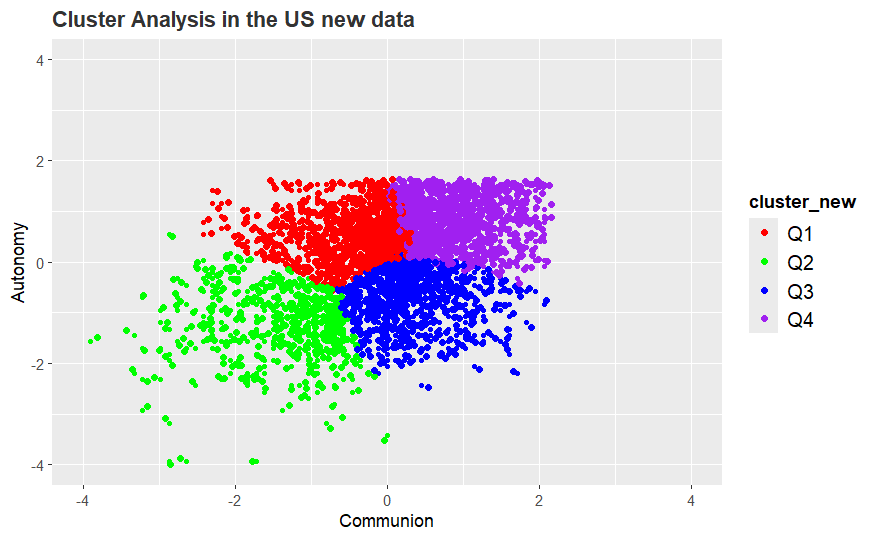
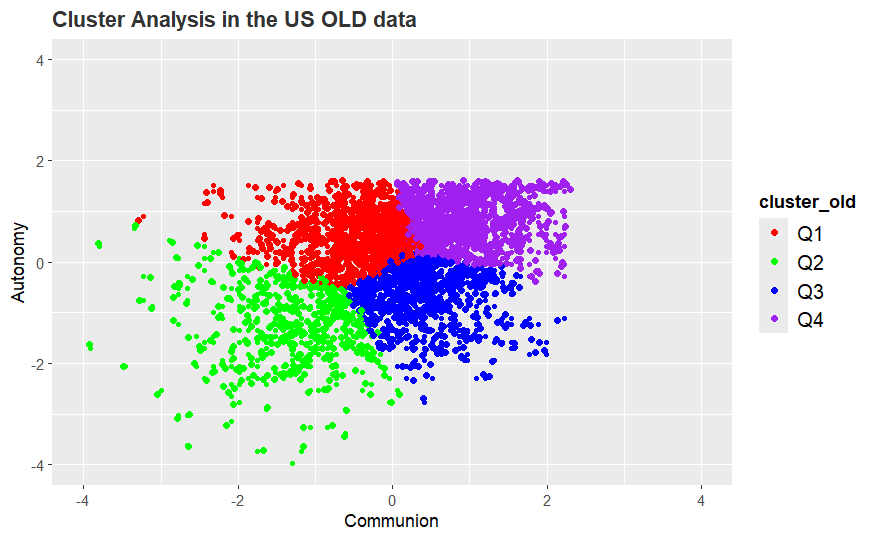
# Change over time(Longitudinal project)

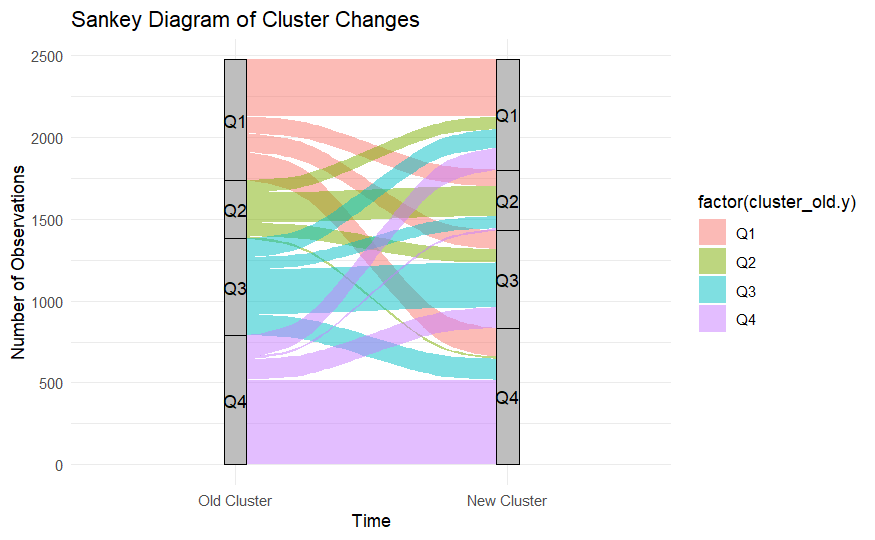
1. K means clusters for midus1 and midus2

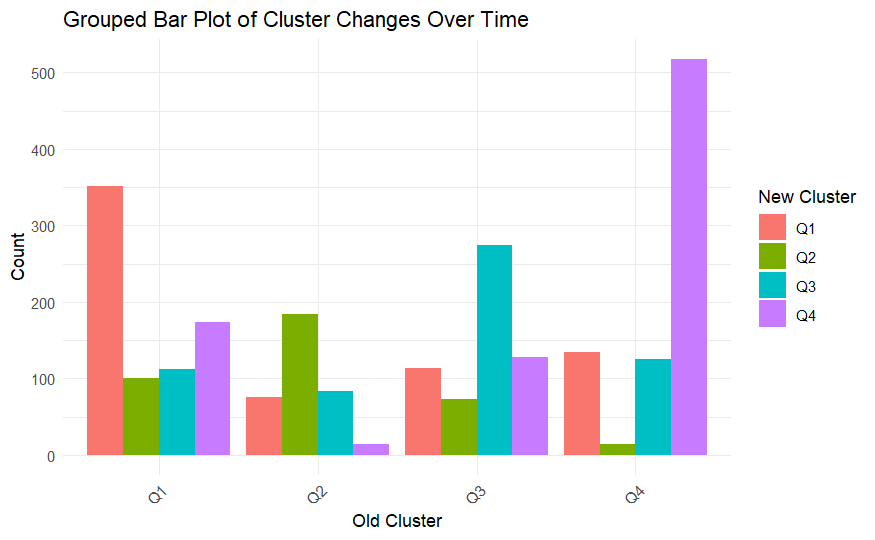


We can see that the distribution of those 2 datasets are very close.

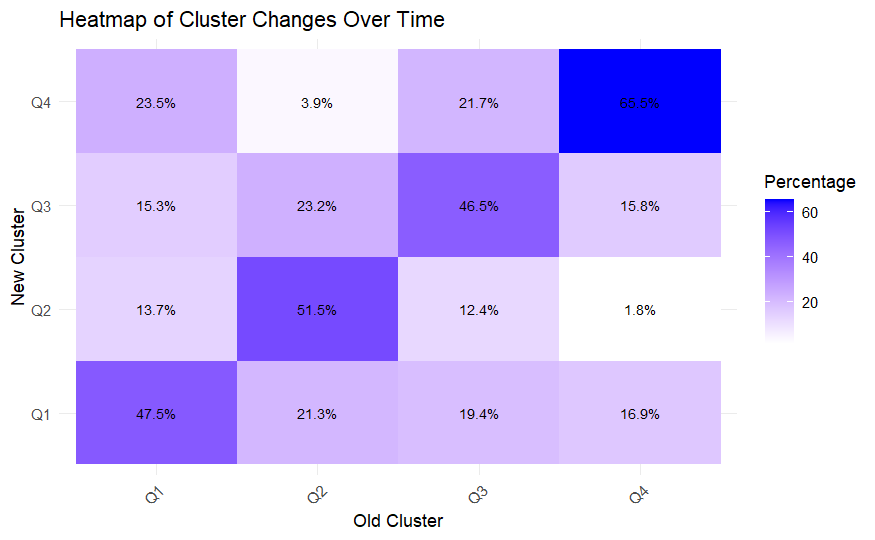
Then we use the primary key of datasets-M2ID to see the change of clusters over time.

1. Change over time





In order to show better insights, I put the label of ratio into a transform matrix as follows:



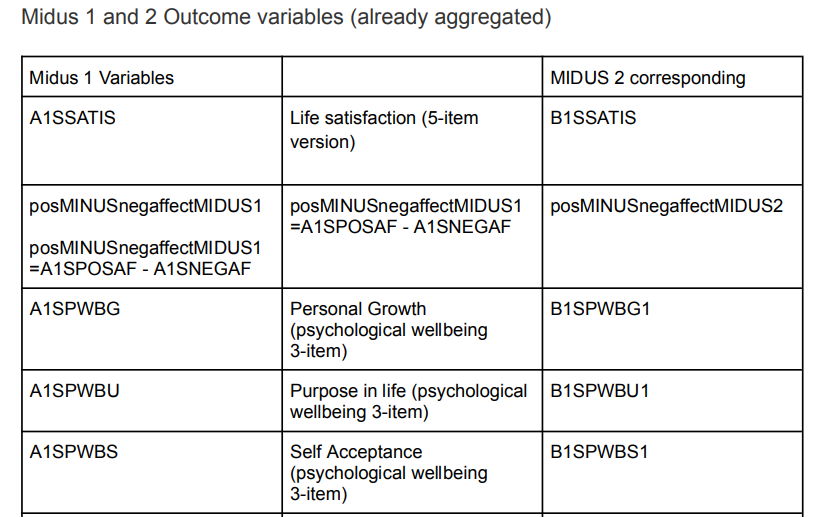
We can conclude that the majority of each cluster doesn’t change over time. However, we will focus on those wellbeing measurements before and after the change to see if it interacts with the cluster change.

