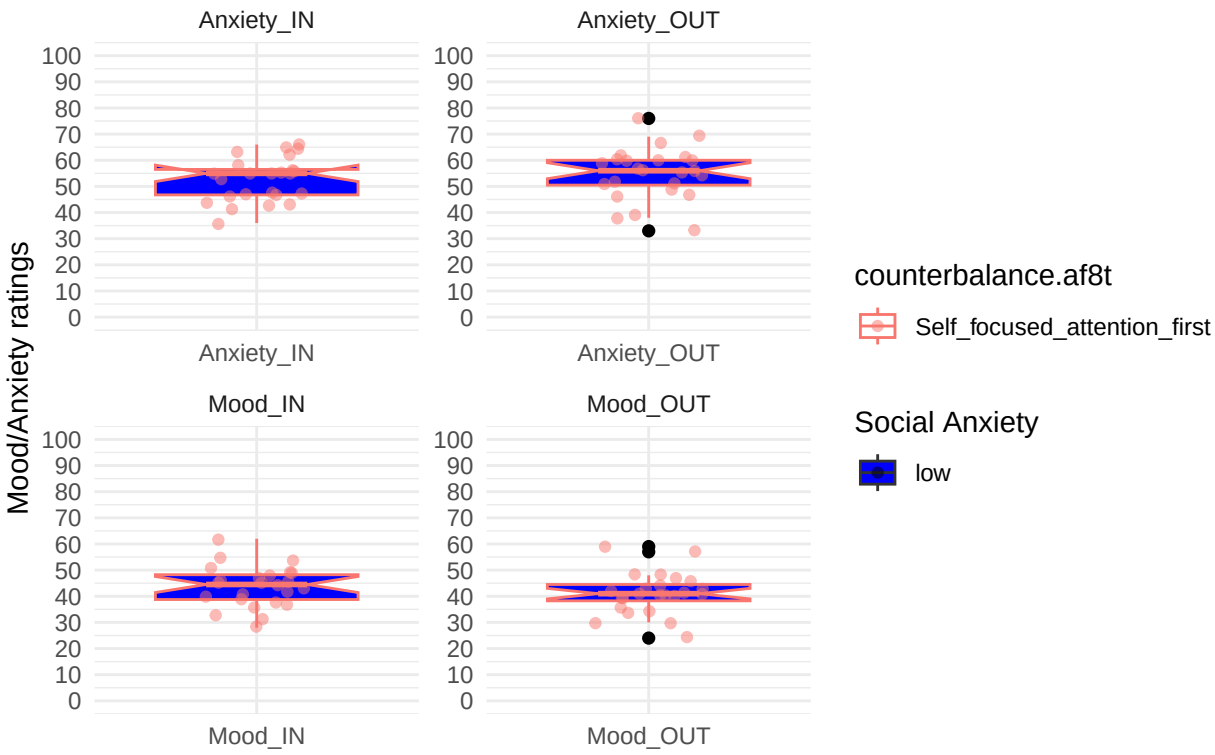

Anxiety and Mood ratings for subject: SUPPRF49764
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

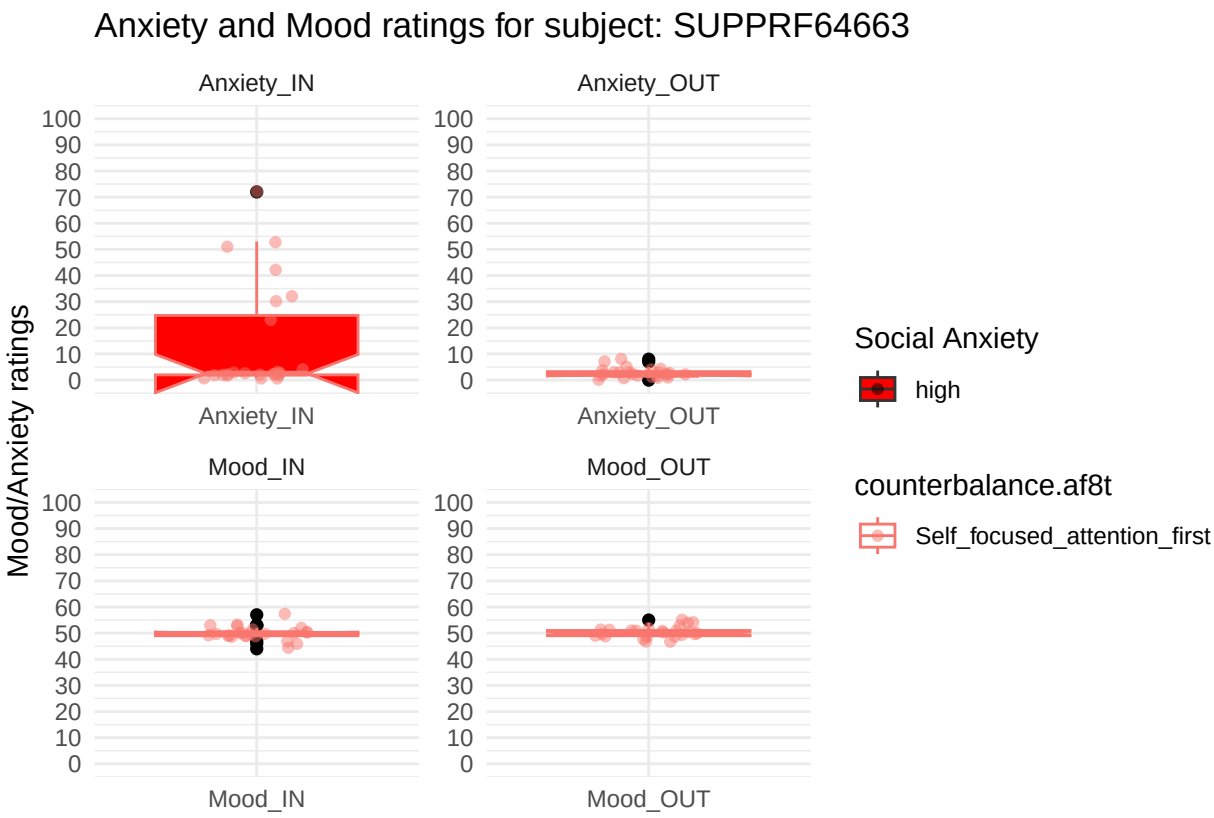

Anxiety and Mood ratings for subject: SUPPRF51148
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first