As for the numbers, I put a dataset like this:

| **change** | | **count** | |
| --- | --- | --- | --- |
|  |  | |  |
| **1** | Q1\_to\_Q1 | | 351 |
| **2** | Q1\_to\_Q2 | | 101 |
| **3** | Q1\_to\_Q3 | | 113 |
| **4** | Q1\_to\_Q4 | | 174 |
| **5** | Q2\_to\_Q1 | | 76 |
| **6** | Q2\_to\_Q2 | | 184 |
| **7** | Q2\_to\_Q3 | | 83 |
| **8** | Q2\_to\_Q4 | | 14 |
| **9** | Q3\_to\_Q1 | | 114 |
| **10** | Q3\_to\_Q2 | | 73 |
| **11** | Q3\_to\_Q3 | | 274 |
| **12** | Q3\_to\_Q4 | | 128 |
| **13** | Q4\_to\_Q1 | | 134 |
| **14** | Q4\_to\_Q2 | | 14 |
| **15** | Q4\_to\_Q3 | | 125 |
| **16** | Q4\_to\_Q4 | | 518 |

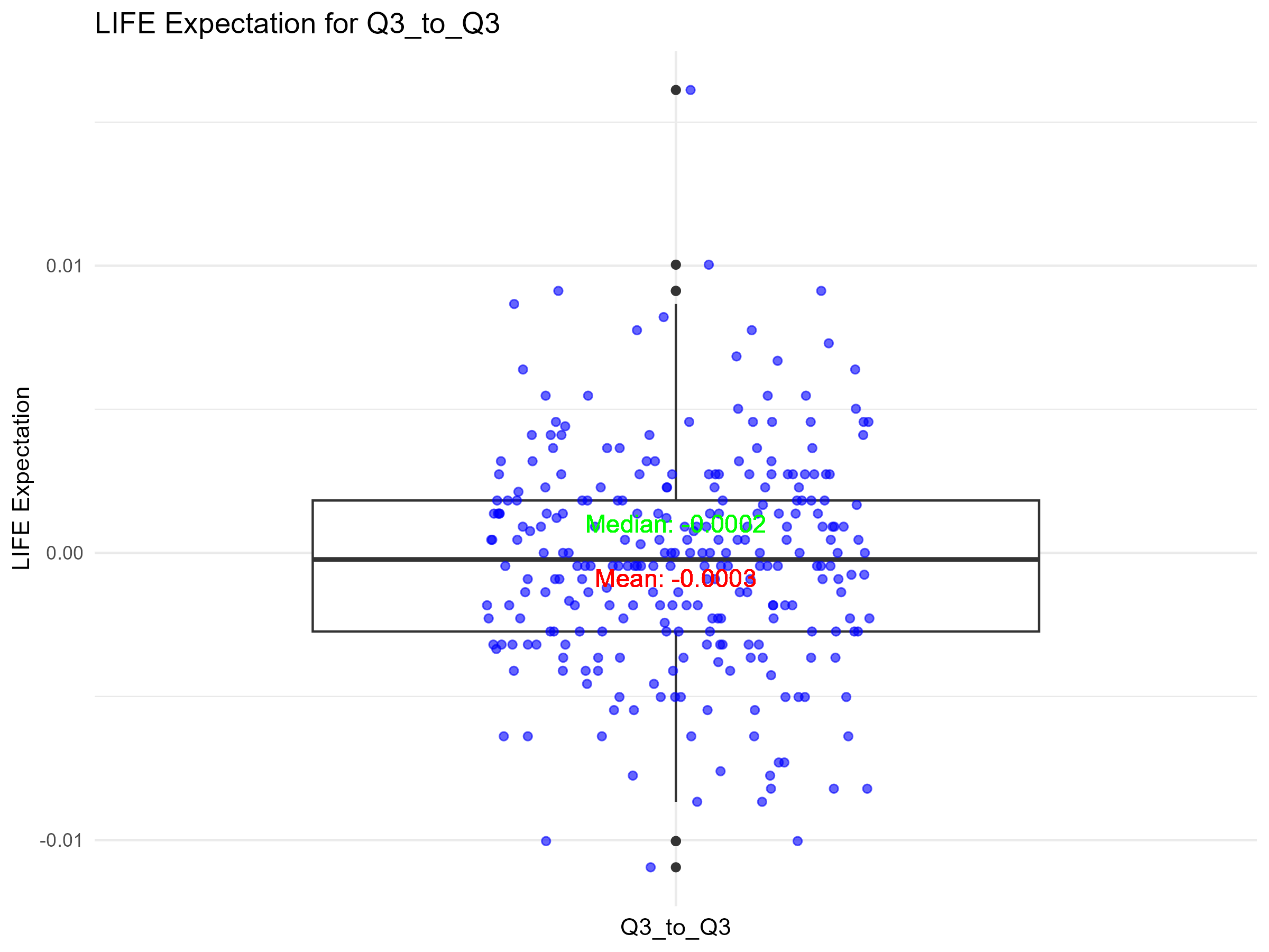
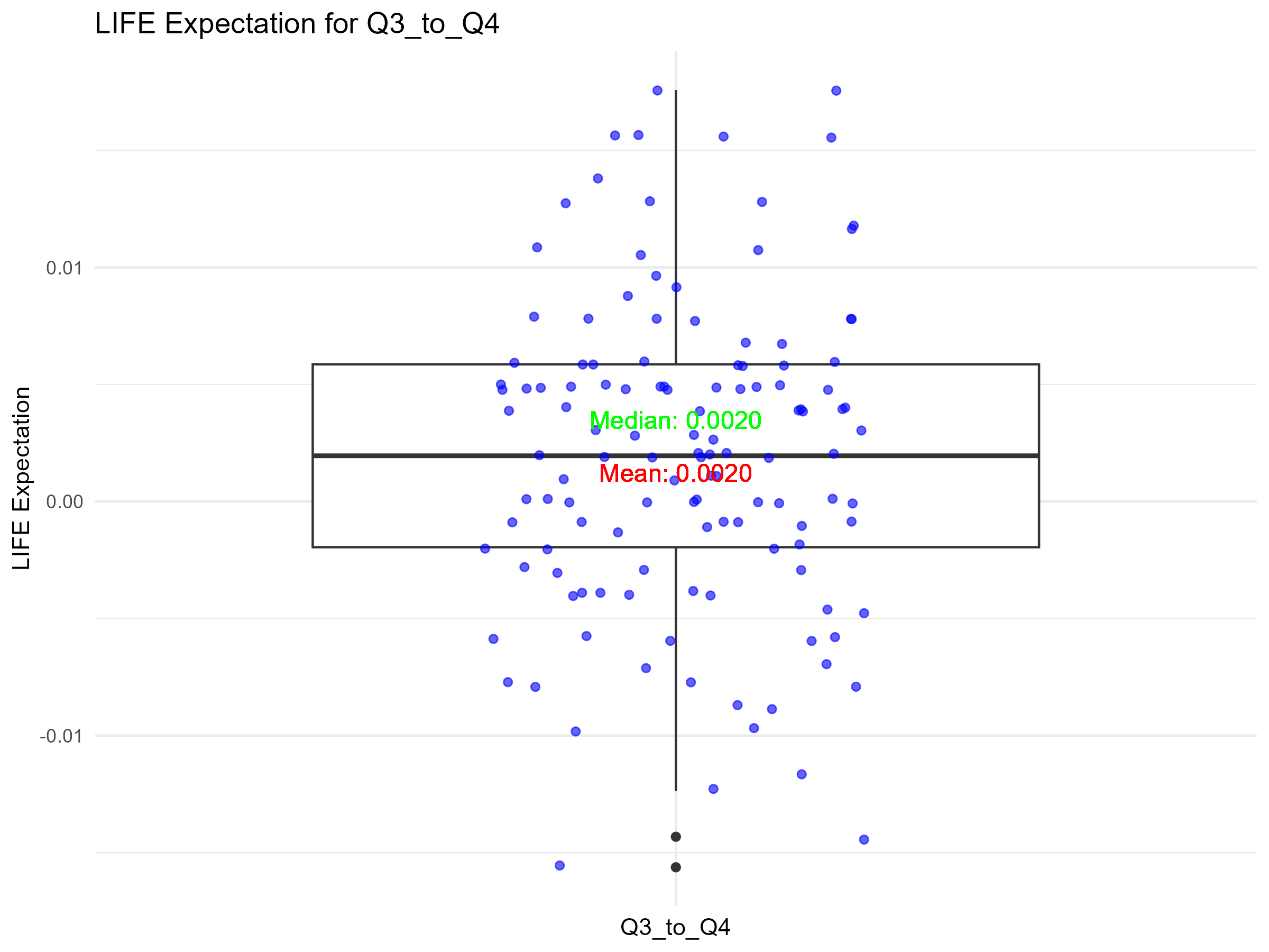
As we can see, there are 16 ways of changing over time. So I spilt those changes into 16 types and generate all 5 life factors that change with time. I mainly used mean and median to describe the change of each group.

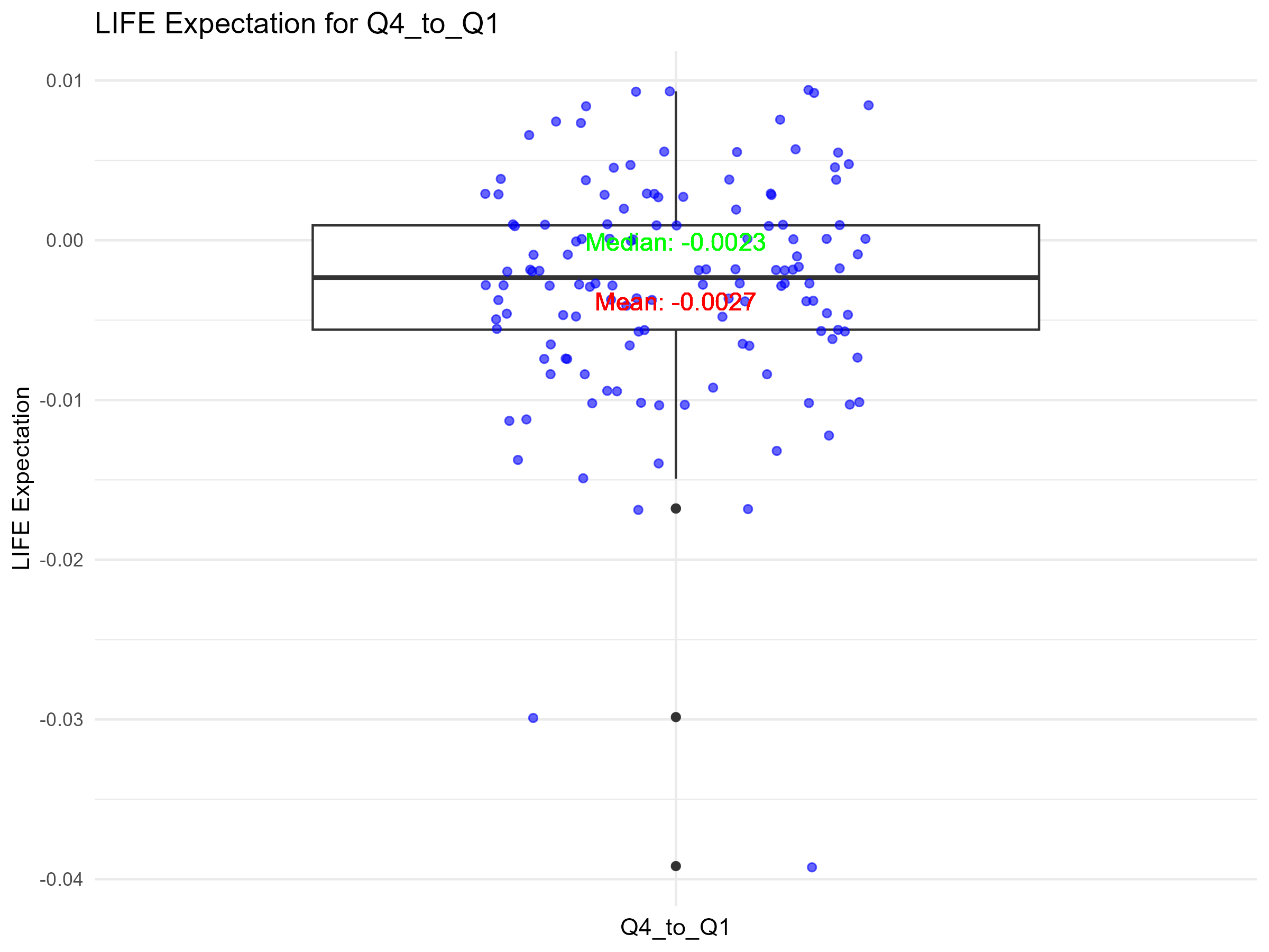
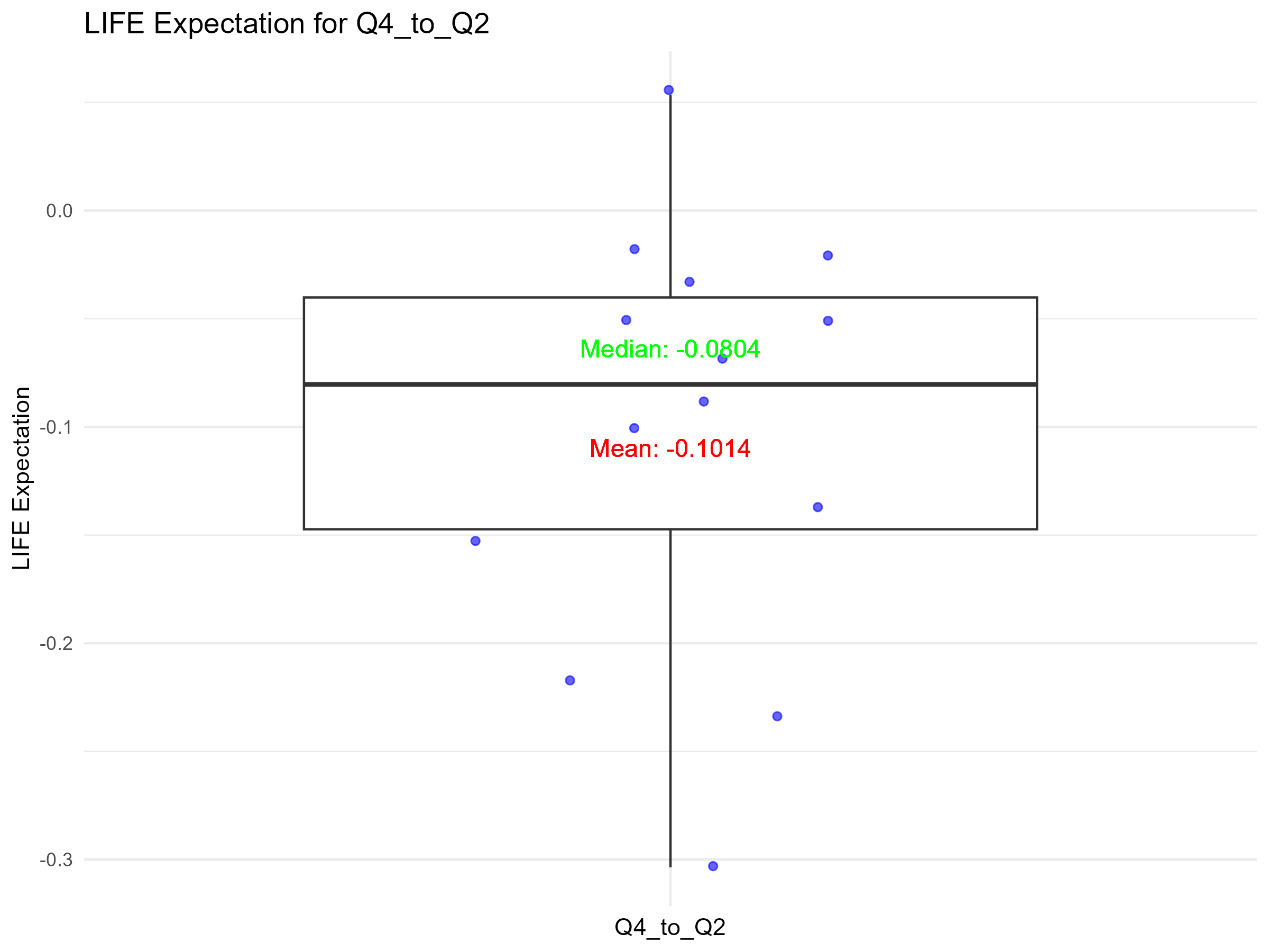