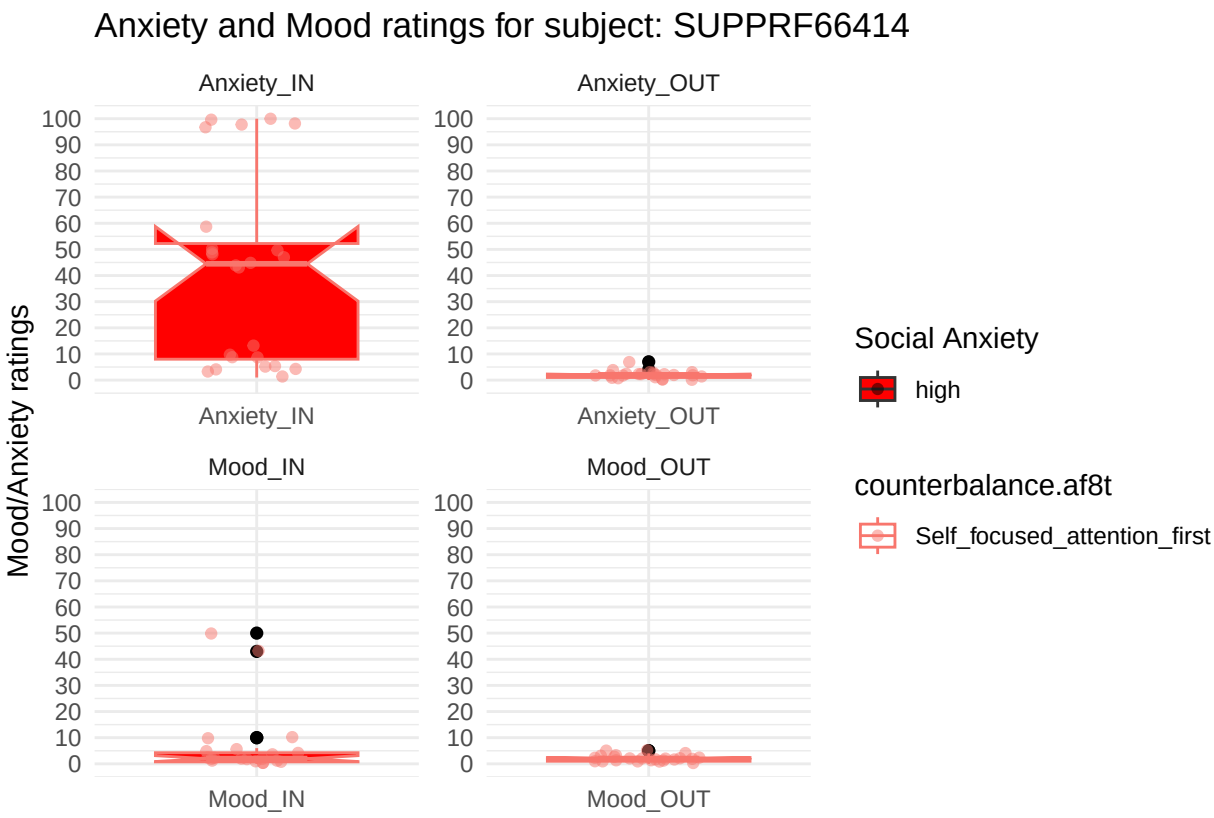

Anxiety and Mood ratings for subject: SUPPRF51859
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF61954
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF62274
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF62643
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF64663
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF66414
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
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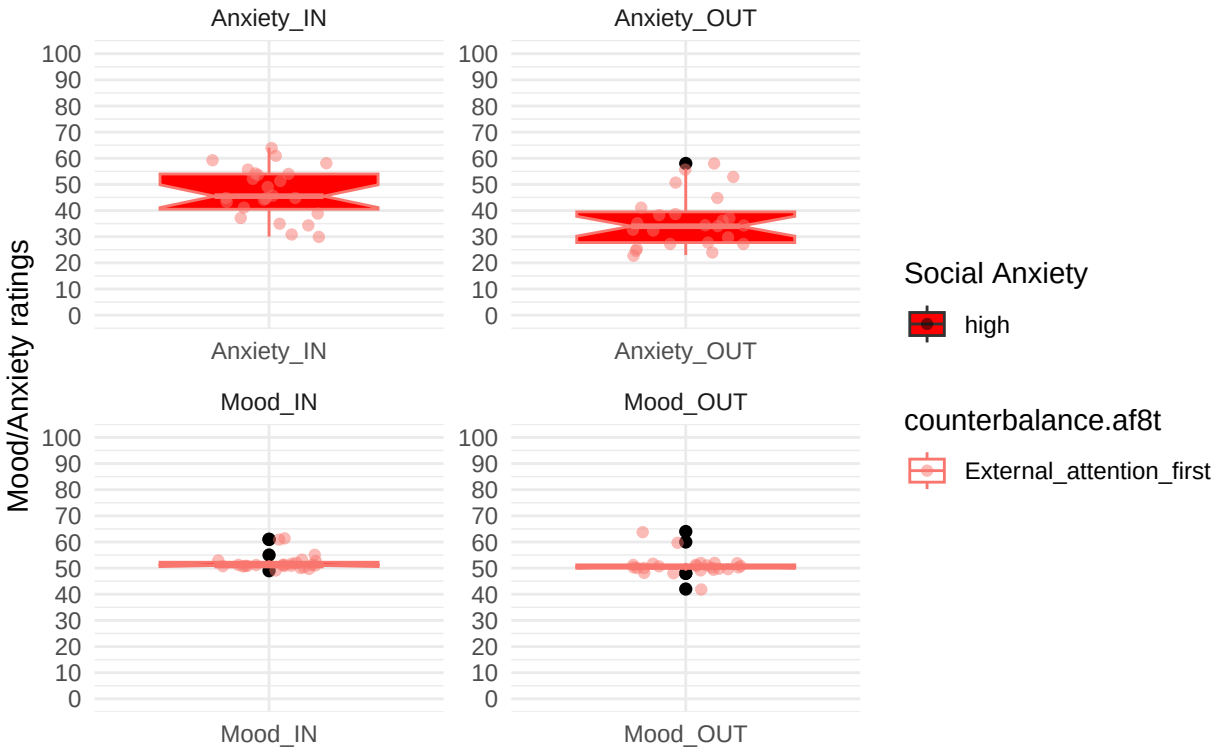
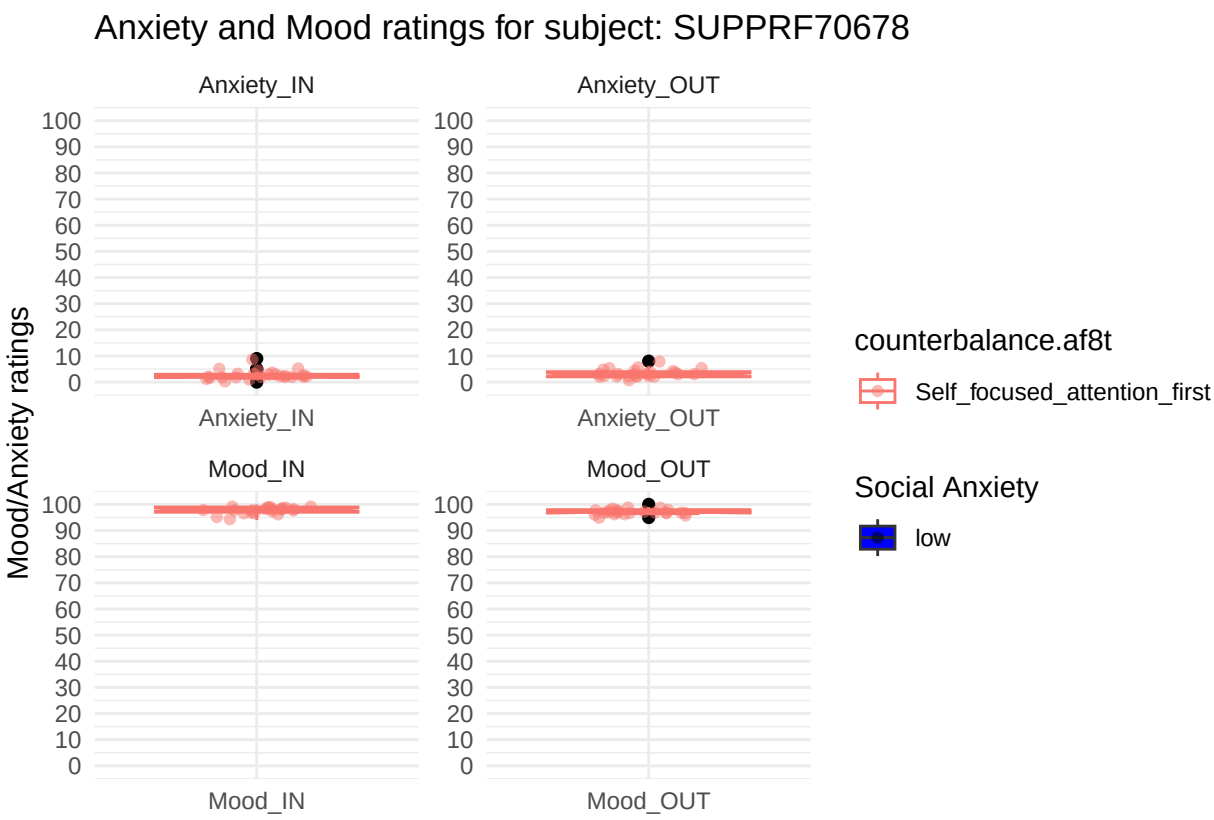
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF67062
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF70678
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
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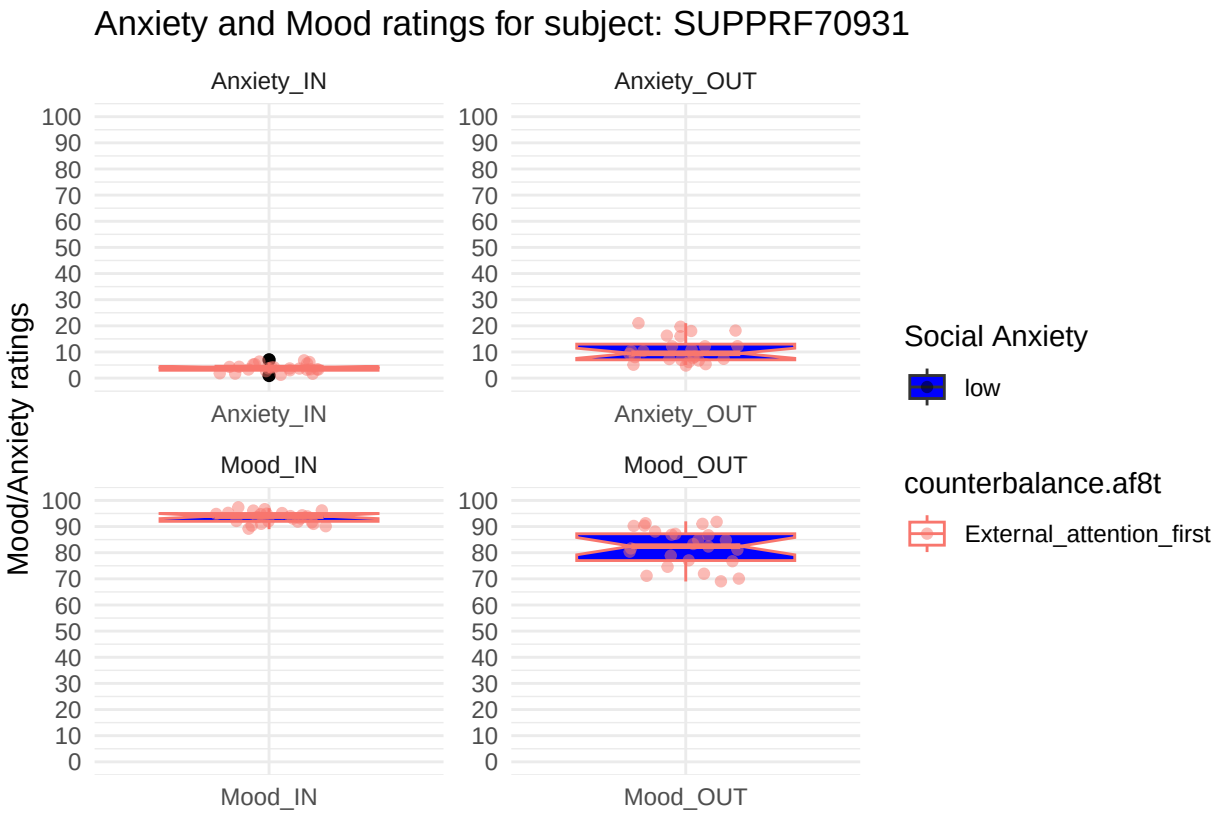
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF70931
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
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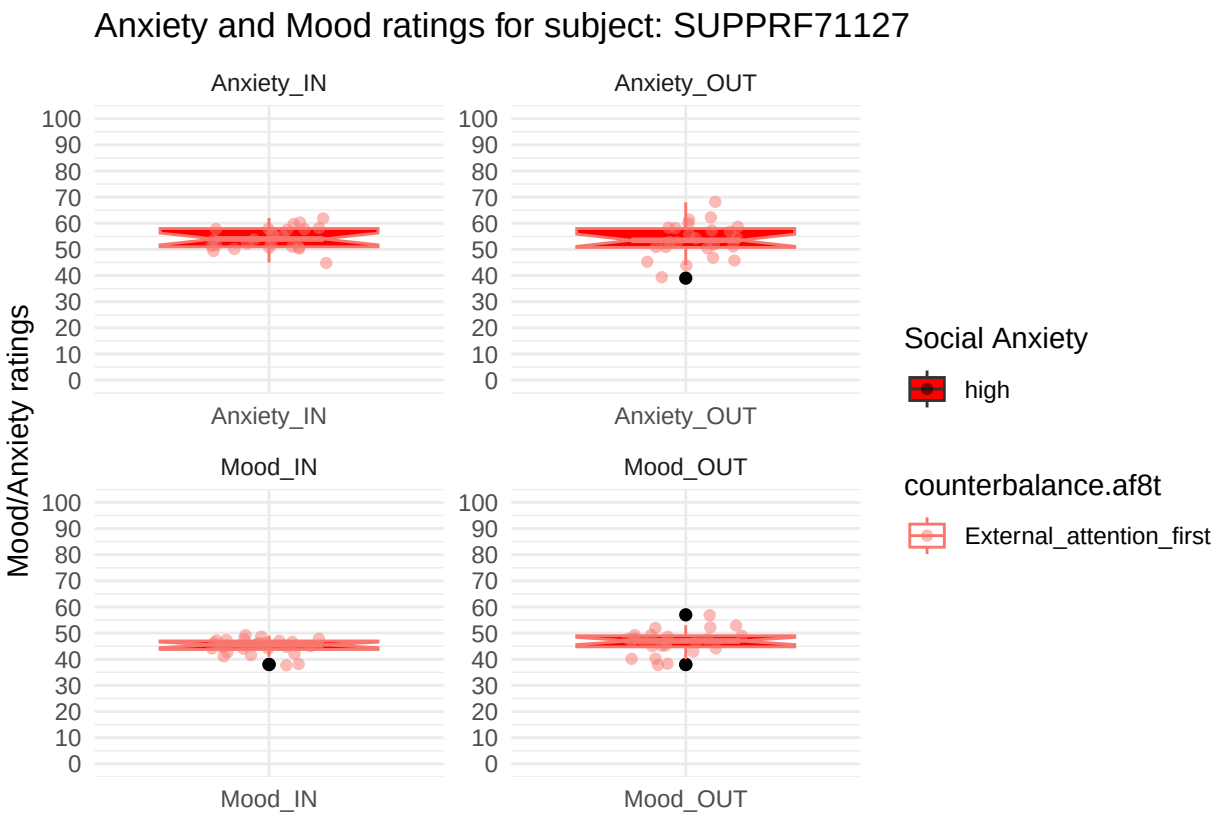
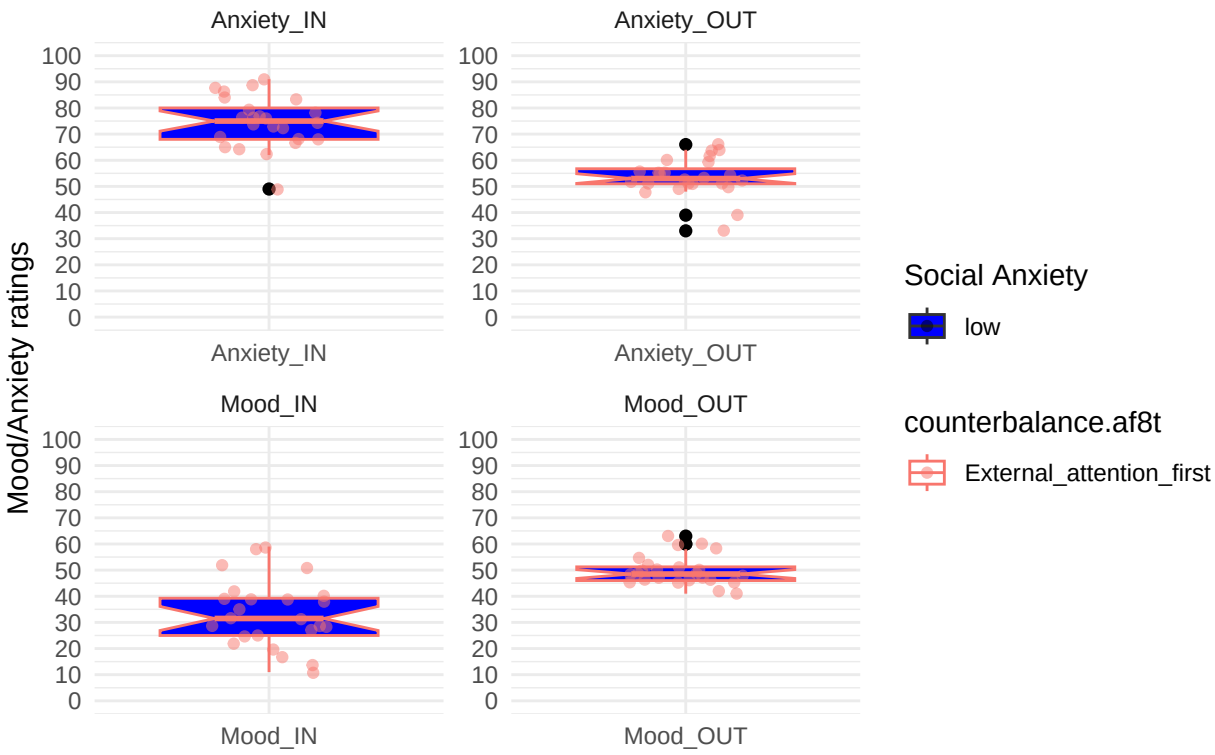
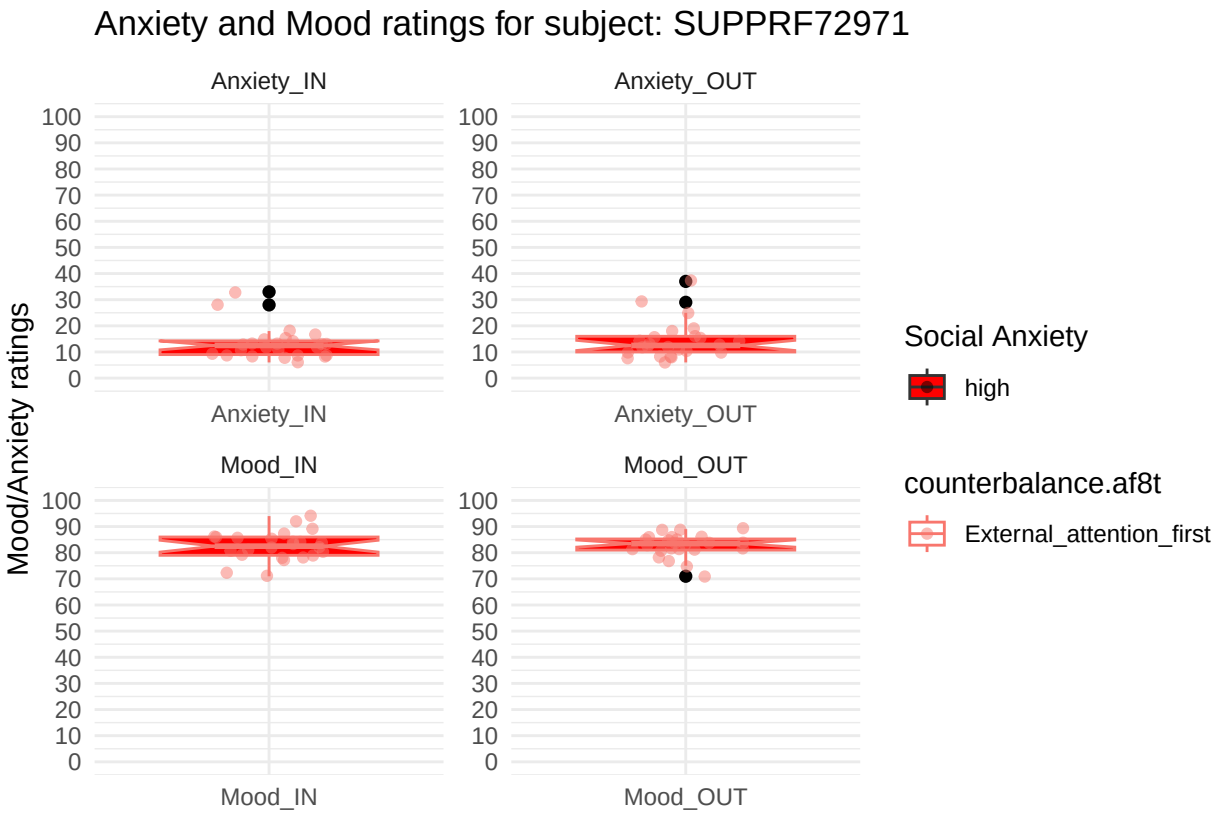
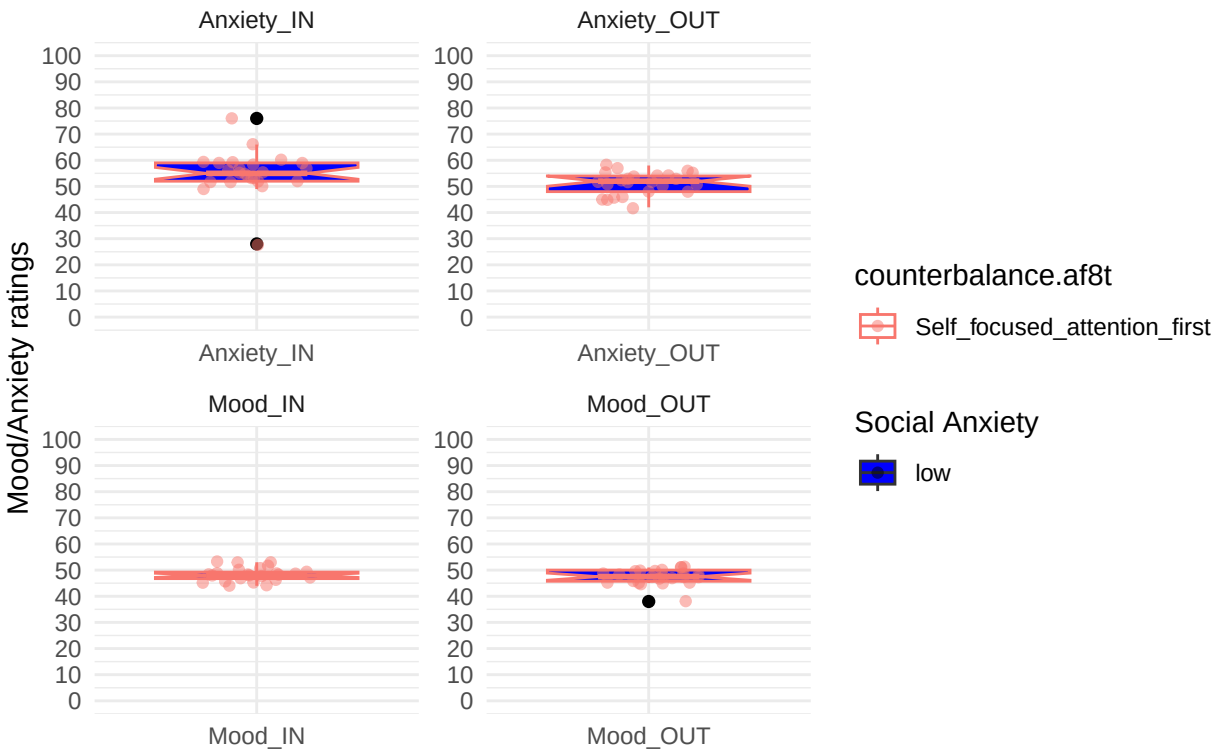
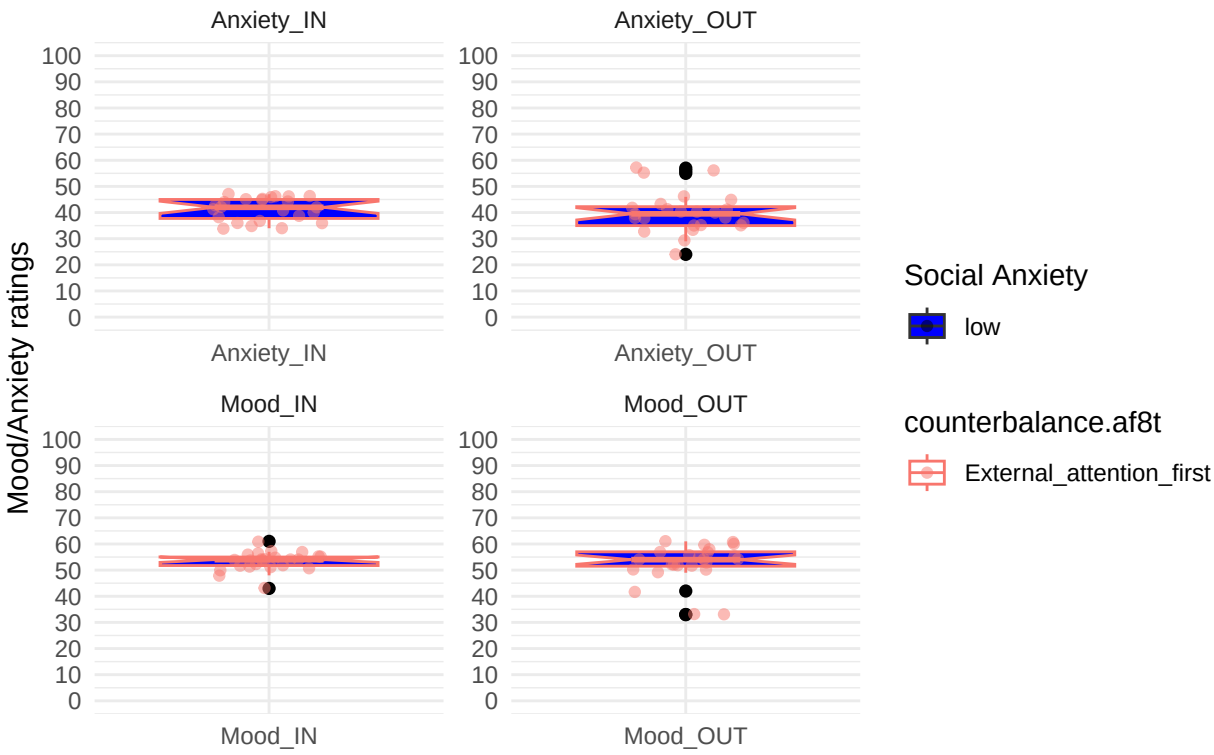
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF71127
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF71393
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF72971