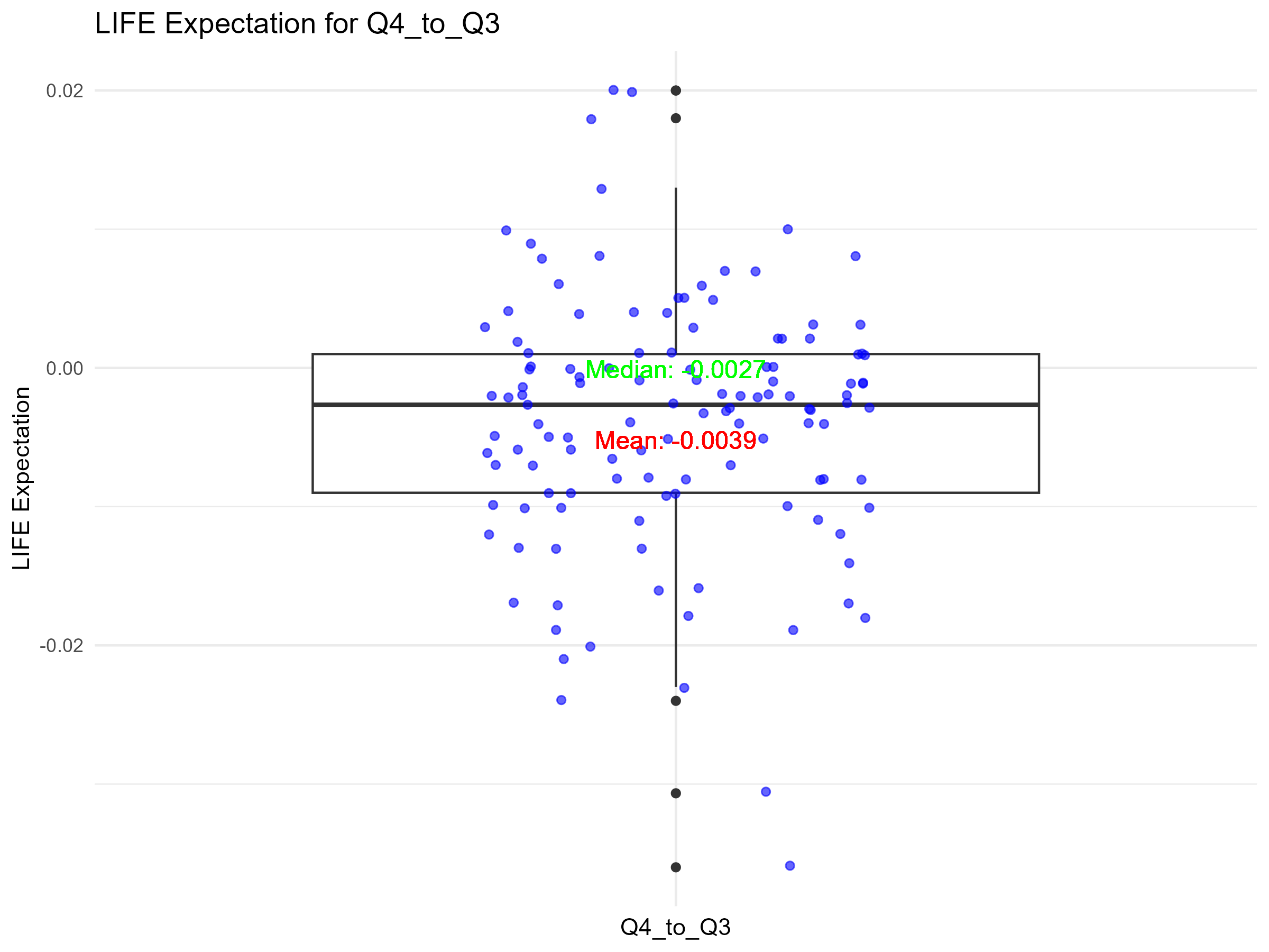
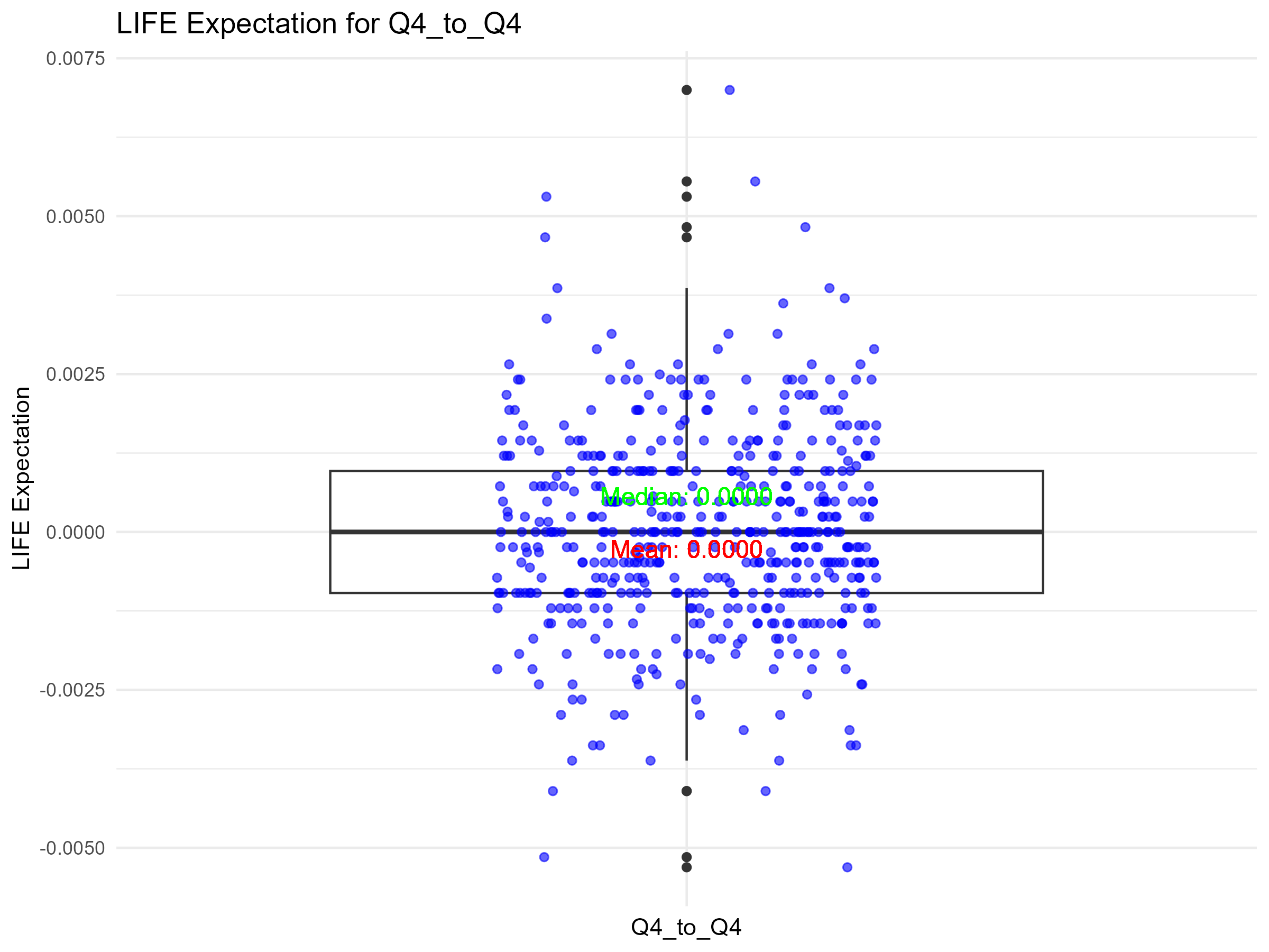
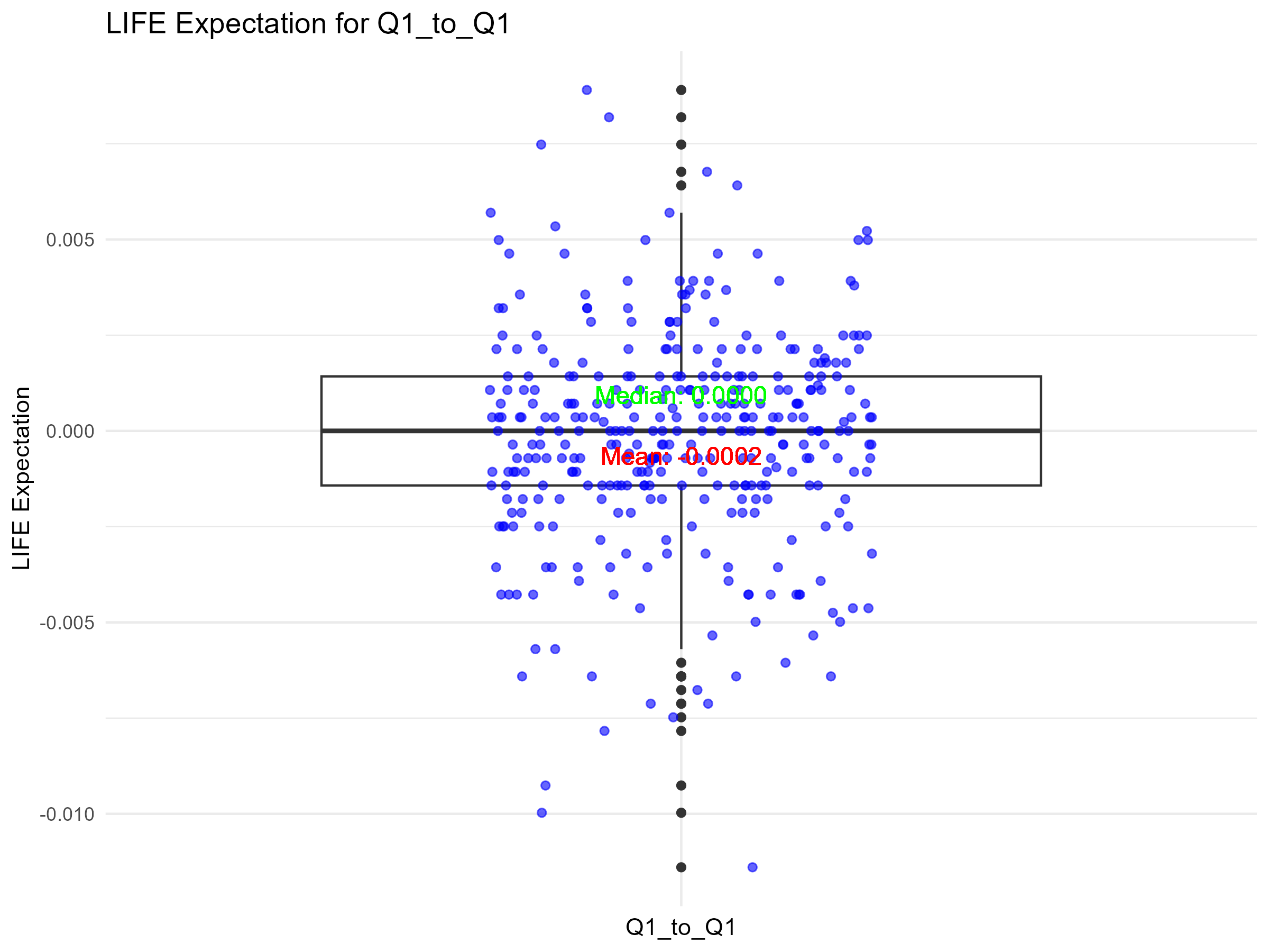
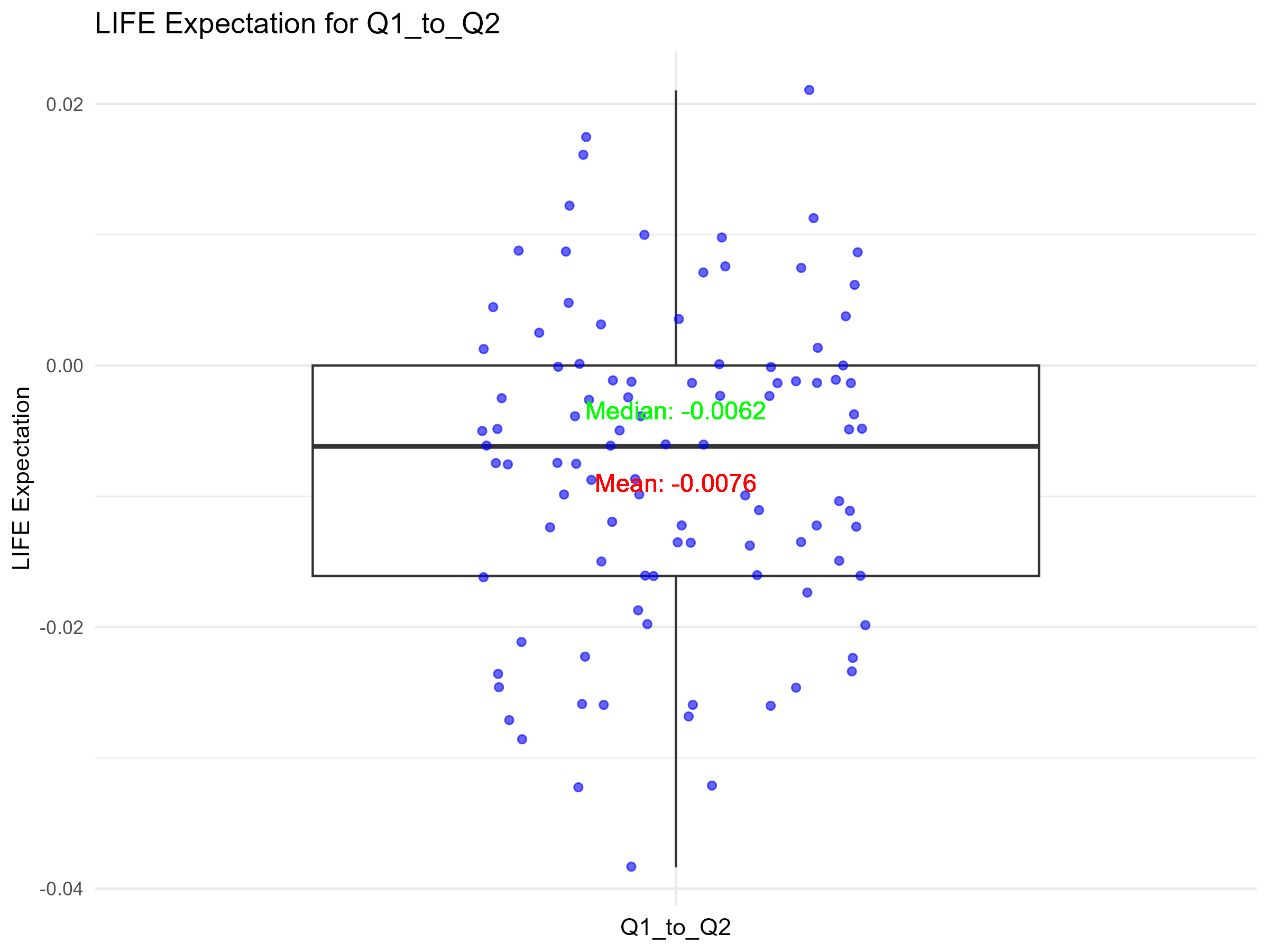
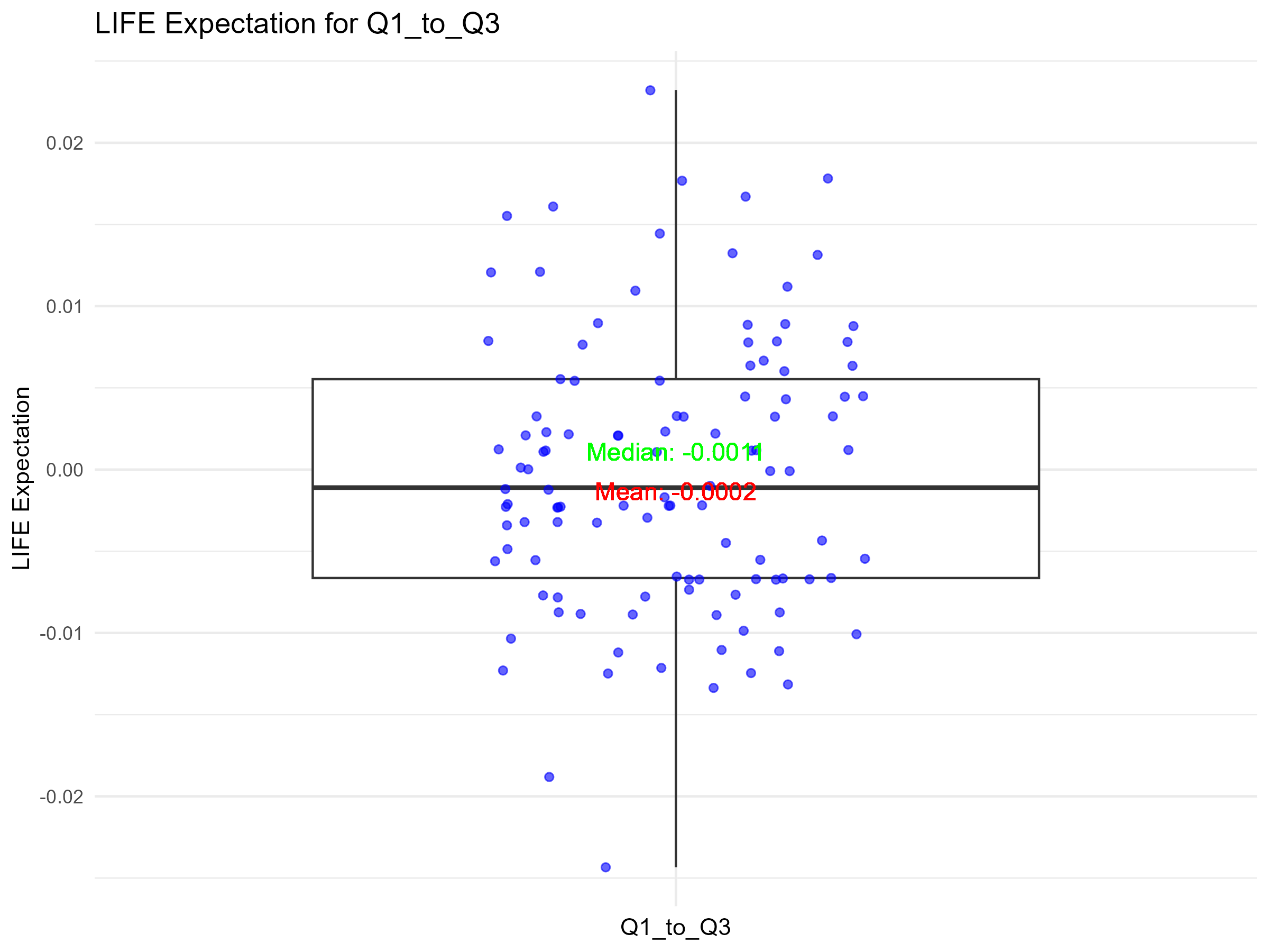
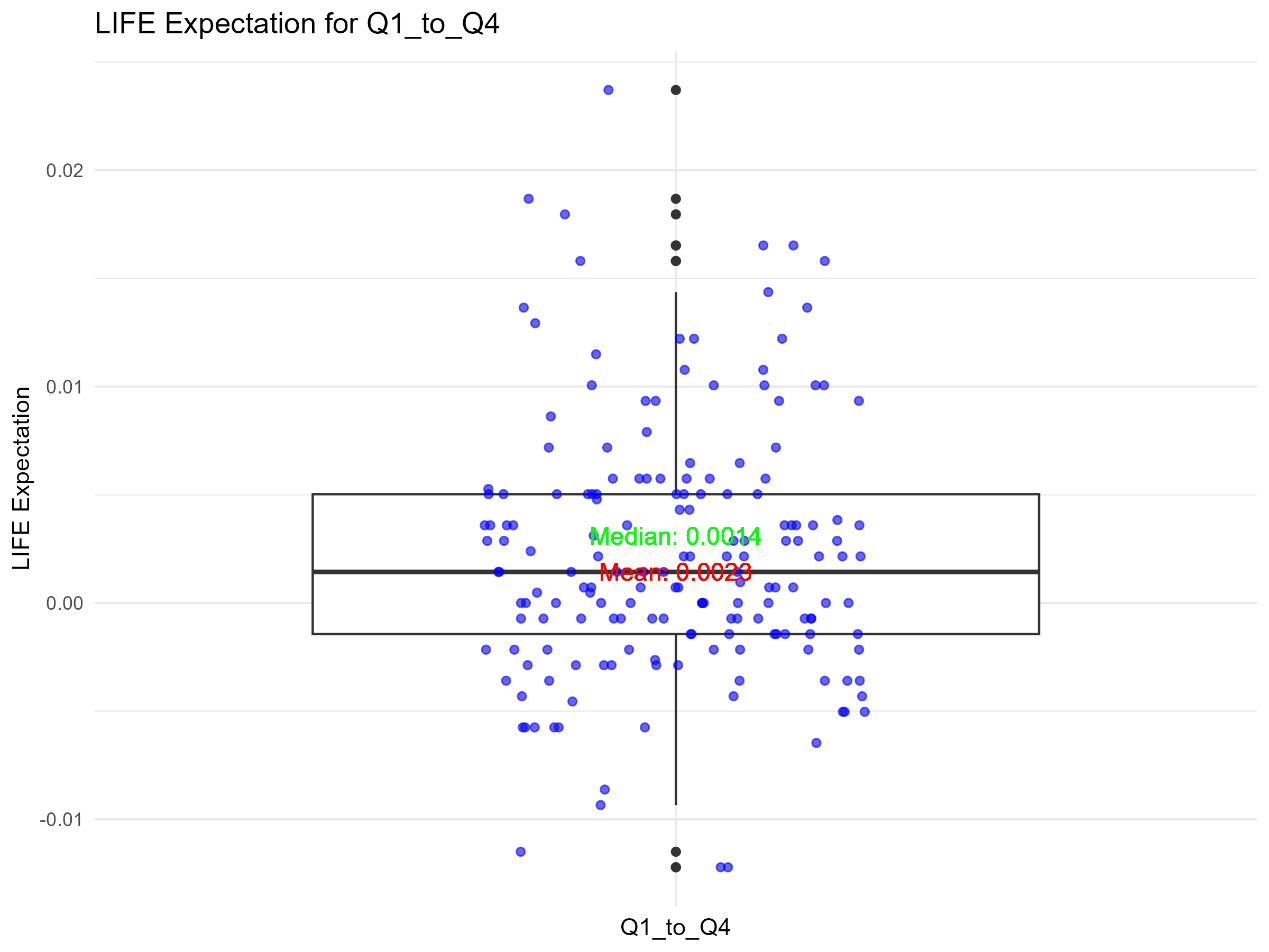
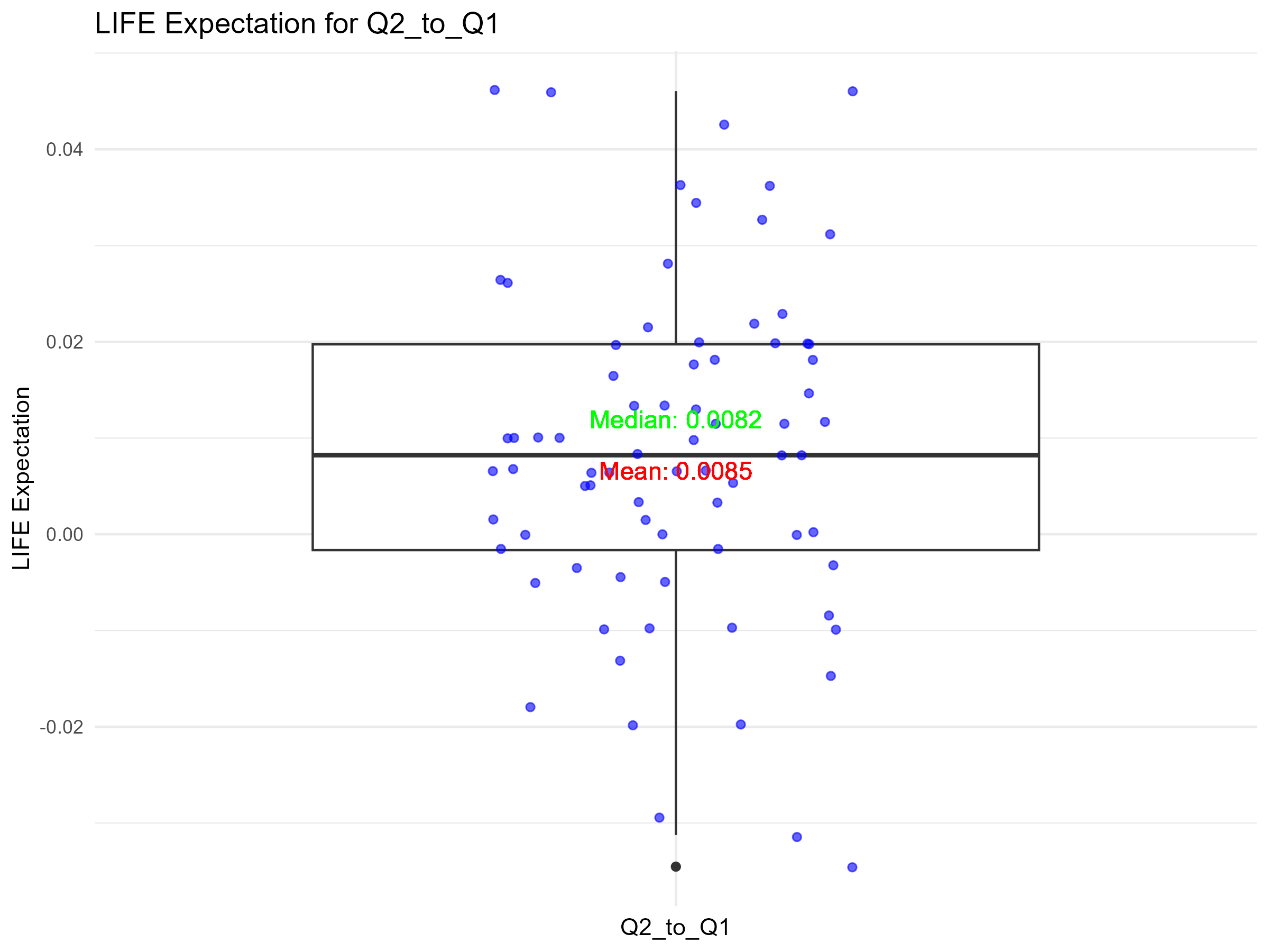
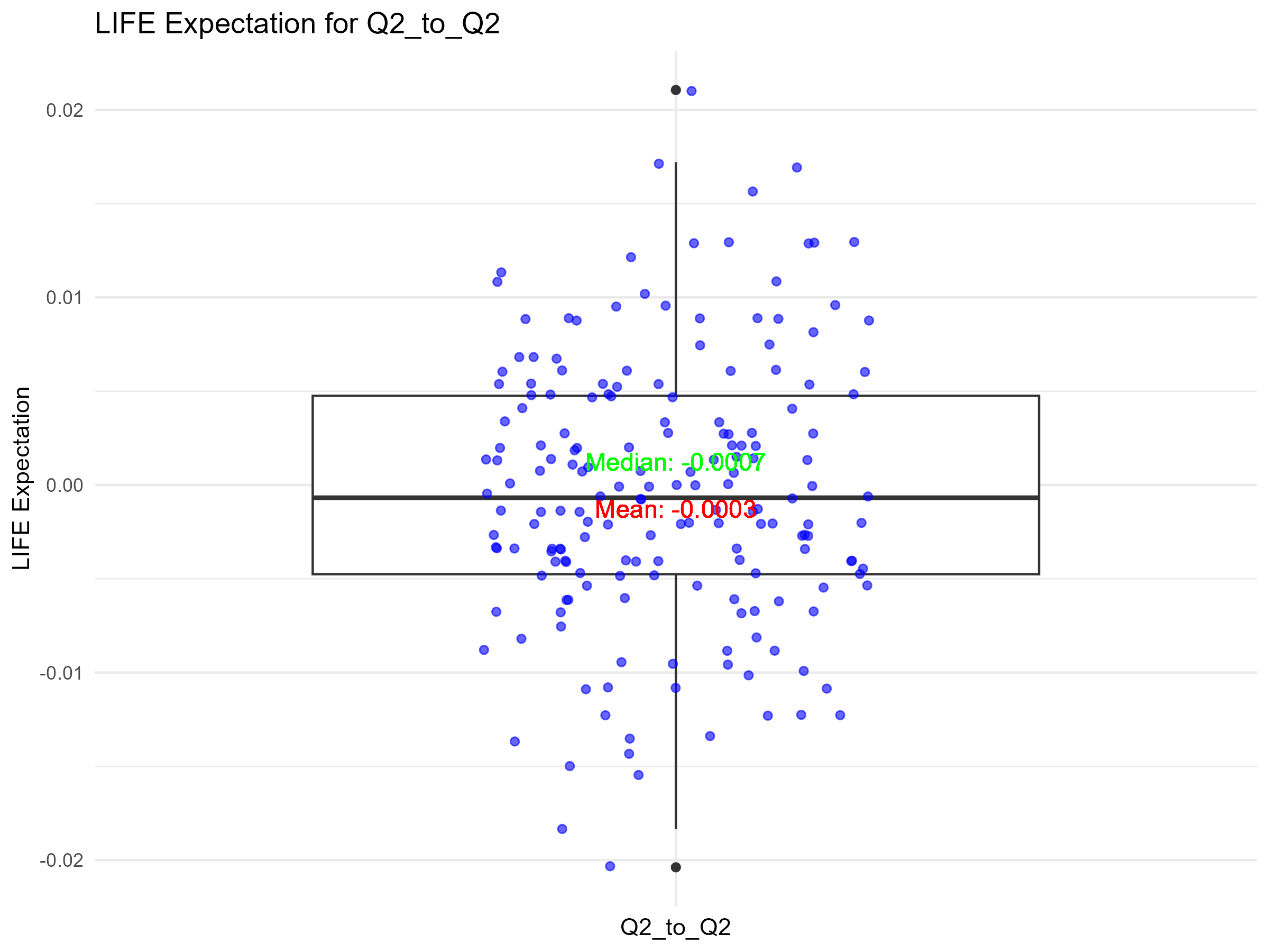
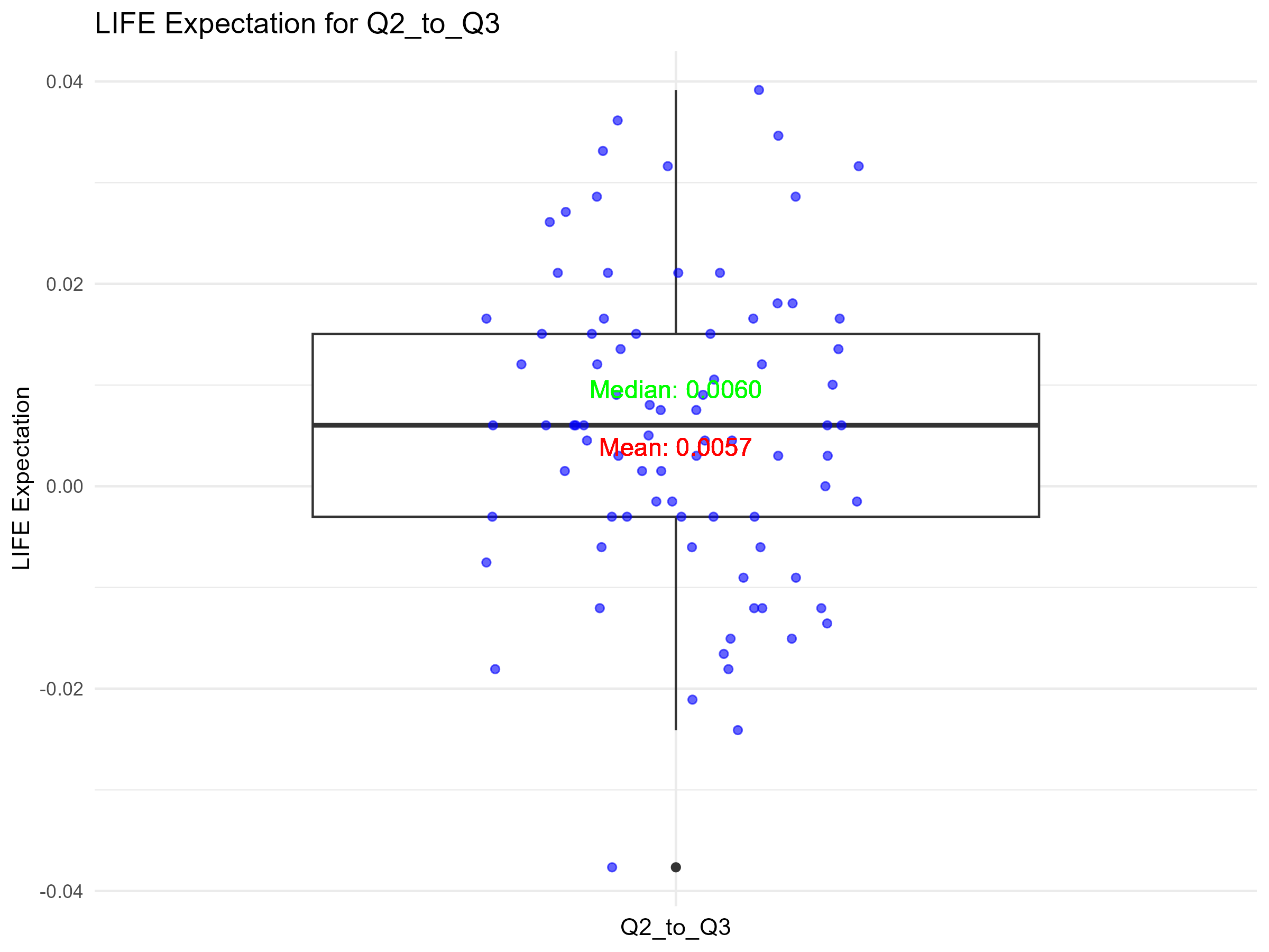
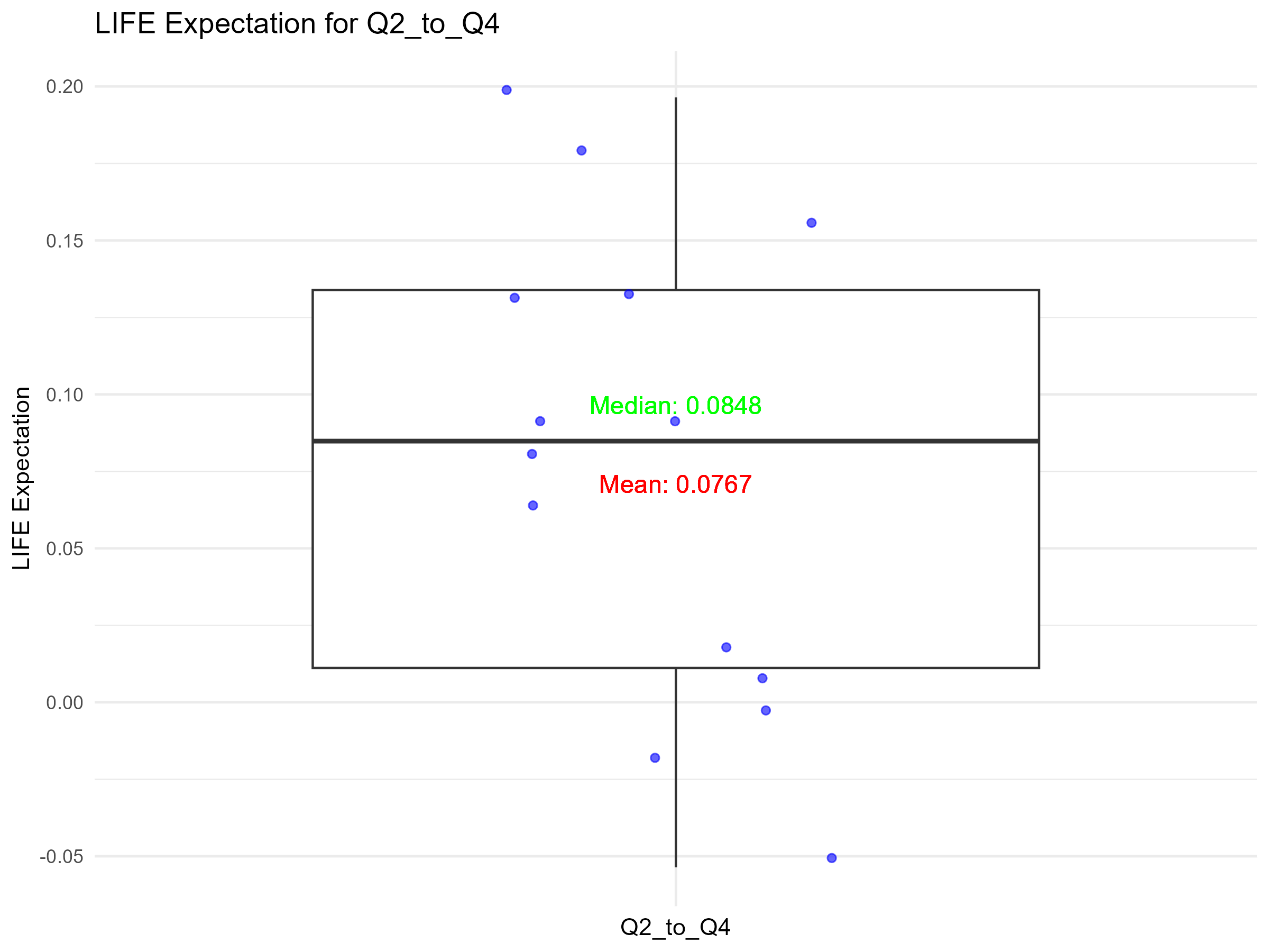
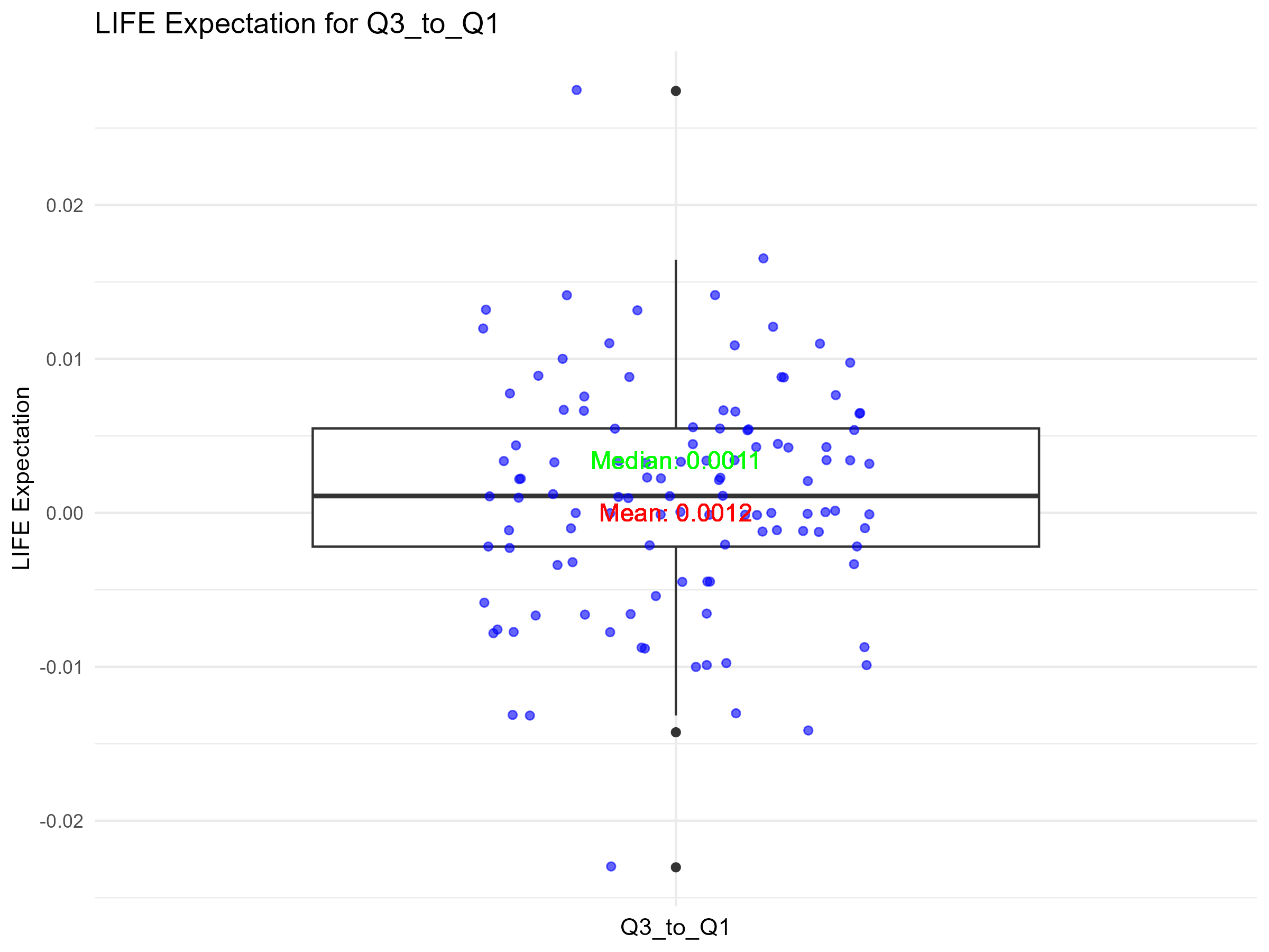
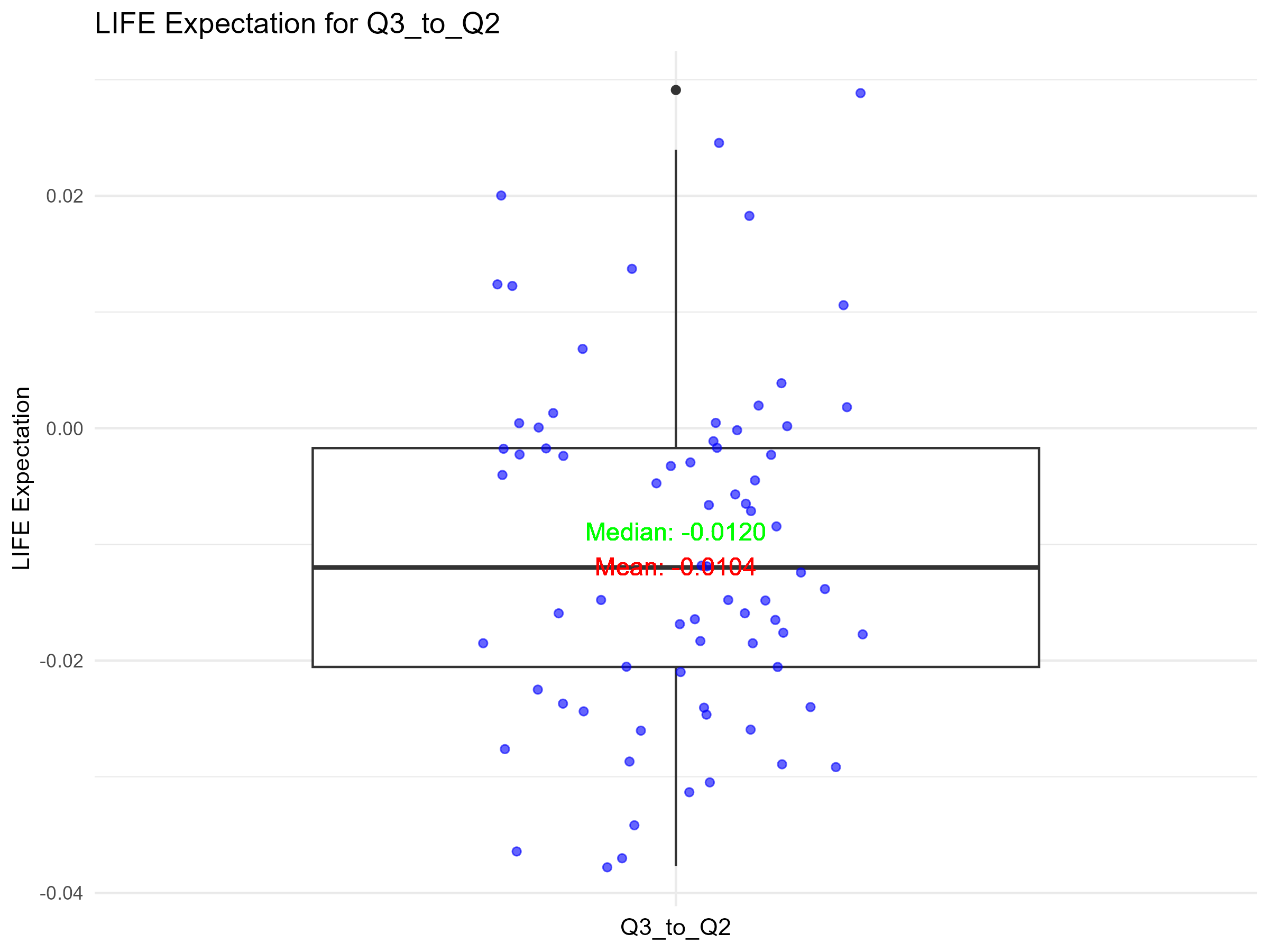