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF73458
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF76142
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Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
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20
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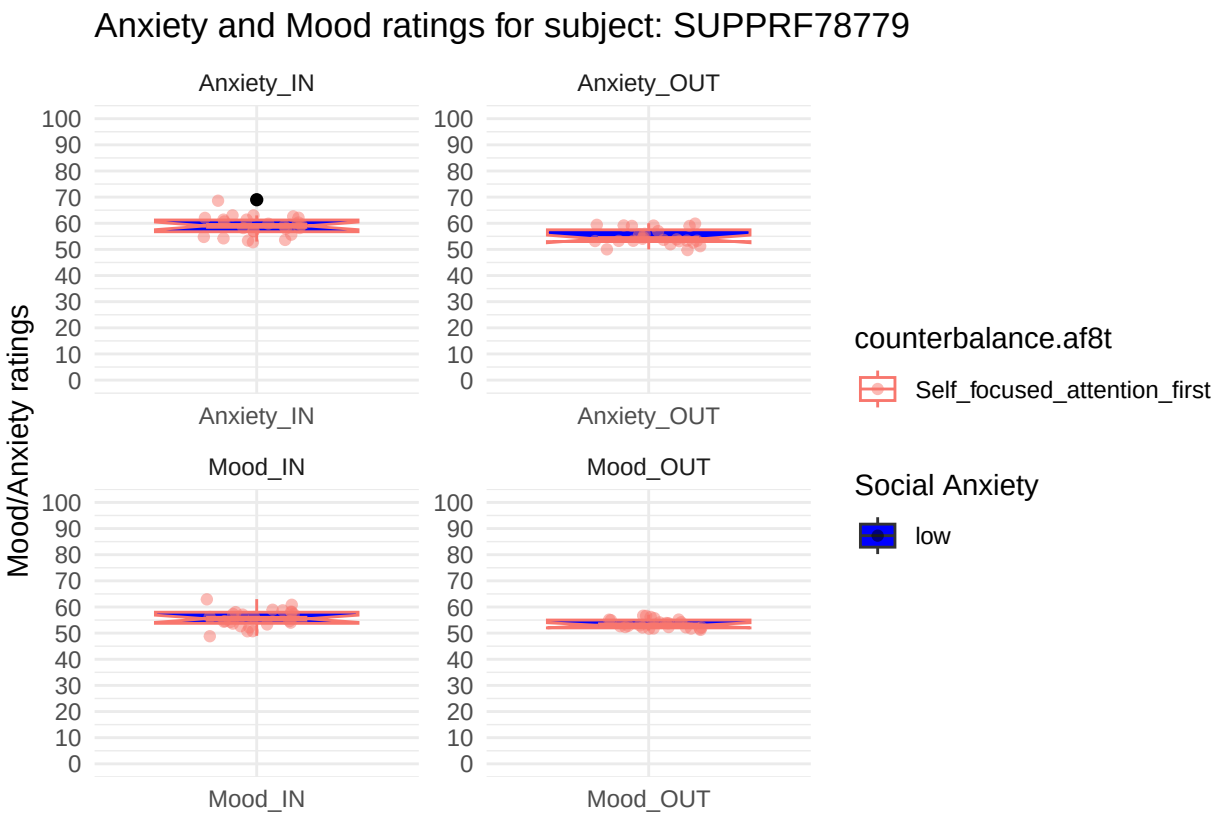
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF78779
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
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30
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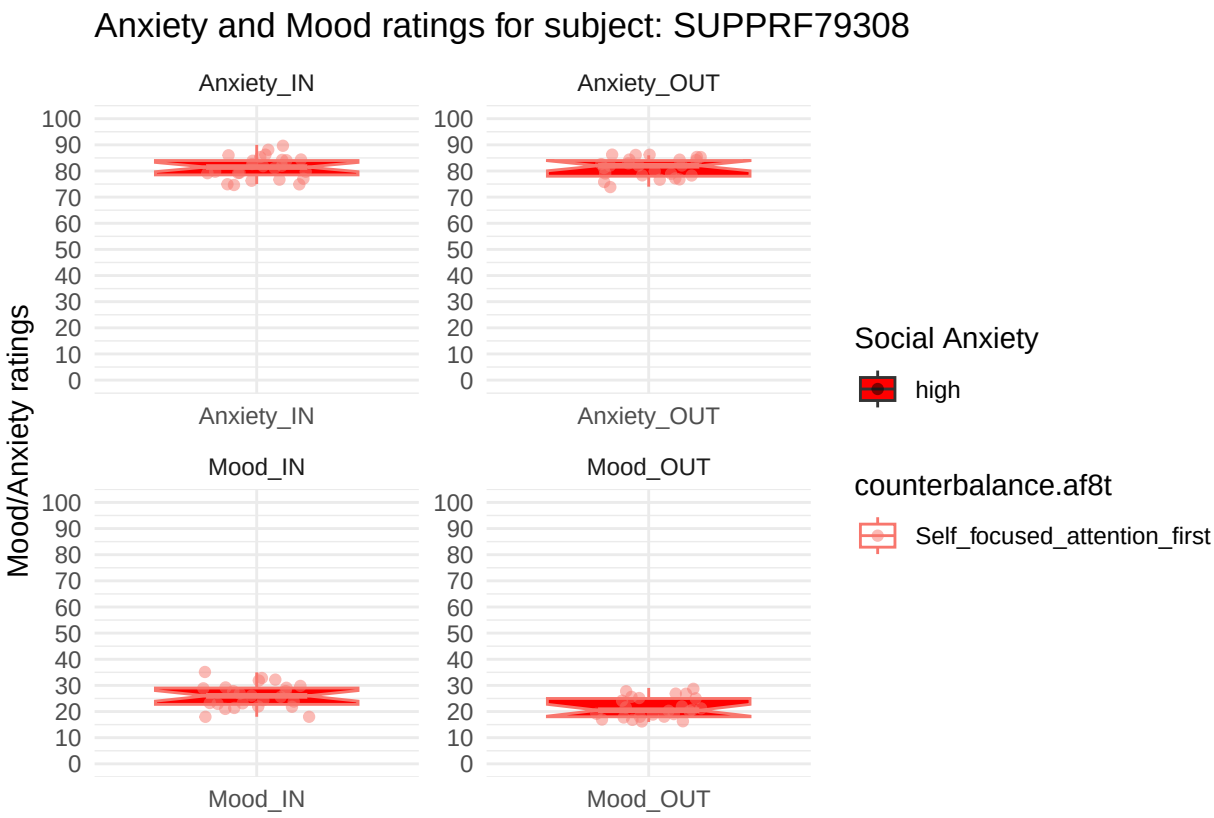
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF79308
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
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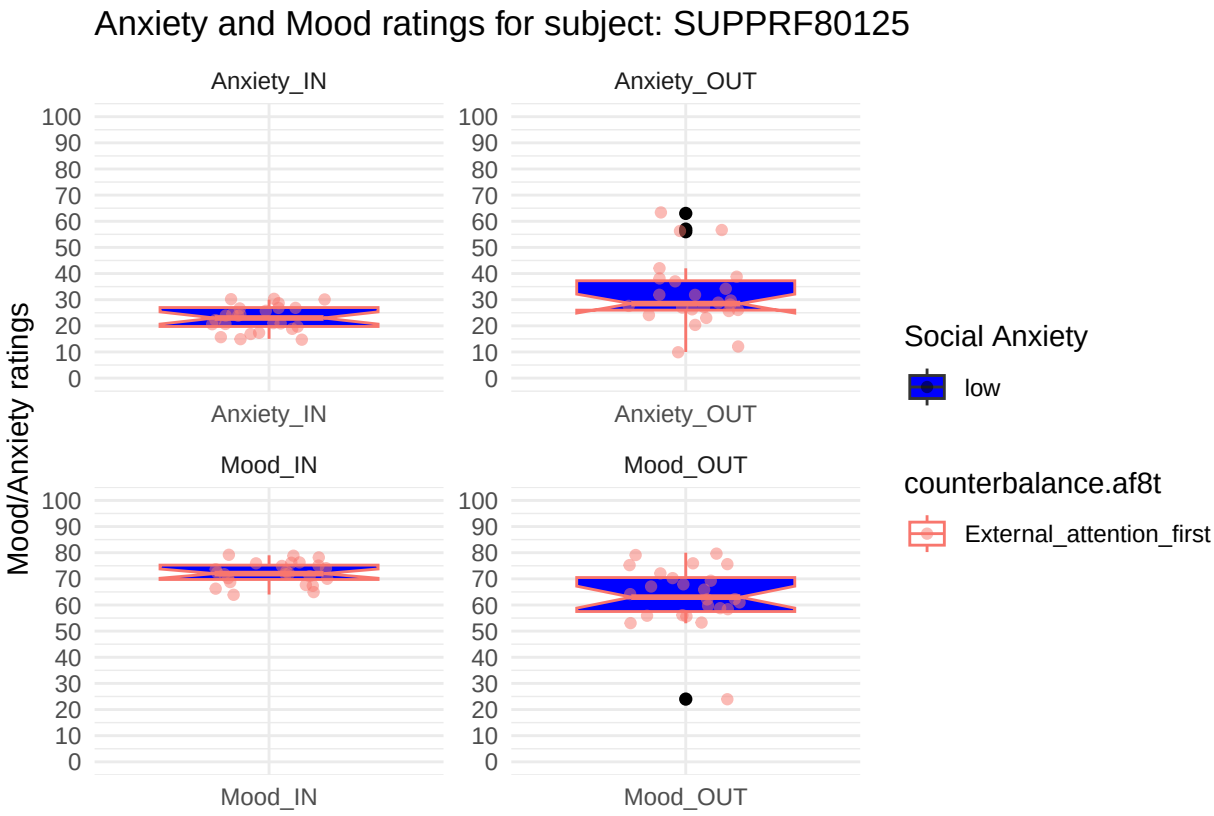
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF80125
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
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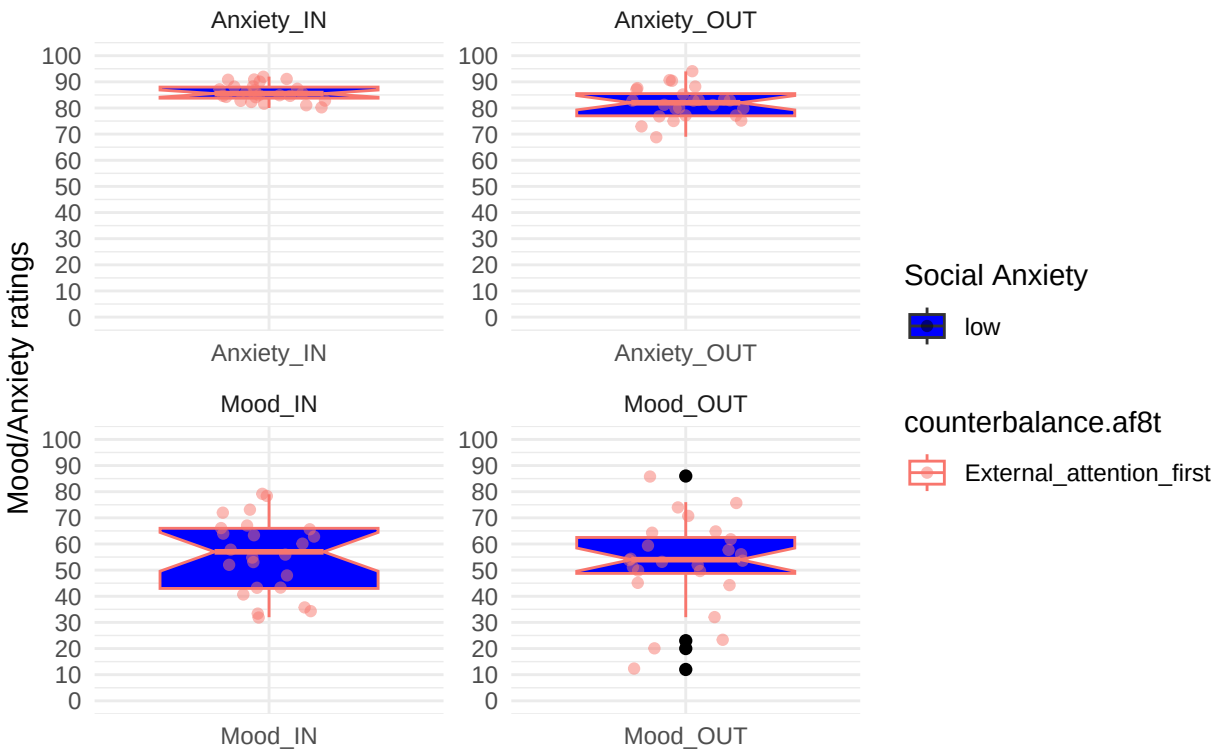
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF85201
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
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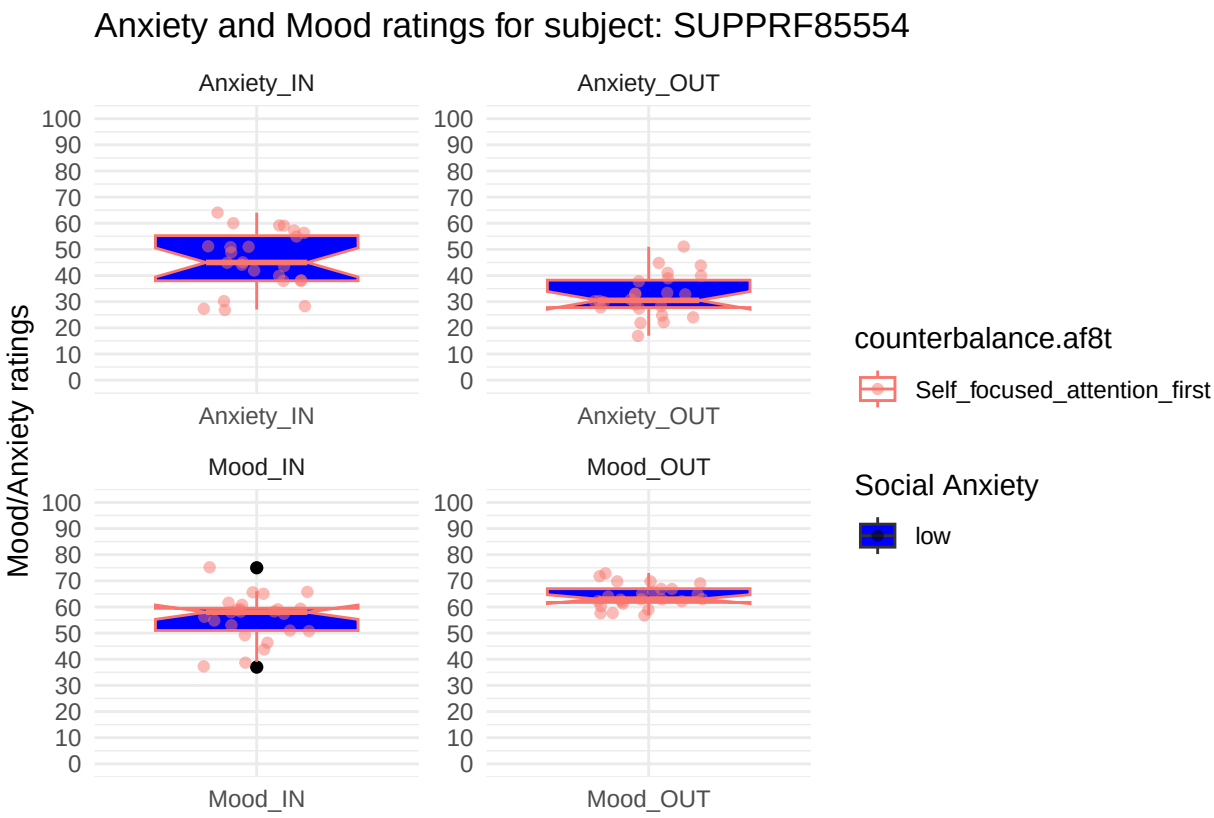
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF85554
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF87722
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
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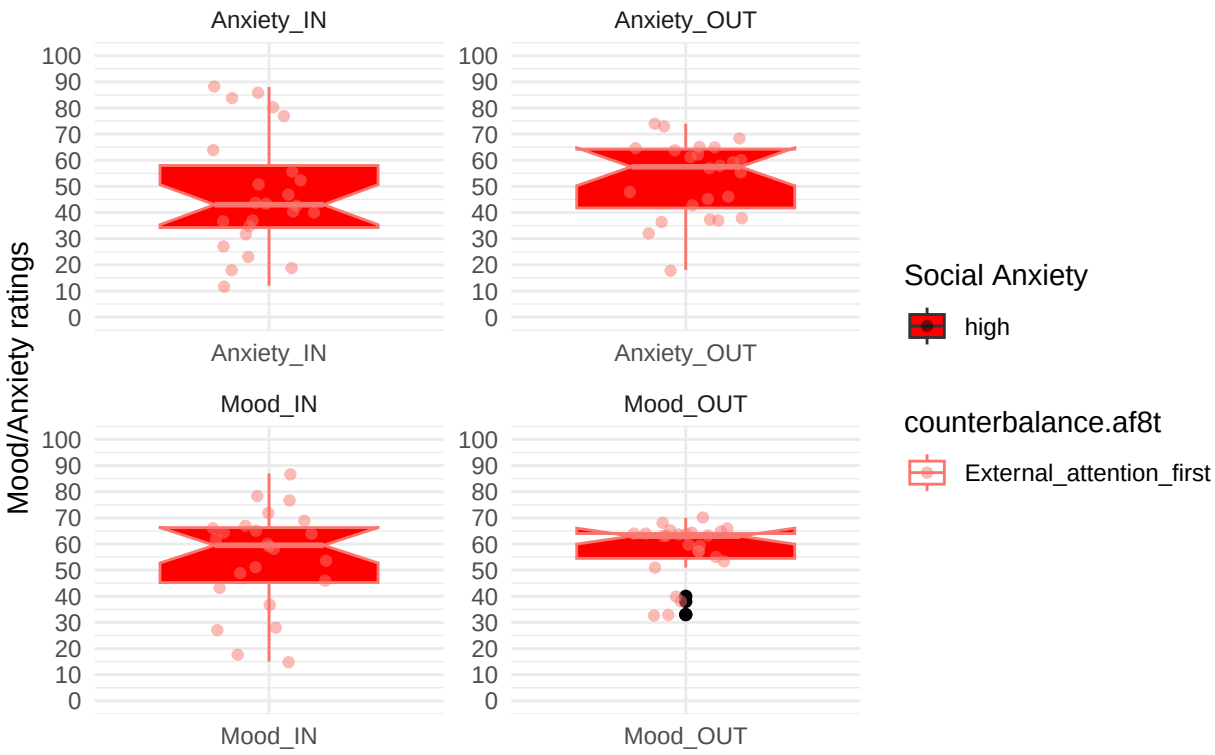
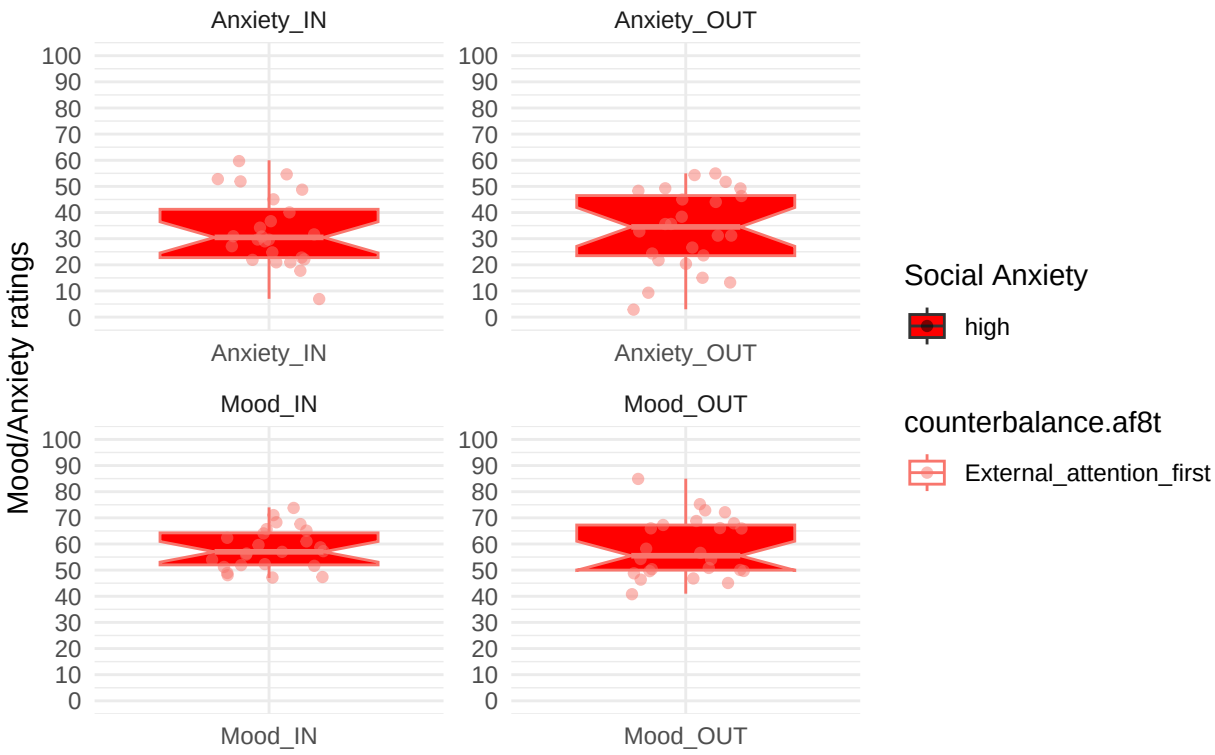
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF89484
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF92652
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
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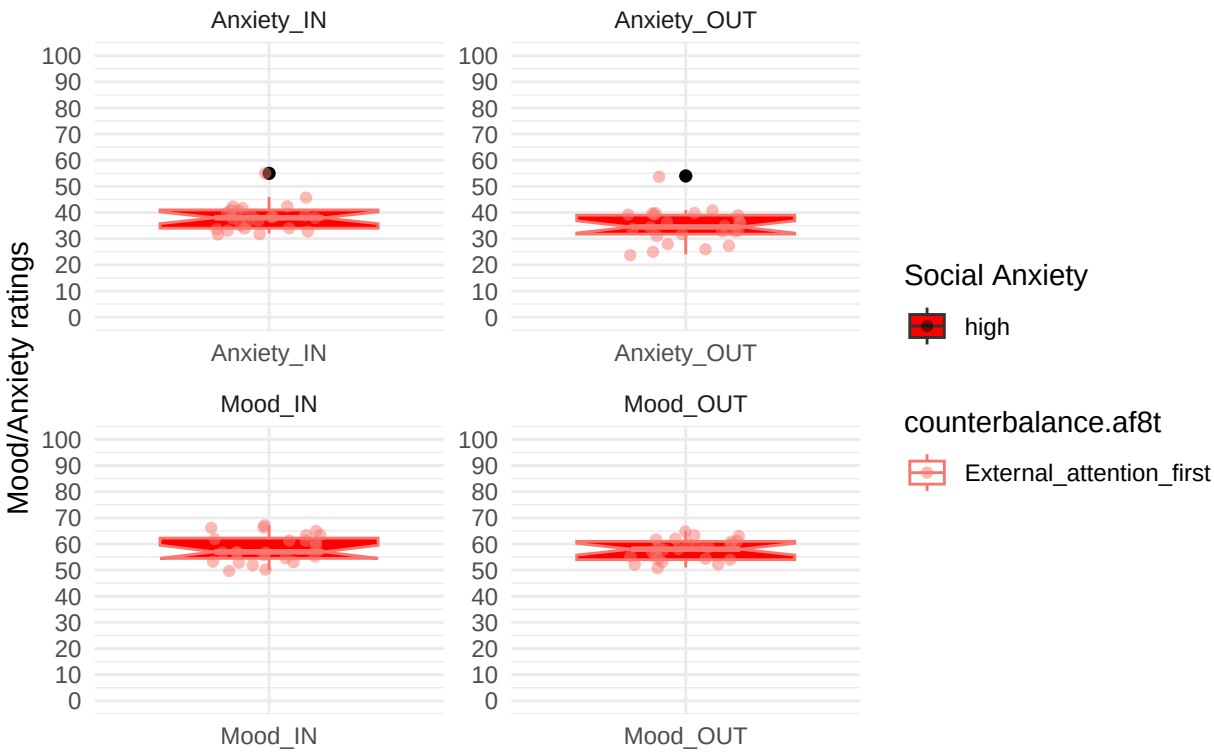
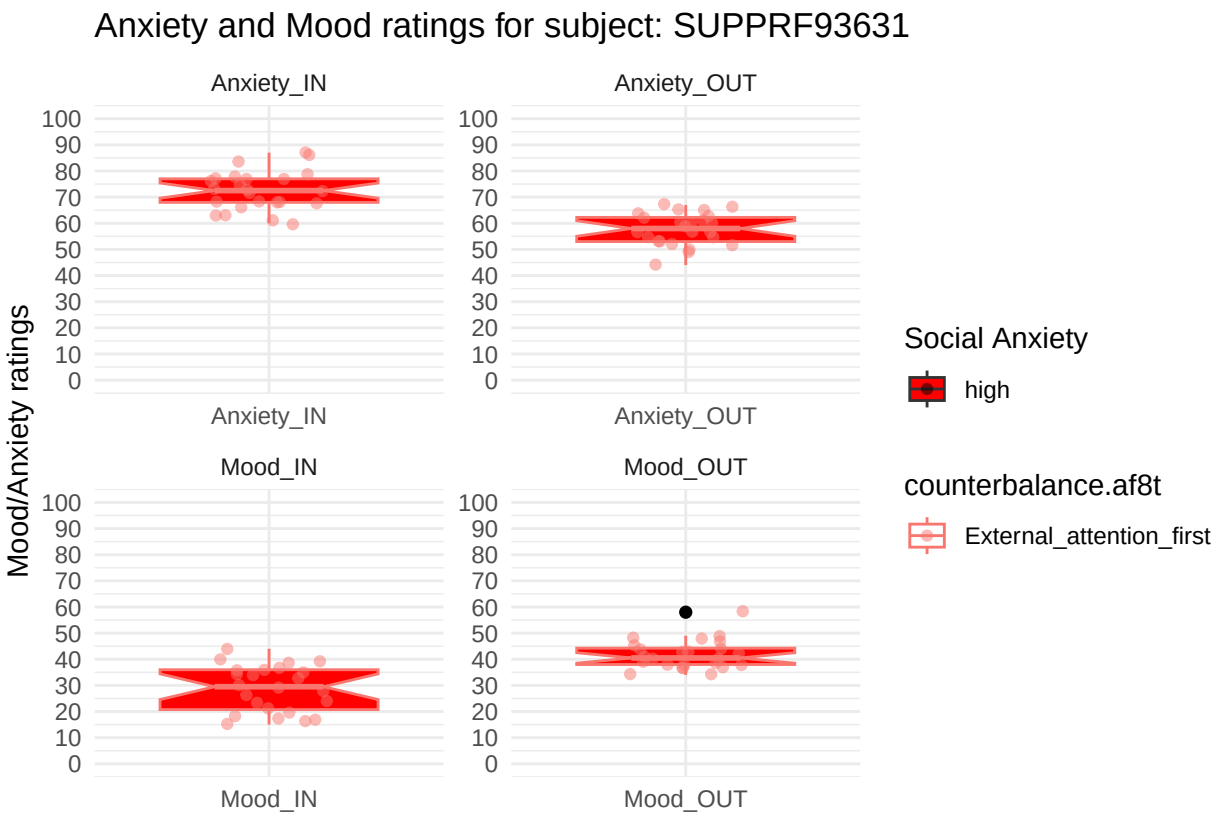
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF92791
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF93631
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Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
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60
50
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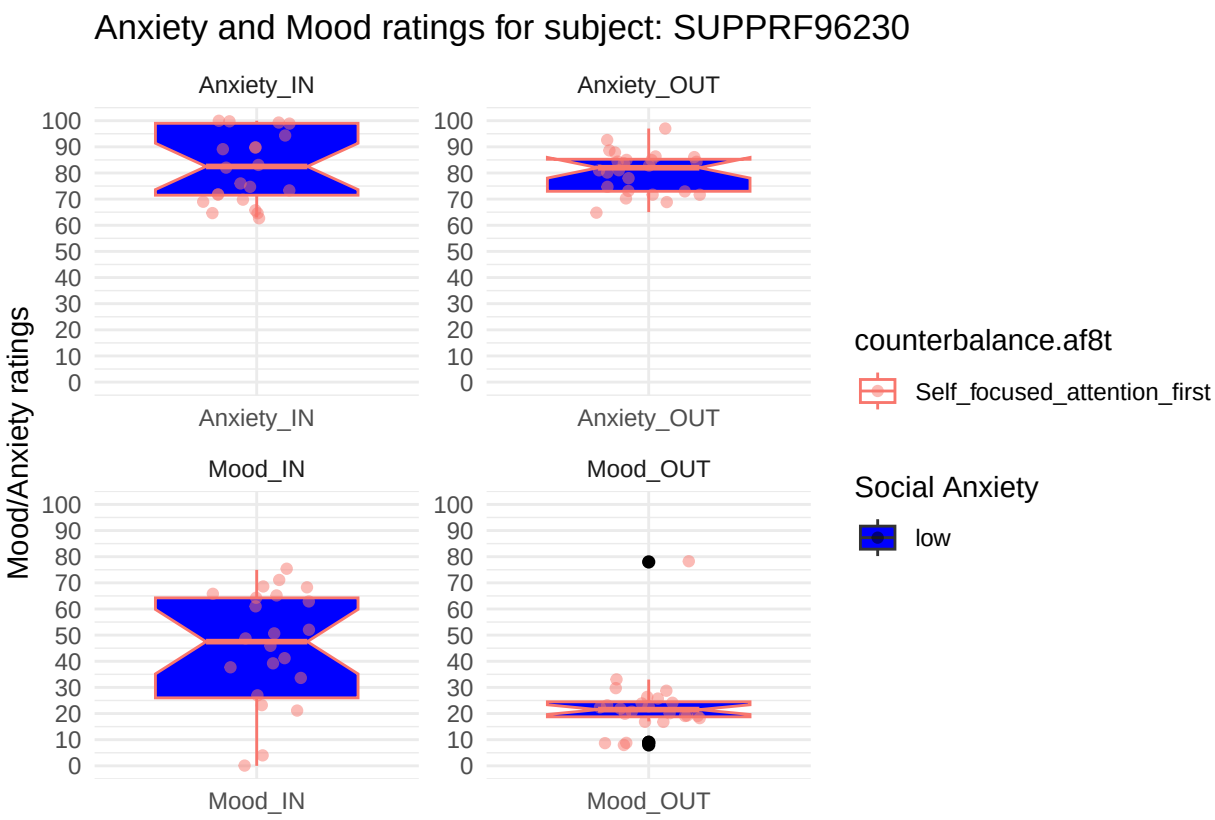
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF96230
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
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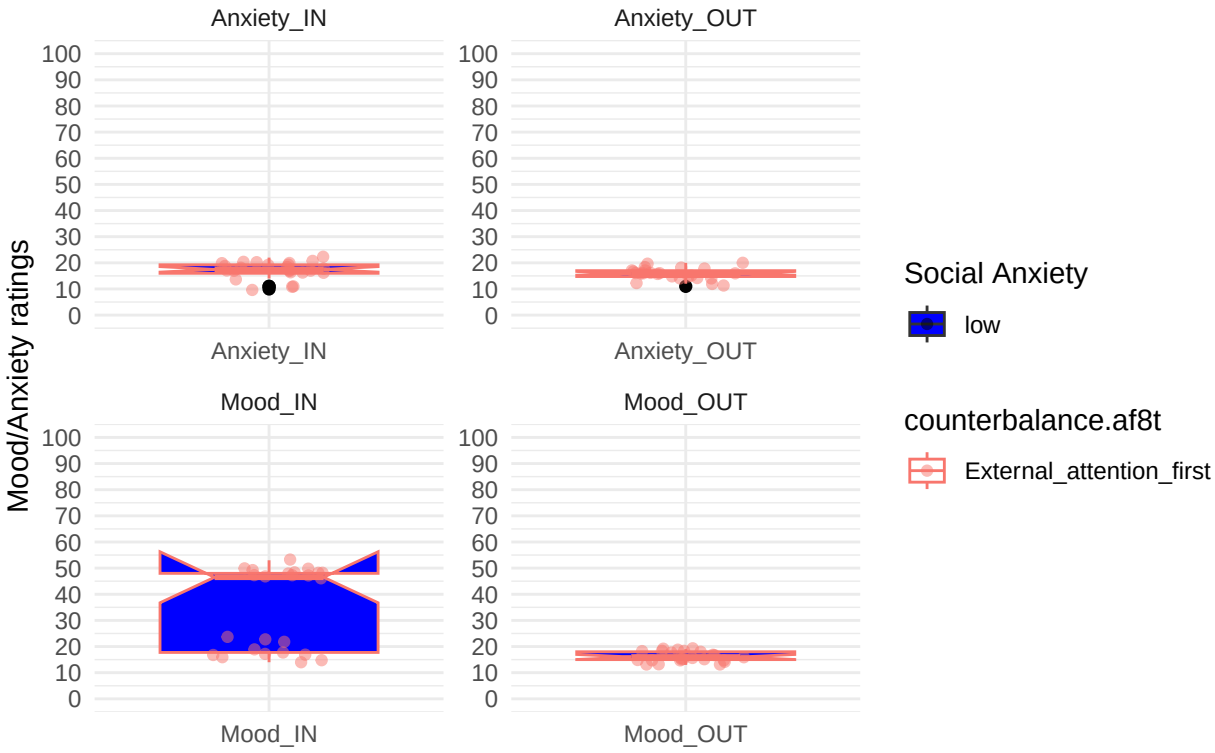
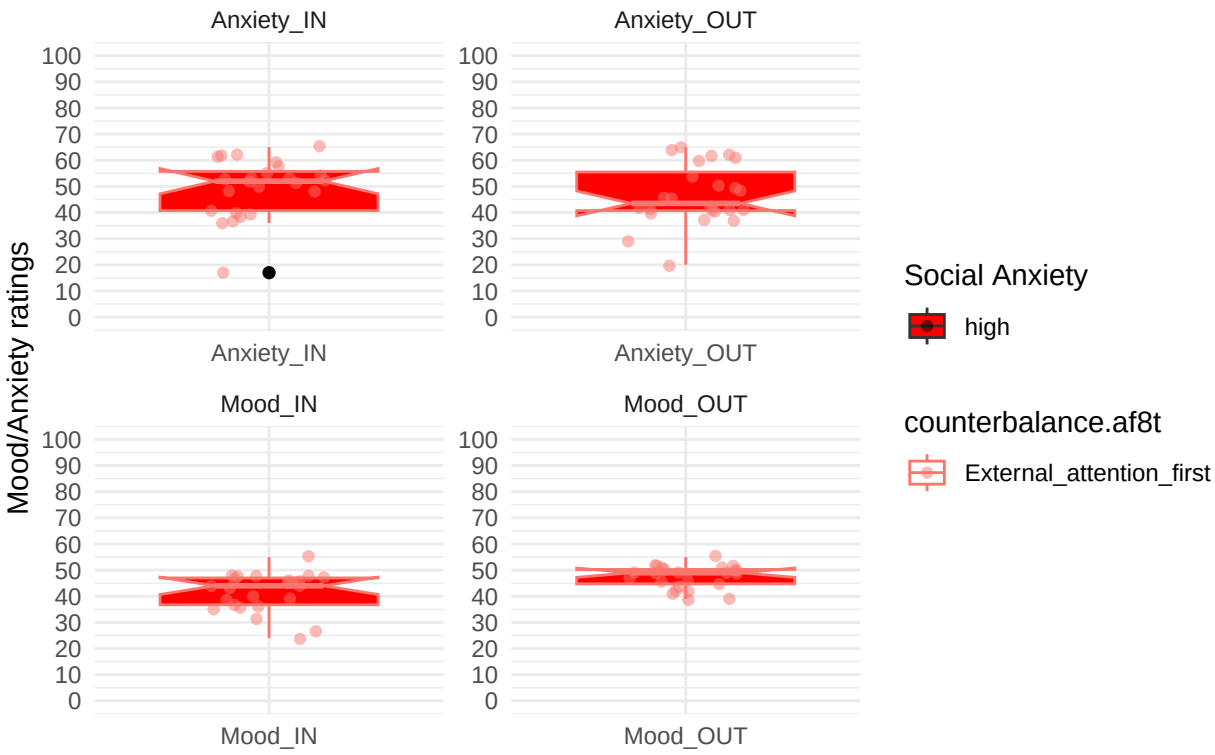
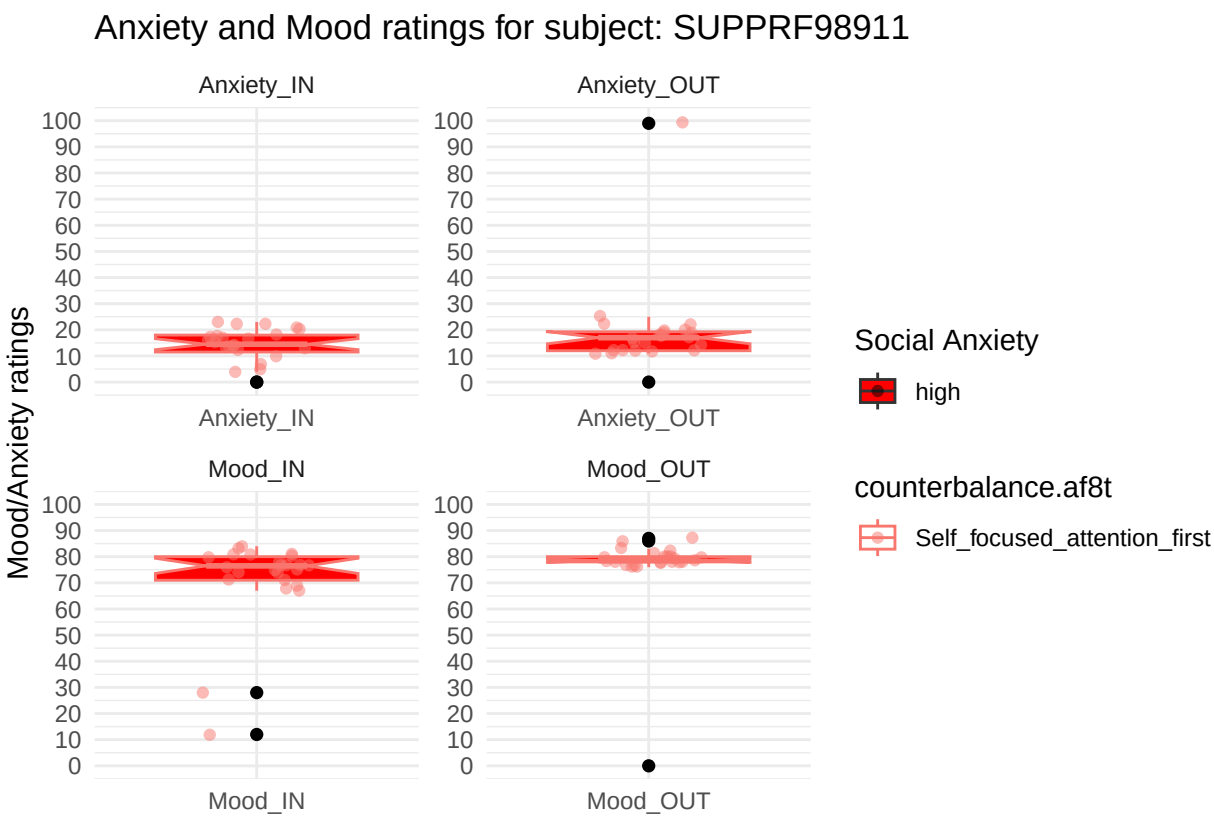
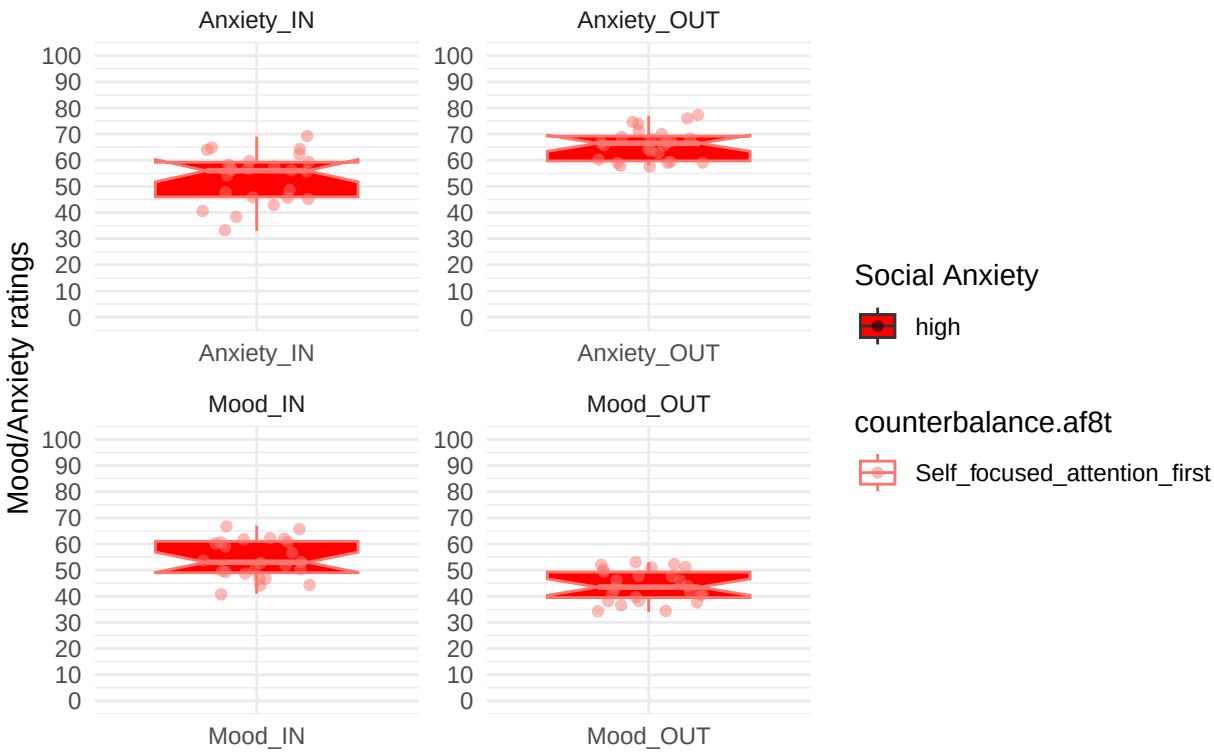
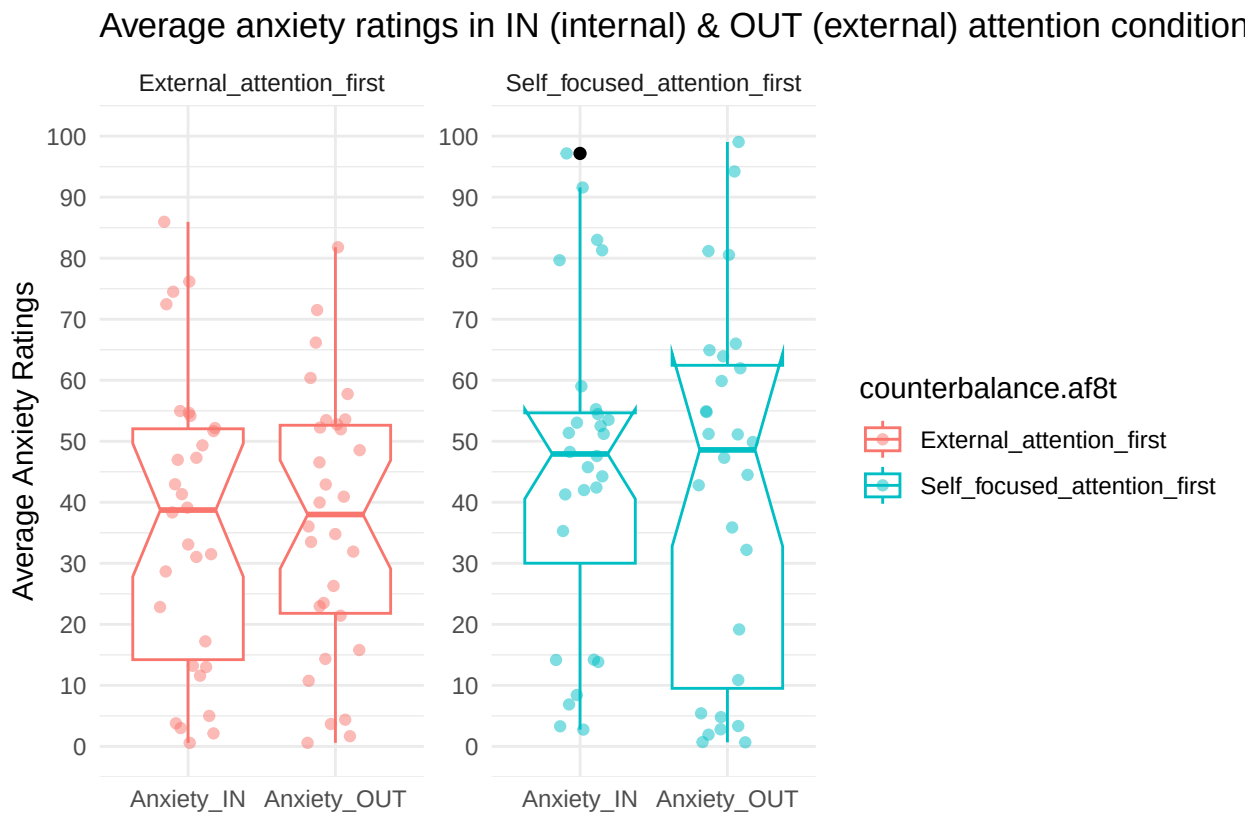
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
counterbalance.af8t
Self_focused_attention_first
Social Anxiety
low


Anxiety and Mood ratings for subject: SUPPRF96766
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
low
counterbalance.af8t
External_attention_first

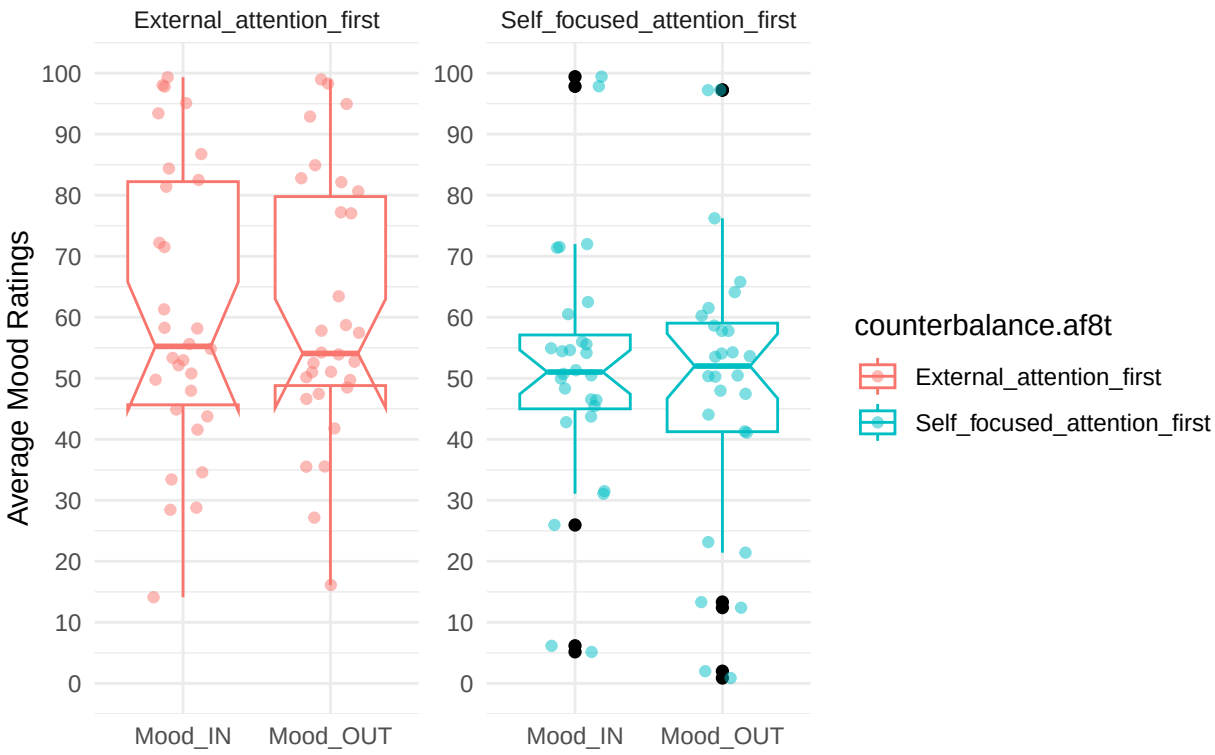

Anxiety and Mood ratings for subject: SUPPRF97977
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
External_attention_first


Anxiety and Mood ratings for subject: SUPPRF98911
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first


Anxiety and Mood ratings for subject: SUPPRF99862
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Mood/Anxiety ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
Mood_IN
Mood_OUT
Social Anxiety
high
counterbalance.af8t
Self_focused_attention_first




```
## # A tibble: 4 x 4
## # Groups:   counterbalance.af8t [2]
##   counterbalance.af8t          Display     mean_response sd_response
##   <chr>                        <chr>               <dbl>       <dbl>
## 1 External_attention_first     Anxiety_IN           36.6        24.0
## 2 External_attention_first     Anxiety_OUT          36.7        21.8
## 3 Self_focused_attention_first Anxiety_IN           45.5        26.4
## 4 Self_focused_attention_first Anxiety_OUT          42.4        30.0
```

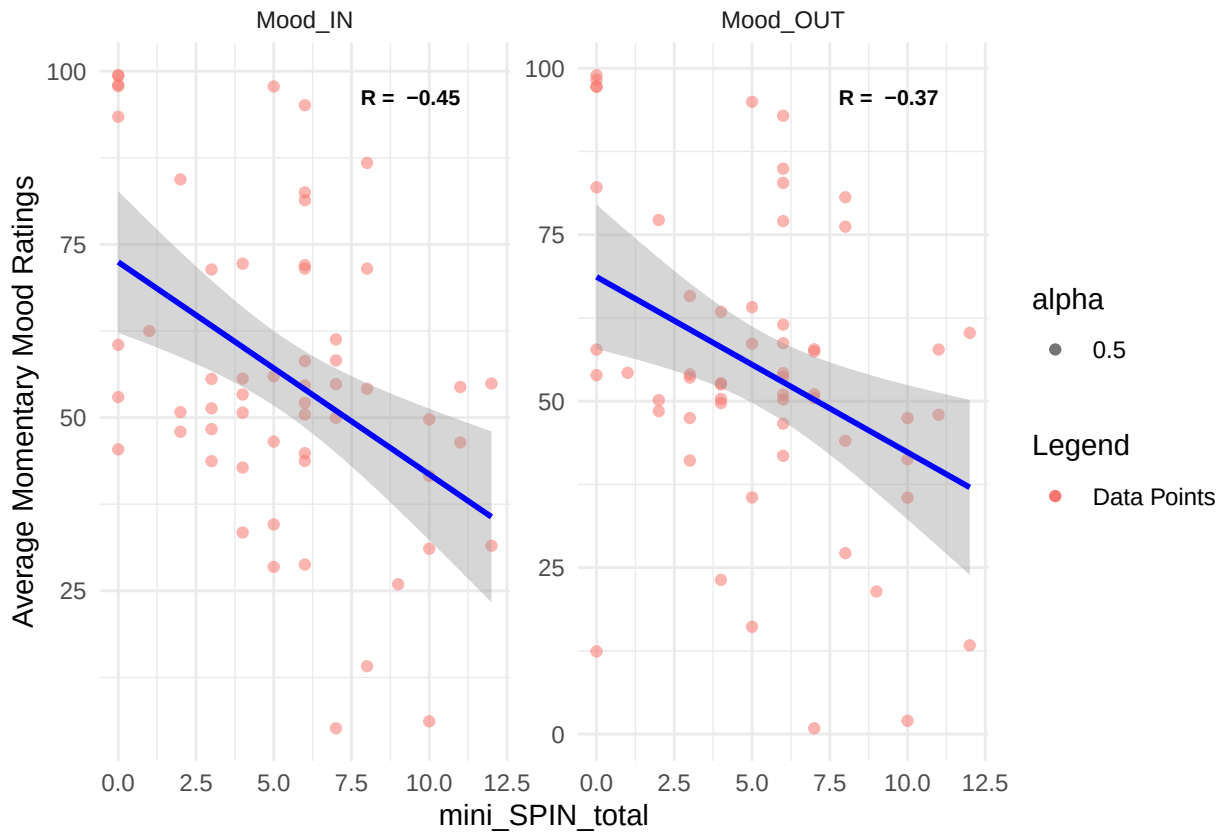



```
## # A tibble: 4 x 4
## # Groups:   counterbalance.af8t [2]
##   counterbalance.af8t          Display  mean_response sd_response
##   <chr>                        <chr>            <dbl>       <dbl>
## 1 External_attention_first     Mood_IN           60.9        23.6
## 2 External_attention_first     Mood_OUT          60.7        21.6
## 3 Self_focused_attention_first Mood_IN           51.4        20.9
## 4 Self_focused_attention_first Mood_OUT          48.5        23.8
```

Relationship between mini_SPIN and momentary mood ratings

The plot below show the relationship between (average) mood ratings on the task and the total mini_SPIN scores.

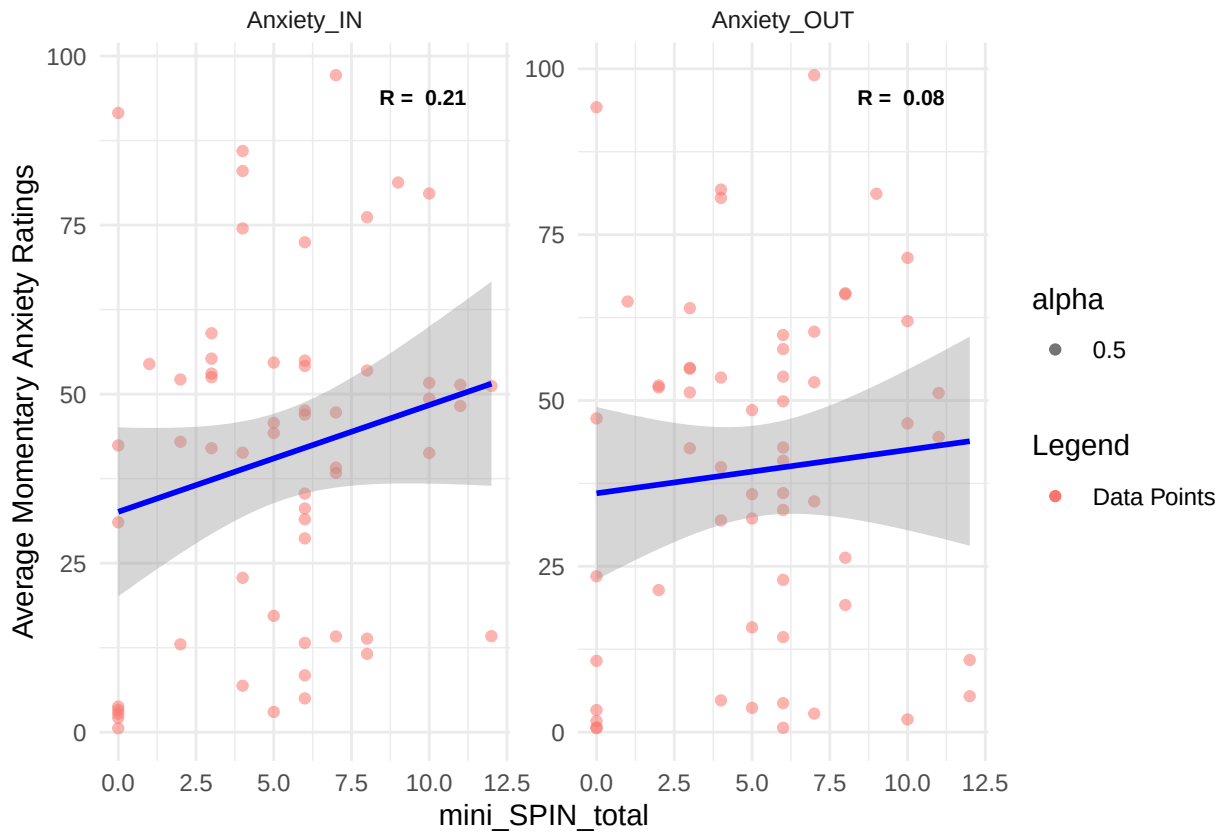
```
## [1] "correlation between mini_SPIN_total and average mood ratings: -0.409460955665047"
```



Relationship between mini_SPIN and momentary mood ratings

The plot below show the relationship between (average) anxiety ratings on the task and the total mini_SPIN scores.

```
## [1] "correlation between mini_SPIN_total and average anxiety ratings: 0.144019737741781"
```



Why is the data noisy?

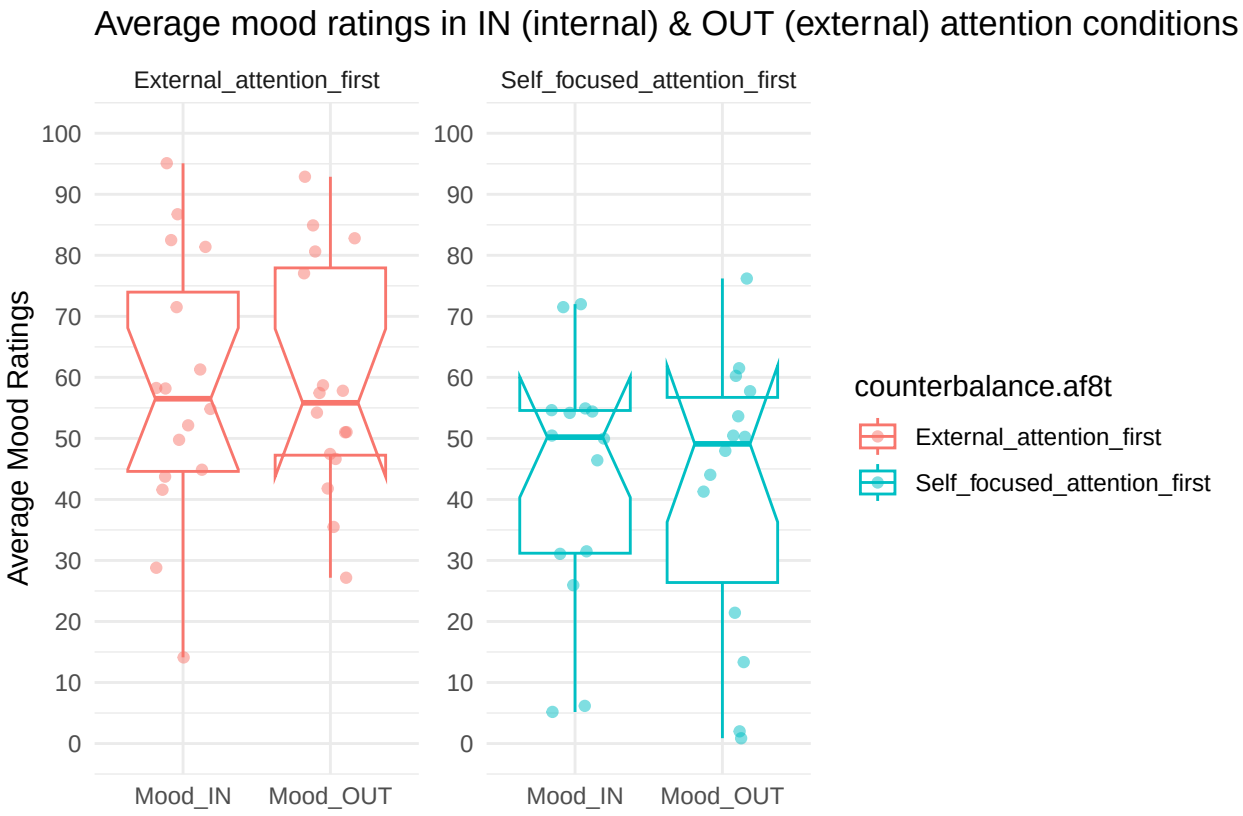
We can look at the following:
1) is it due to social anxiety levels (less people with high social anxiety in the current pilot)?
2) is it due to order effects (we had externally focused attention first in the previous pilot)?
3) could it be due to just having less reliable participants (we can compare the externally focused attention first, with the previous pilot as the tasks would be exactly the same)?

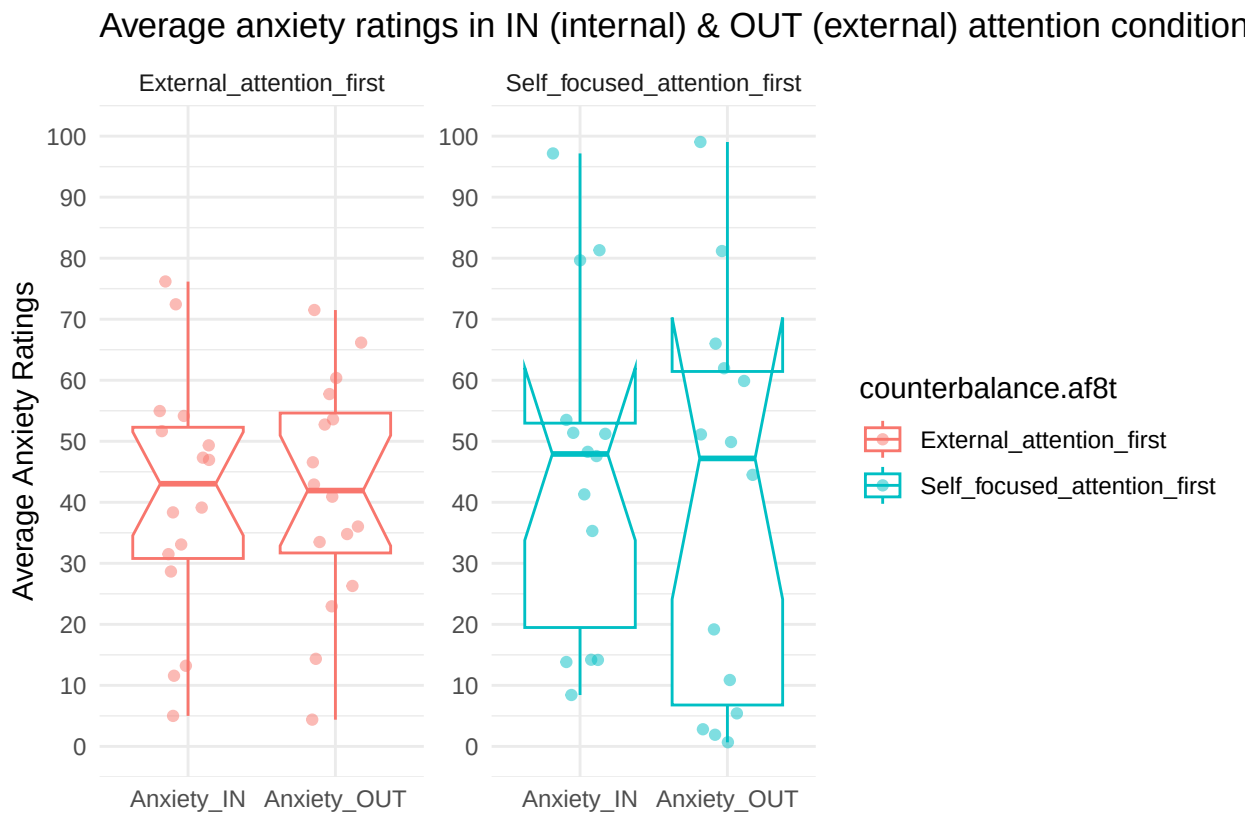
Separating people with high social anxiety

This would tell us whether the more "noisy" data we had/flat lines, were due to the fact that we have fewer people with high social anxiety in the second Attention pilot. The group plots seem similar to before, and scanning visually through individual plots above, it does not seem to be the case. Something that seems to be the case is that mood is slightly lower, and anxiety higher in self-focused attention first order, for both conditions when compared to externally focused first AND with a much larger confidence interval (compare the anxiety plot in green with the red one in the next page).

Conclusion:
There seems to be an order effect for both mood and anxiety. It becomes more clear when we only look at people with high social anxiety.

```
## [1] "Number of people with high social anxiety in this section: 30"
```




Average anxiety ratings in IN (internal) & OUT (external) attention condition
External_attention_first
Self_focused_attention_first
Average Anxiety Ratings
100
90
80
70
60
50
40
30
20
10
0
Anxiety_IN
Anxiety_OUT
counterbalance.af8t
External_attention_first
Self_focused_attention_first

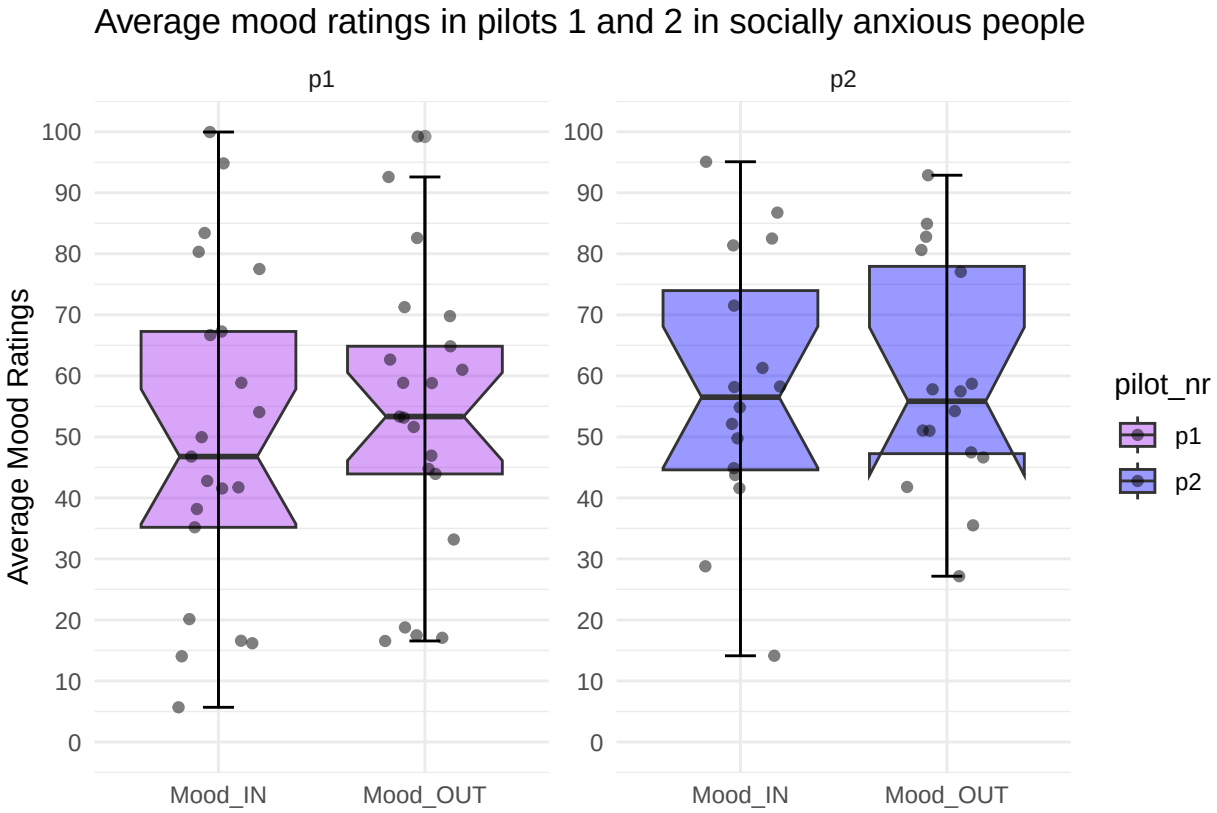
Comparing the pilots 1 and 2

In pilot 1, we had many people with high social anxiety (and we only selected those ones here), and the task had the same order as pilot 2 externally focused attention condition first, followed by internally focused attention condition.

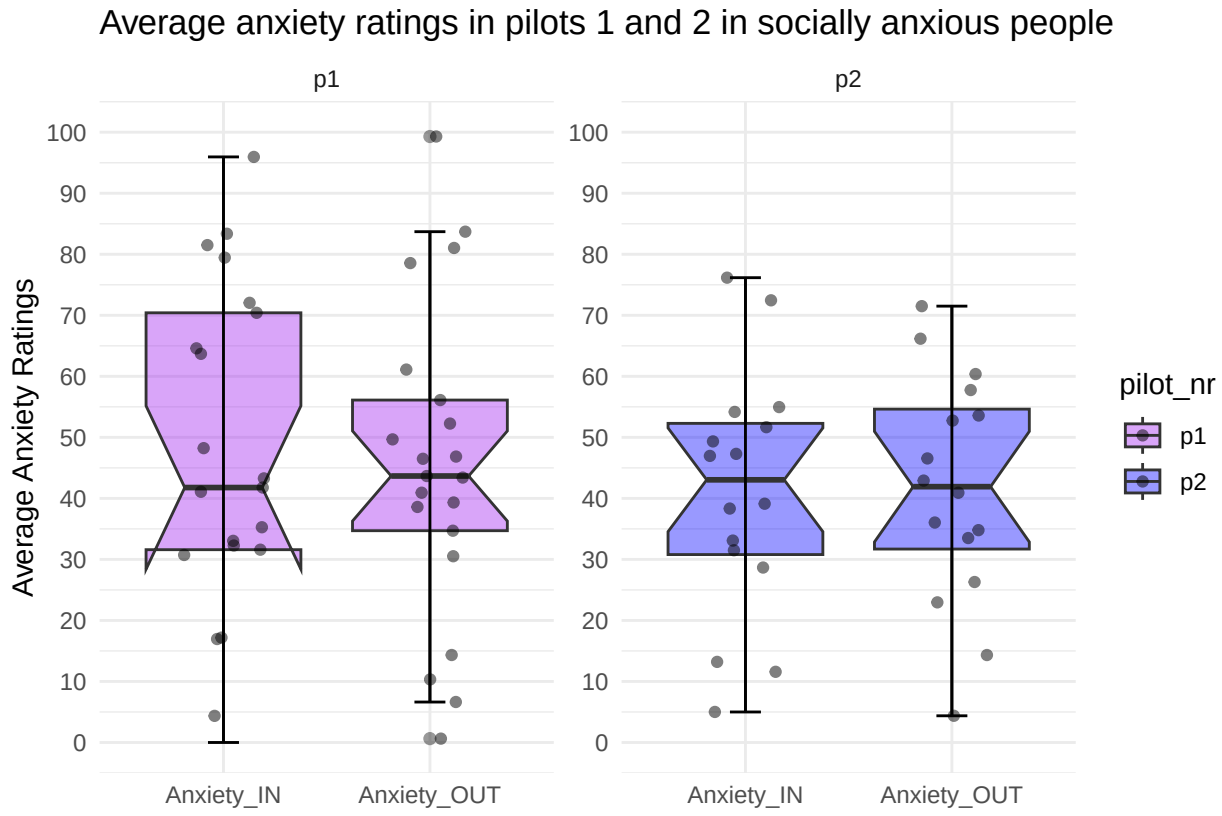
If they would be very different, it could possibly be due to two things:
1) we had more people with high social anxiety (we can check the impact of mini-SPIN scores)
2) we had less reliable participants in second pilot?

The plot below shows the average mood ratings across conditions for both pilots. We can see two things: **(A)** people in pilot 2 had in average a higher mood rating in the IN condition, which did not seem to change in the OUT condition. **(B)** The confidence interval is much wider in pilot 2, especially in the OUT condition. This could mean that these findings are just because of sample we had, and having another pilot could possibly show us different results.

The black circles show the individual data points; the boxes start from the first to the third quartile, with a horizontal line and a notch through the median. The whiskers go from each quartile to the minimum and maximum. The notch approximates a 95% CI for the median. If the notches of 2 boxes do not overlap, this suggests that the medians are significantly different. The points outside whiskers represent the outliers.

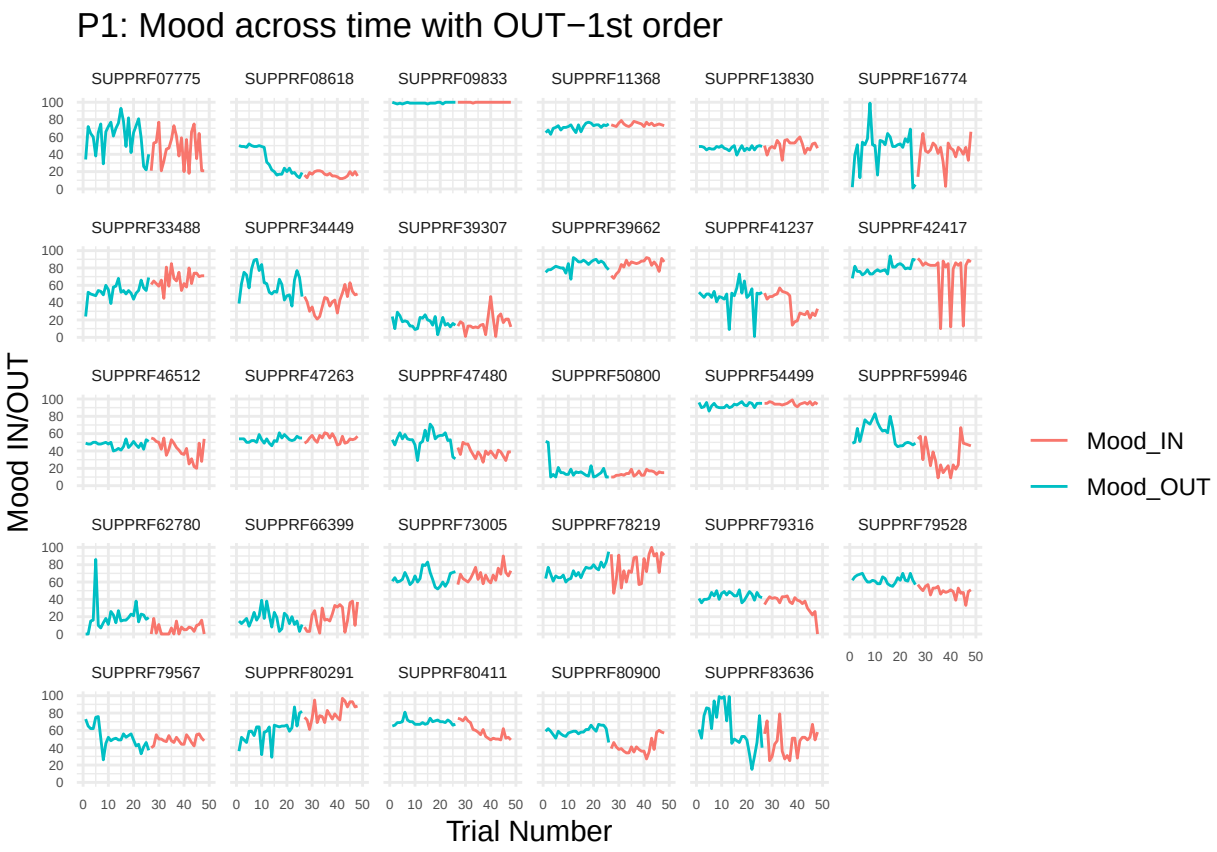


The plot below shows the same results for average anxiety ratings. For anxiety, the CI is wider in the first pilot which could mean the findings we had were specific to the sample we had before or could have been caused by a few people?

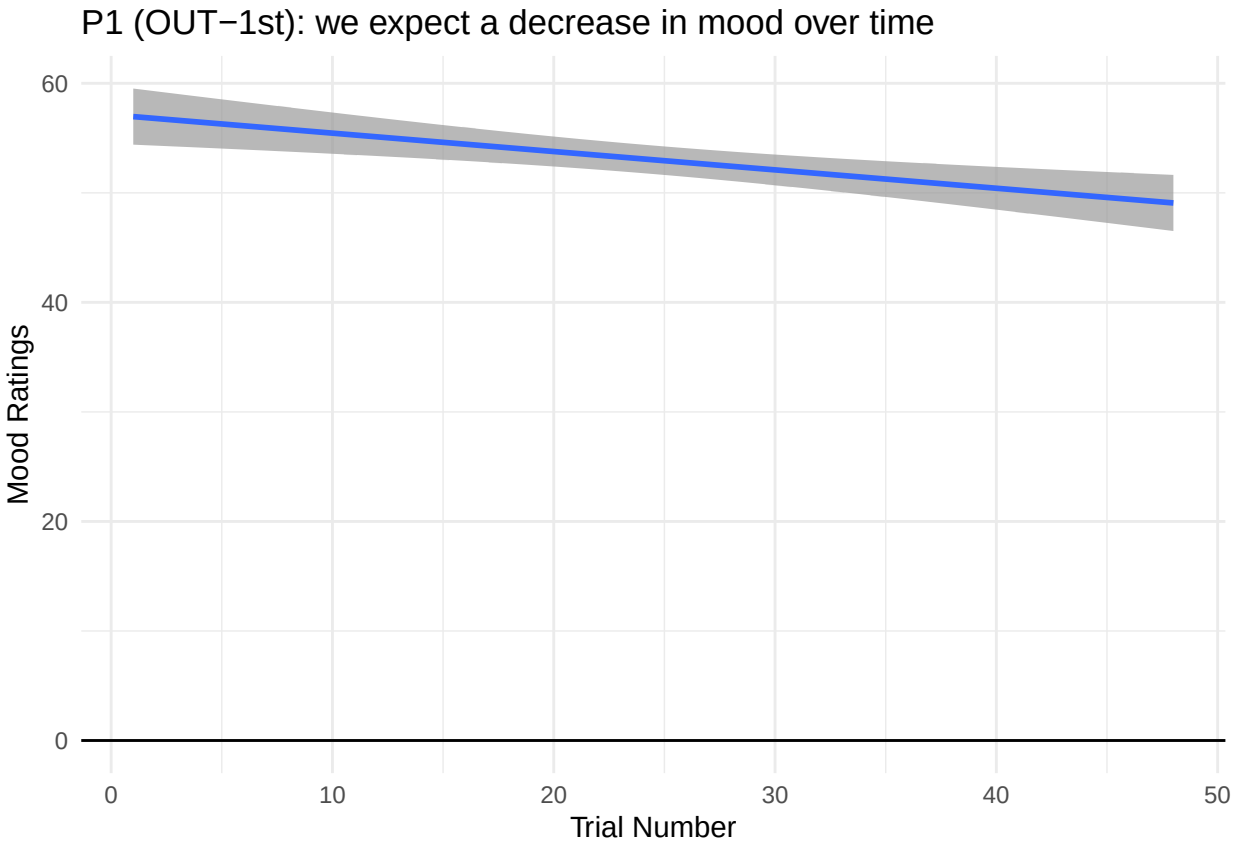


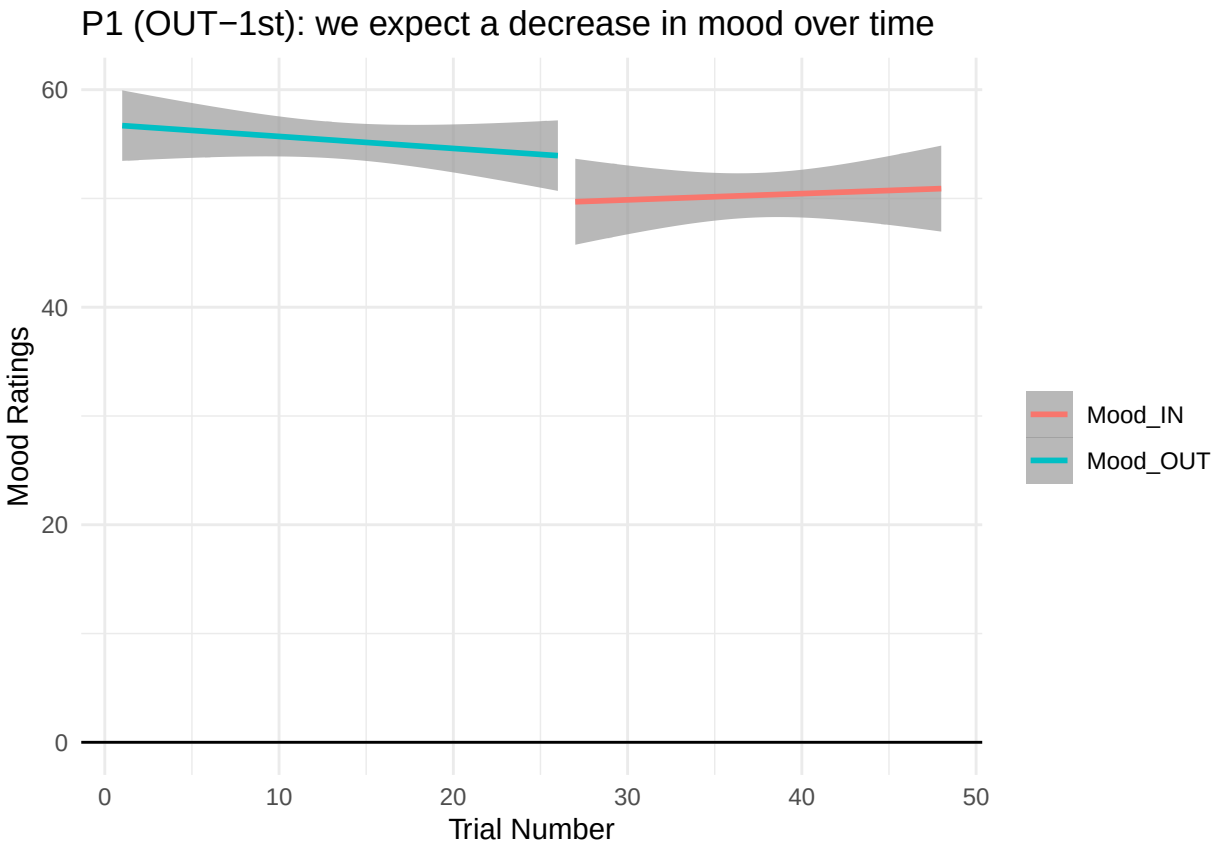
Mood over time pilot 1; OUT-1st order

Since our trials were numbered from 1-48, we will not see them as two parallel lines (which is the case in pilot 2, where we have trials 1-24 per condition)

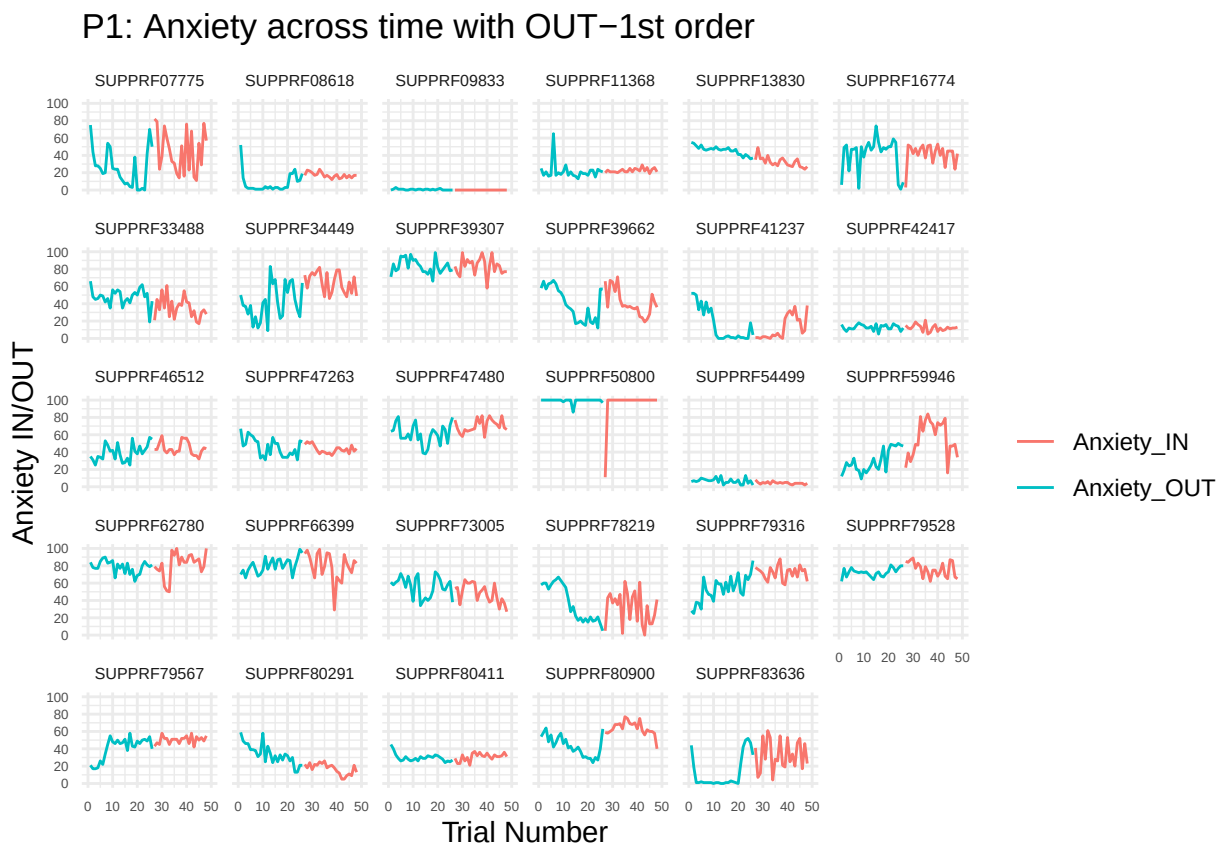


From OUT (trials 1-24) to IN (trials 25-48) condition in pilot 1, there is a slight reduction in mood which is what we expected.

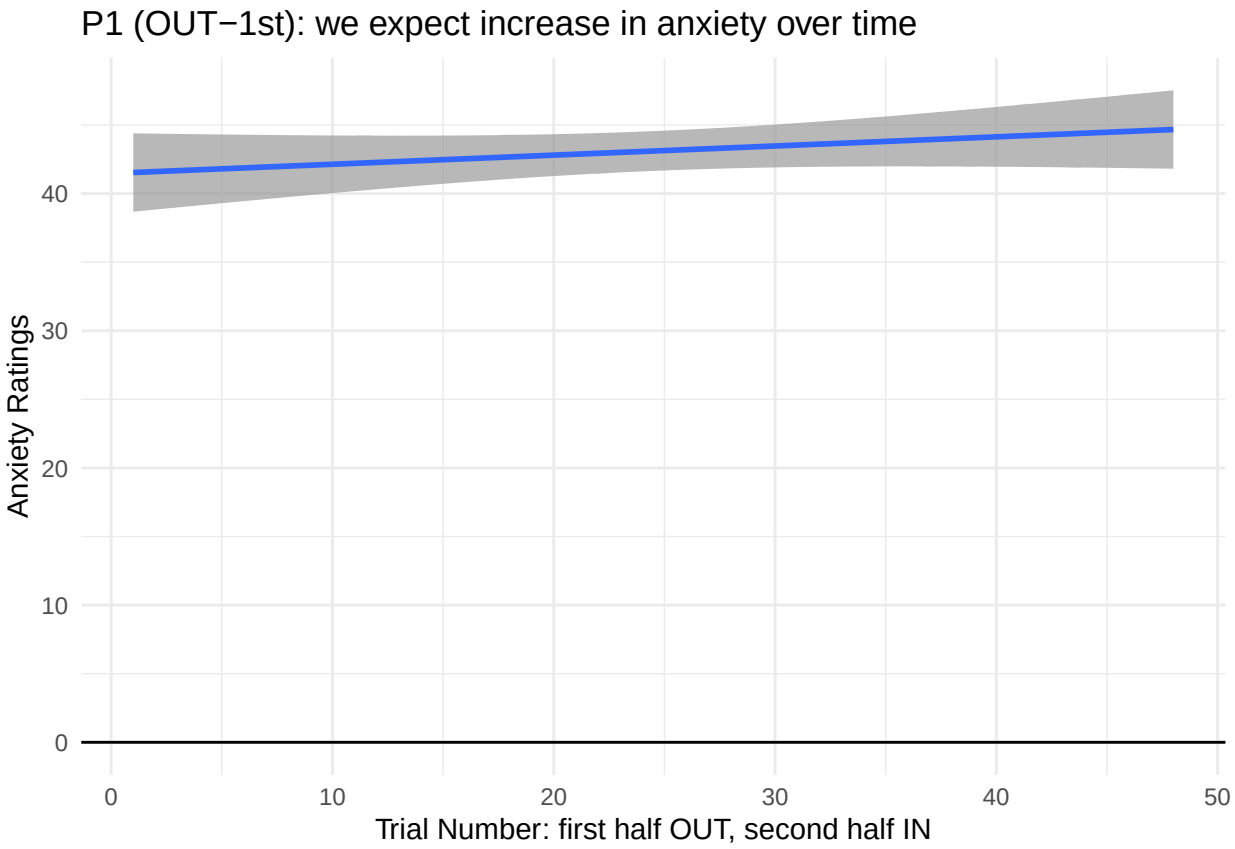


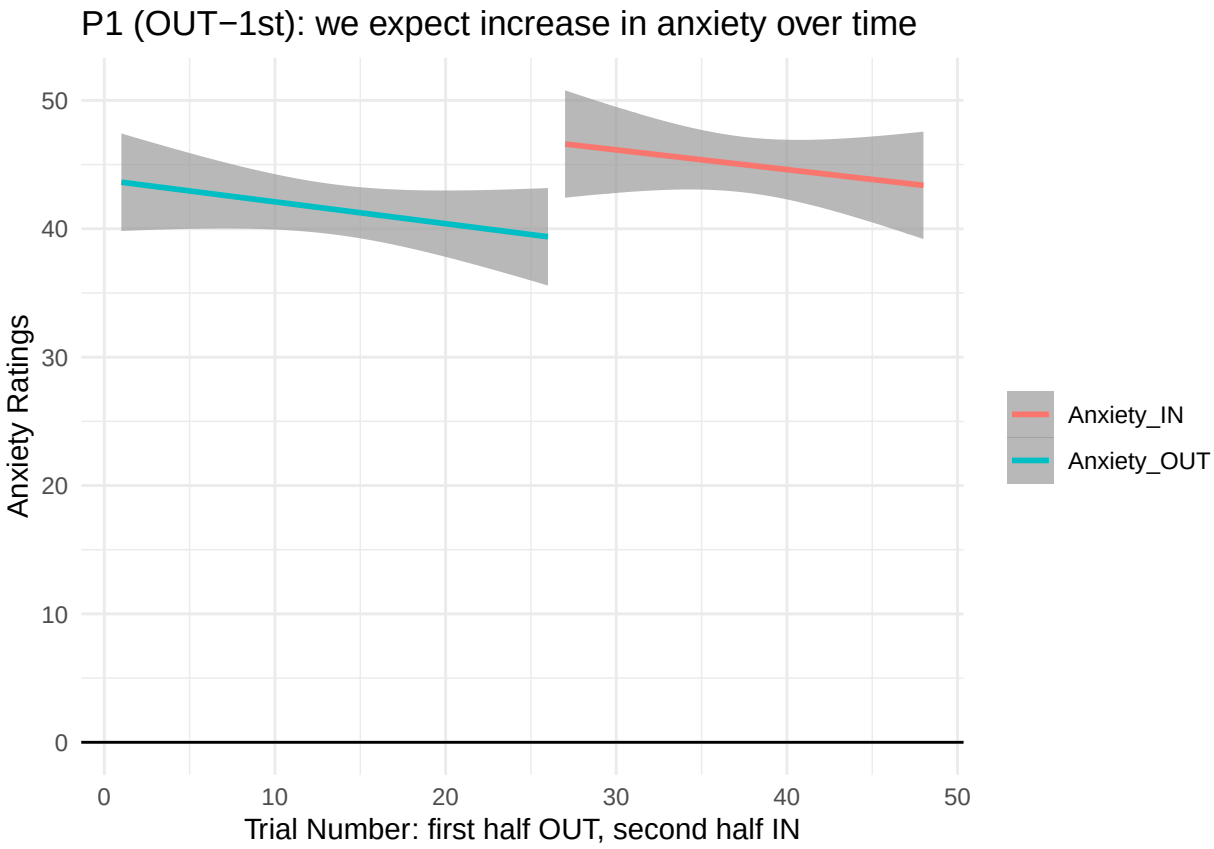

P1 (OUT−1st): we expect a decrease in mood over time
Mood Ratings
60
40
20
0
0
10
20
30
40
50
Trial Number
Mood_IN
Mood_OUT

Anxiety over time pilot 1; OUT-1st order



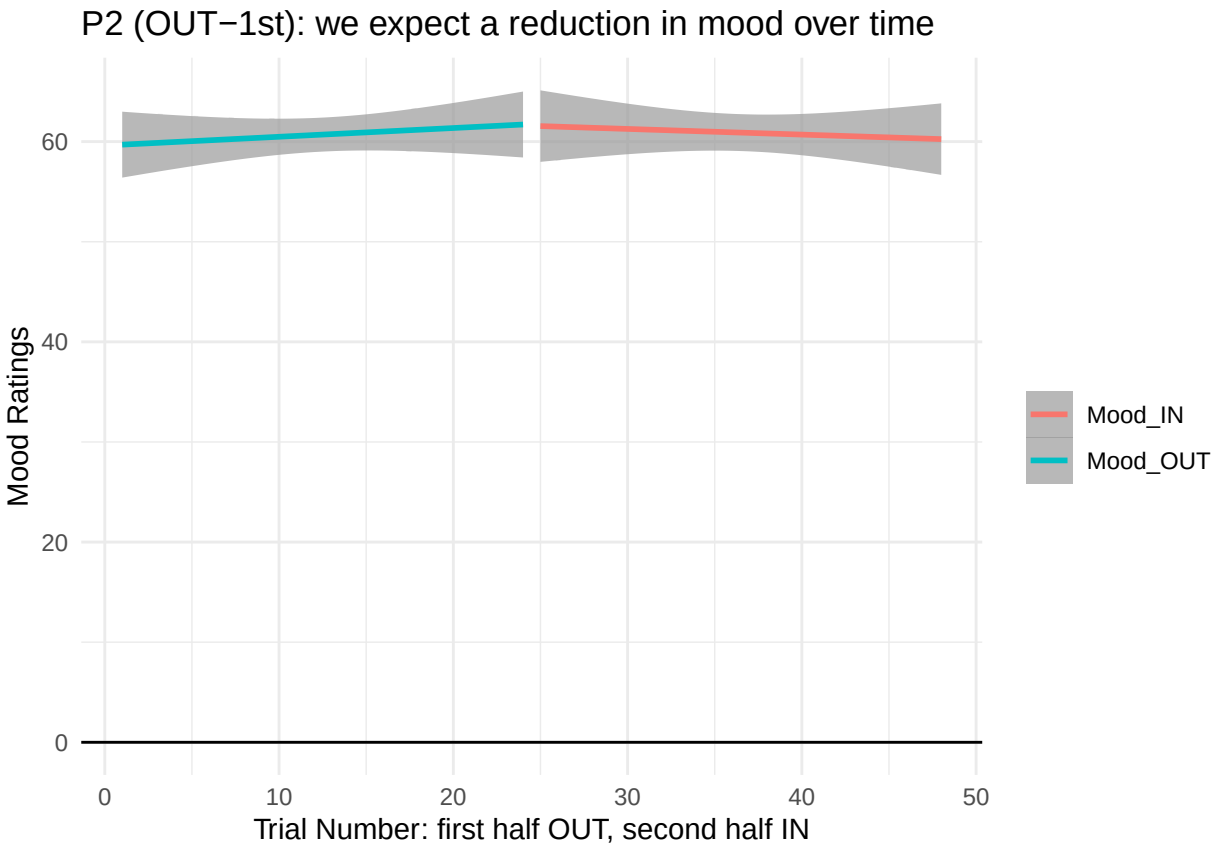
From OUT (trials 1-24) to IN (trials 25-48) condition in pilot 1, there is a slight increase in anxiety which is what we expected. However, there is a decrease in anxiety within conditions as well, it makes sense for the OUT condition why does this happen in the IN condition?


P1 (OUT−1st): we expect increase in anxiety over time
Anxiety Ratings
0
10
20
30
40
0
10
20
30
40
50
Trial Number: first half OUT, second half IN

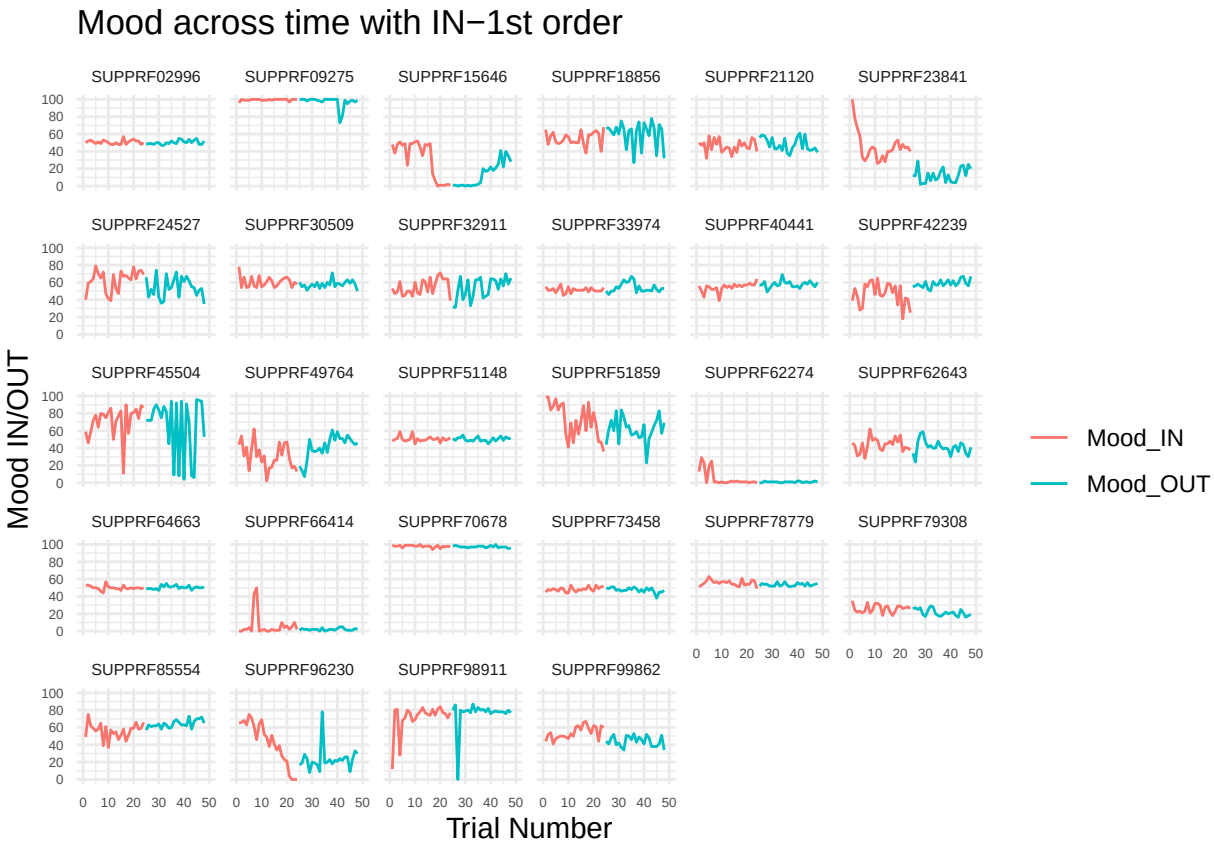

P1 (OUT−1st): we expect increase in anxiety over time
Anxiety Ratings
50
40
30
20
10
0
0
10
20
30
40
50
Trial Number: first half OUT, second half IN
Anxiety_IN
Anxiety_OUT

Mood over time pilot 2; OUT-1st order

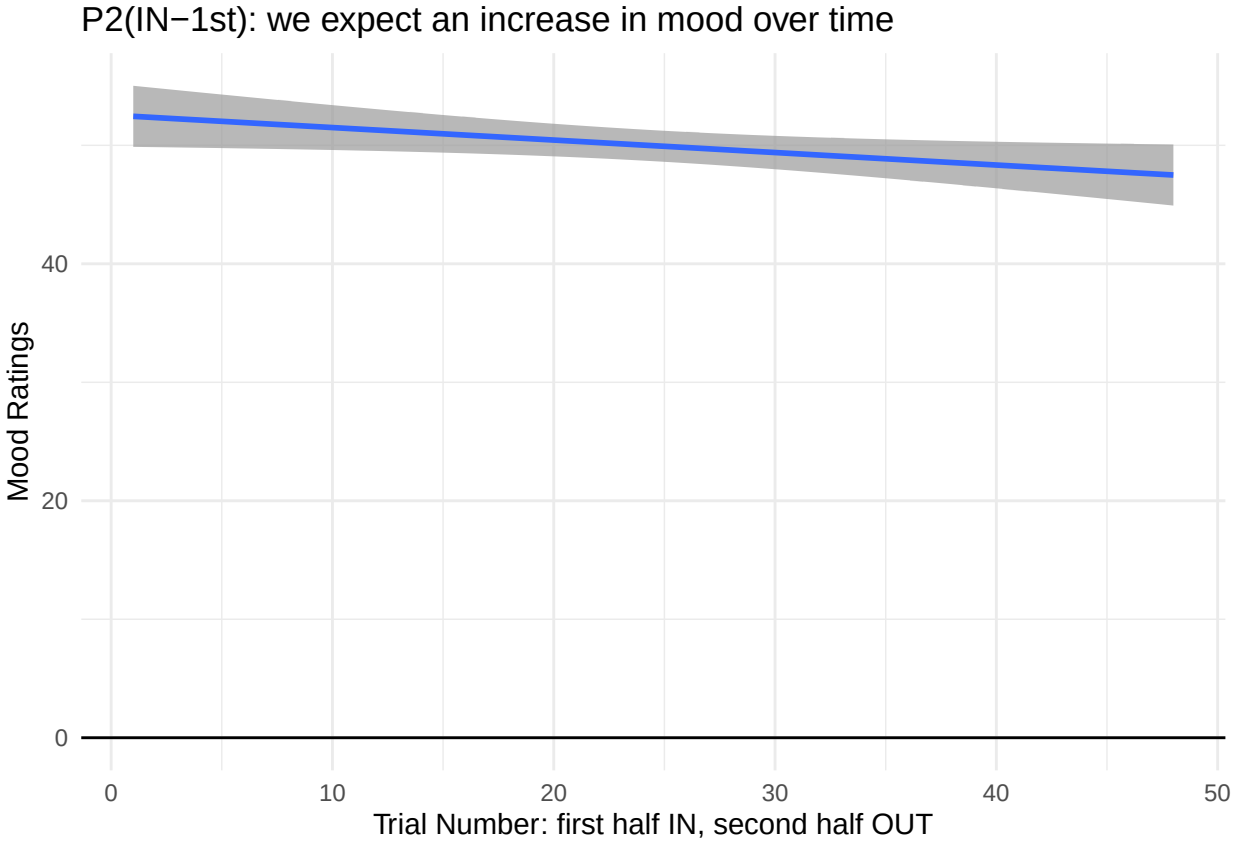
In pilot 2, we don't see any change in mood in OUT-1st condition which is the equivalent of the order in pilot 1.

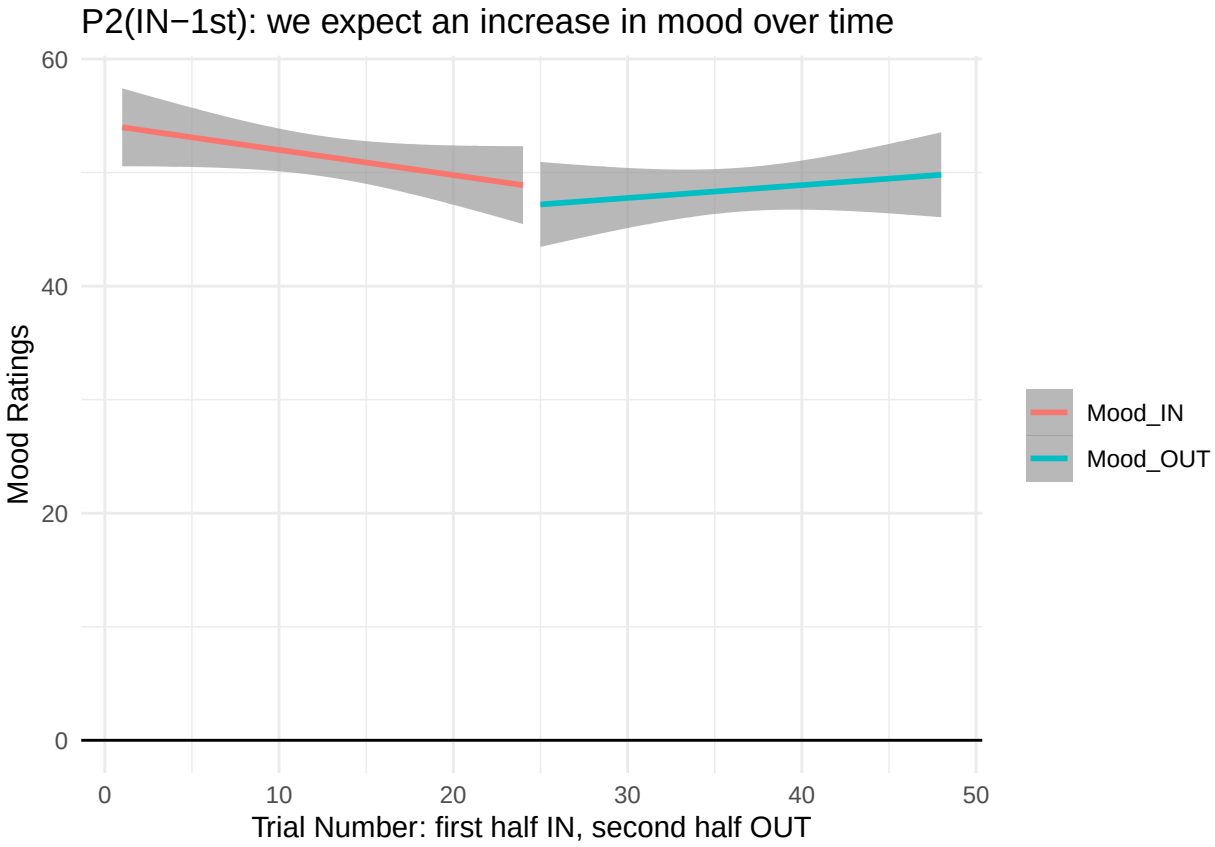

P2 (OUT−1st): we expect a reduction in mood over time
Mood Ratings
60
40
20
0
0
10
20
30
40
50
Trial Number: first half OUT, second half IN
Mood_IN
Mood_OUT

Mood over time pilot 2; IN-1st order



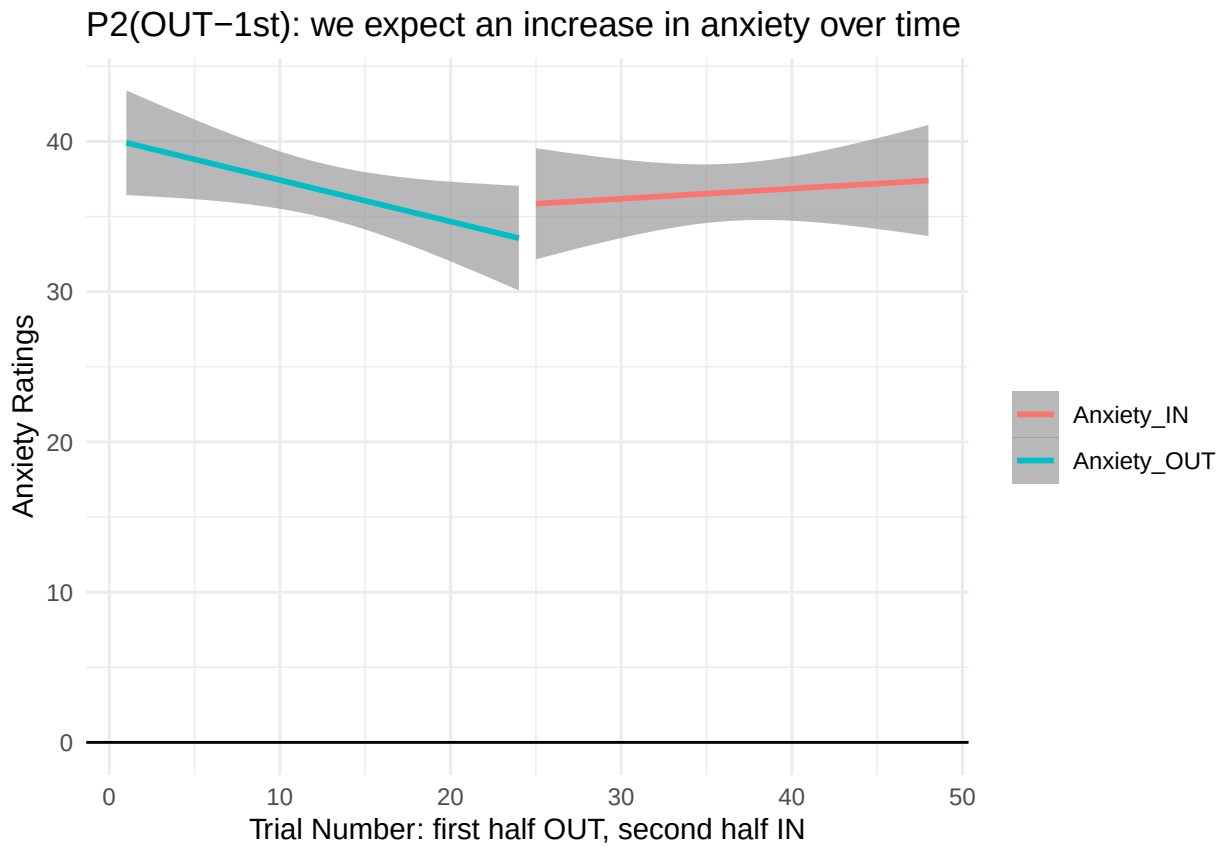
We can see that mood goes down over time from IN to OUT condition which is the opposite of what we would expect. However, if we separate these two conditions (in second plot) we can see that mood goes down in the IN condition, but starts going up again in the OUT condition, but won't recover to the baseline mood by the end of the task (we may need to take mood drift over time into account as well?).




P2(IN−1st): we expect an increase in mood over time
60
40
20
0
Mood Ratings
0
10
20
30
40
50
Trial Number: first half IN, second half OUT
Mood_IN
Mood_OUT

Anxiety over time pilot 2; OUT-1st order

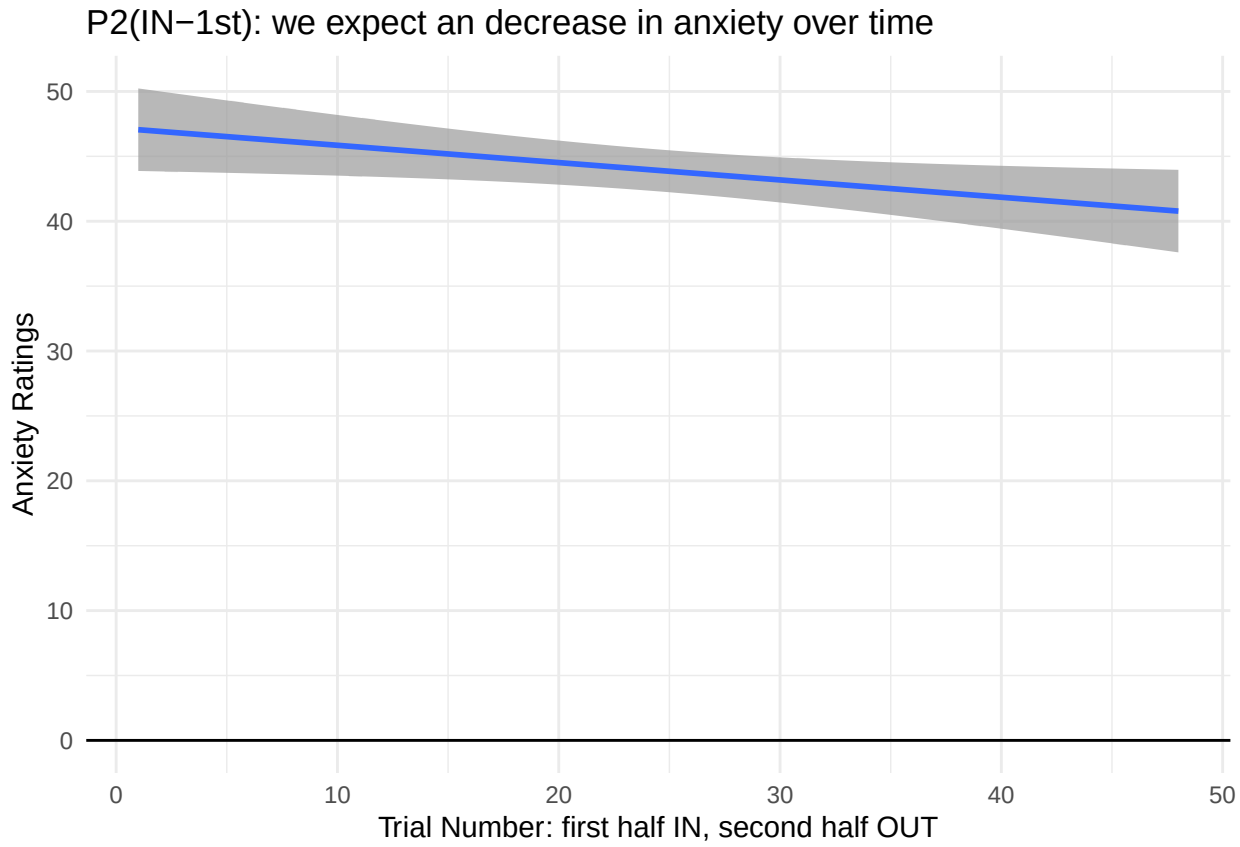
Their anxiety goes down in the OUT condition, and starts slightly going up from the IN condition, is it because the instructions make them less anxious and they don't follow the instructions or is it because they don't believe someone is watching them?

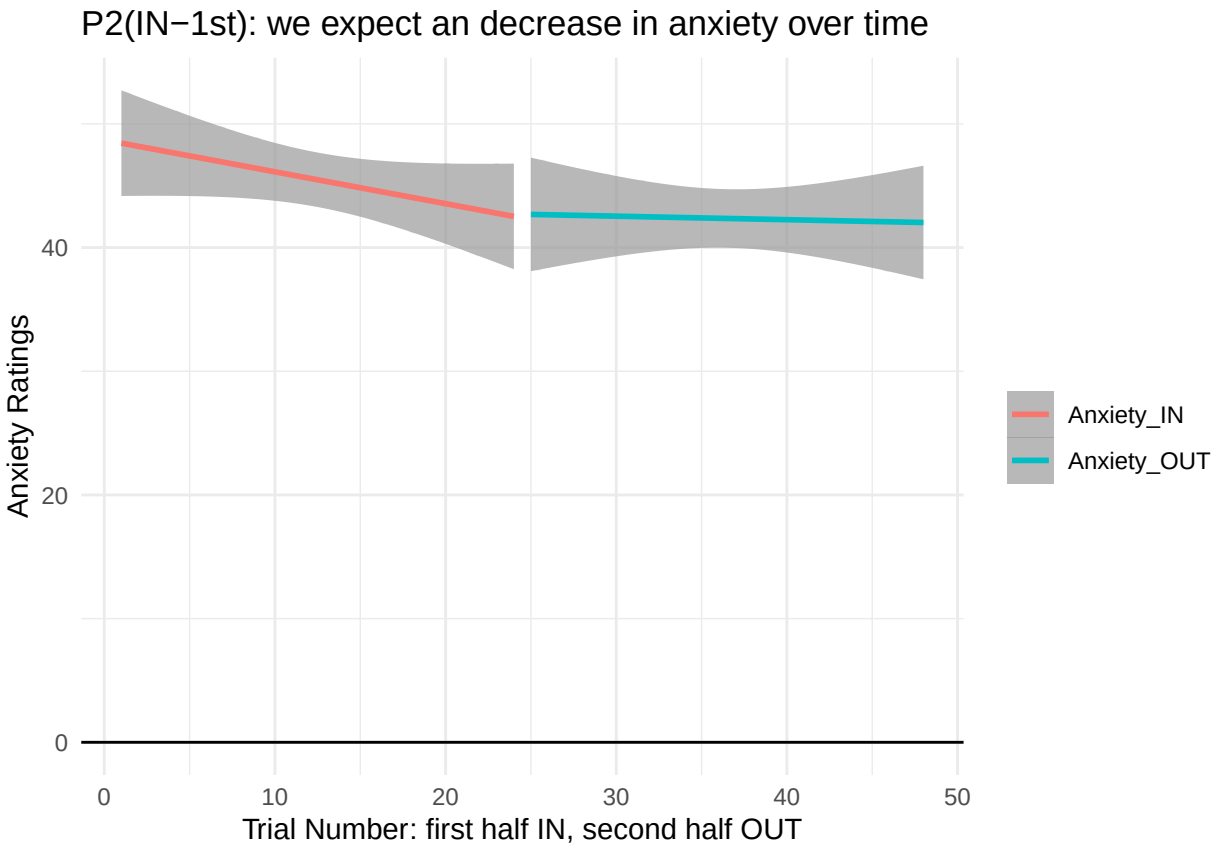


Anxiety over time pilot 2; IN-1st order

Some people, for example subjects xxx start with higher anxiety and then it suddenly drops, is it because they don't believe someone is watching them?

If we look at the first plot we think great we managed to reduce anxiety, but if we look at the second plot, we can see the reduction in anxiety started to happen even before change in condition. In fact, the reduction was more stip in the IN condition.




P2(IN−1st): we expect an decrease in anxiety over time
Anxiety Ratings
0
20
40
0
10
20
30
40
50
Trial Number: first half IN, second half OUT
Anxiety_IN
Anxiety_OUT