We are based on this chart to do analysis:



The outcomes are as below:

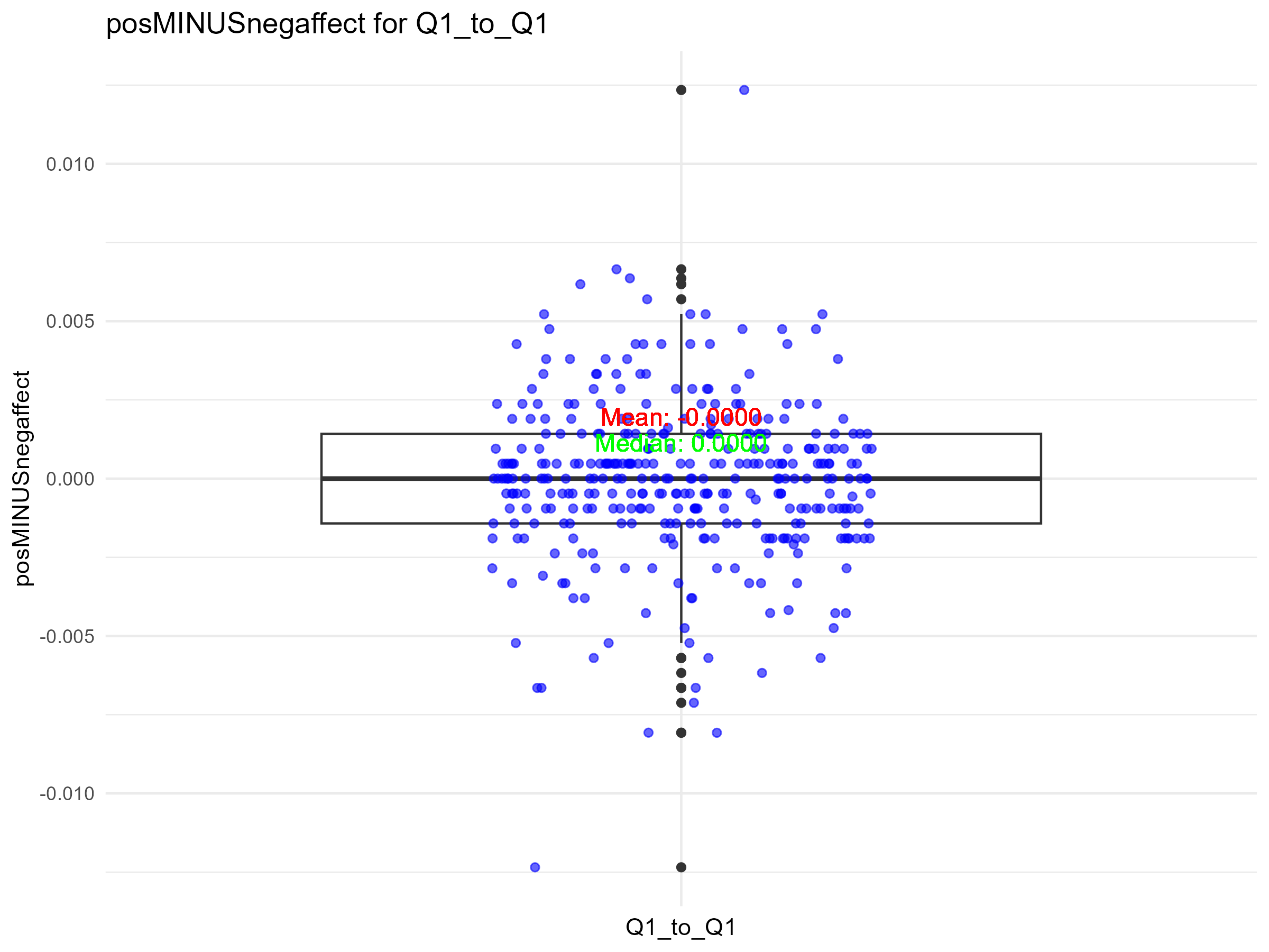
Life satisfaction change:

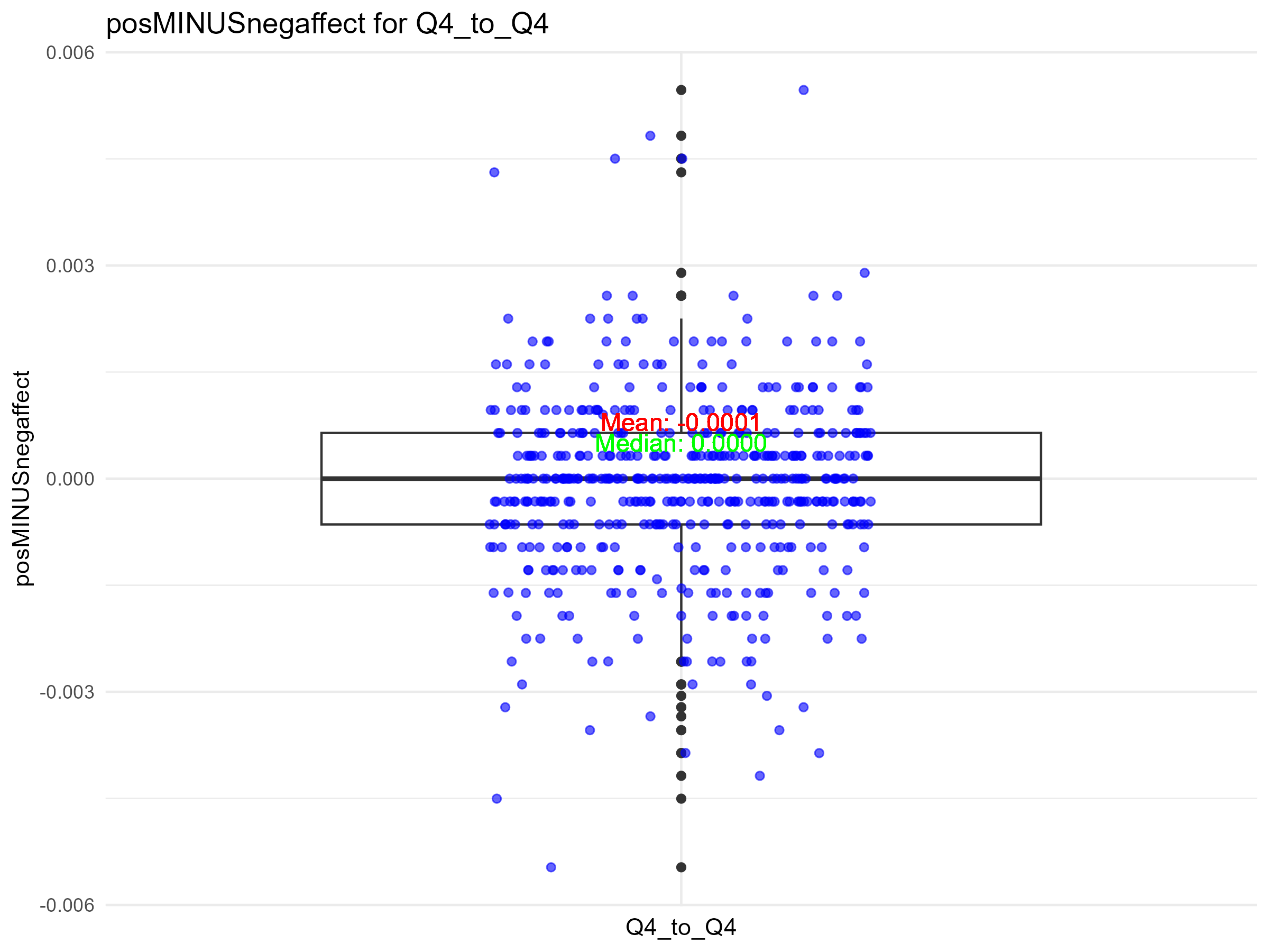
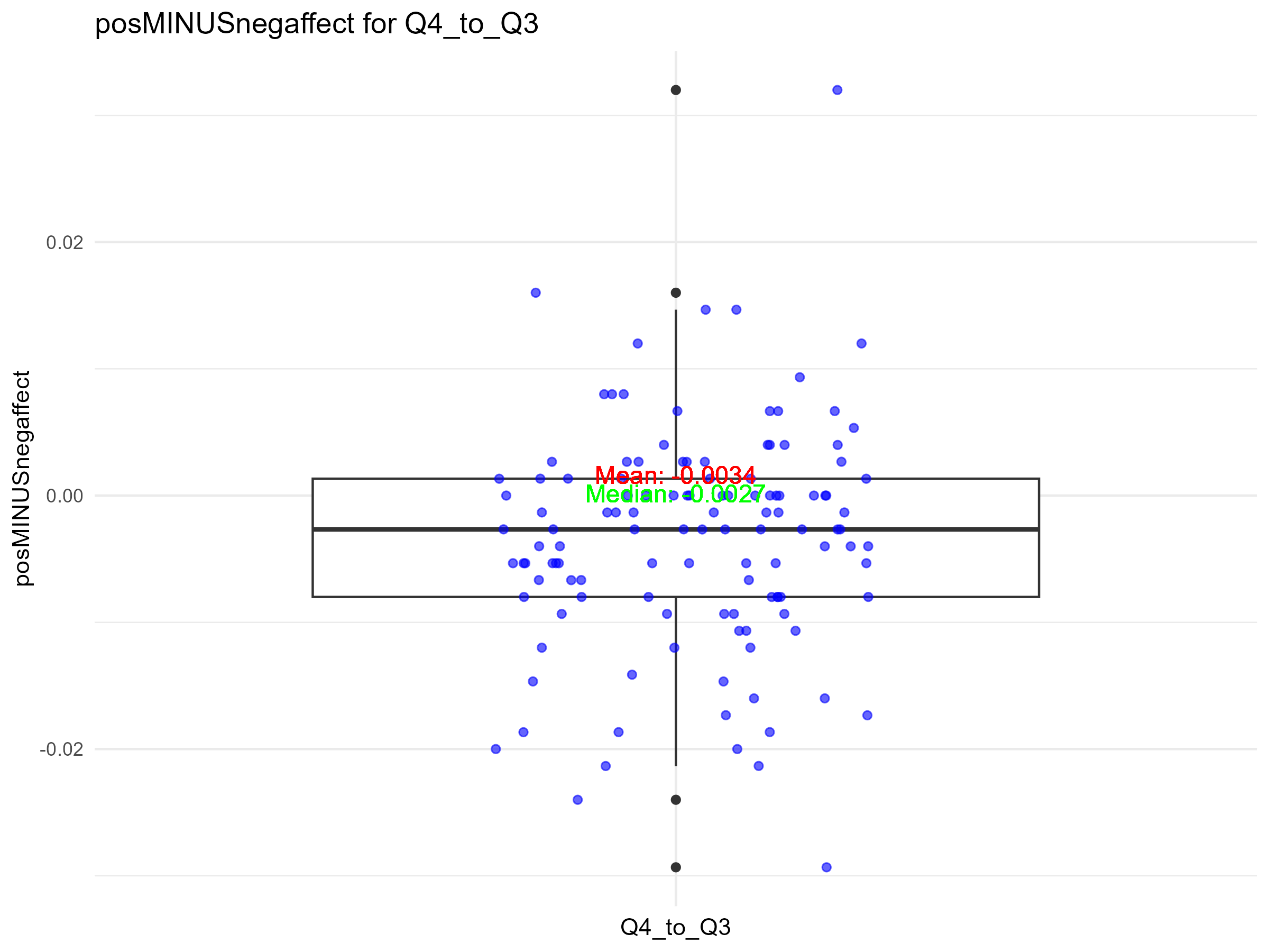
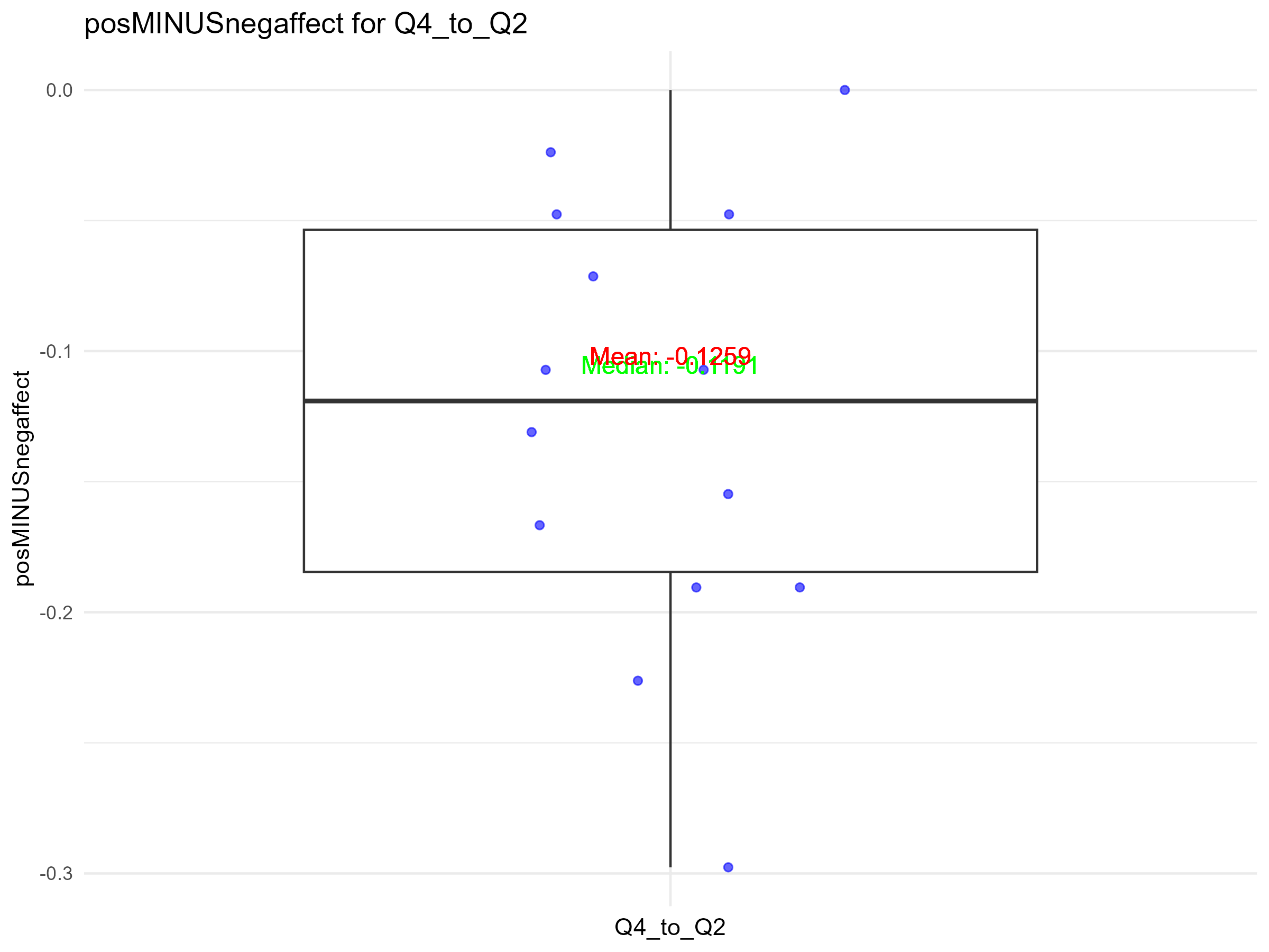
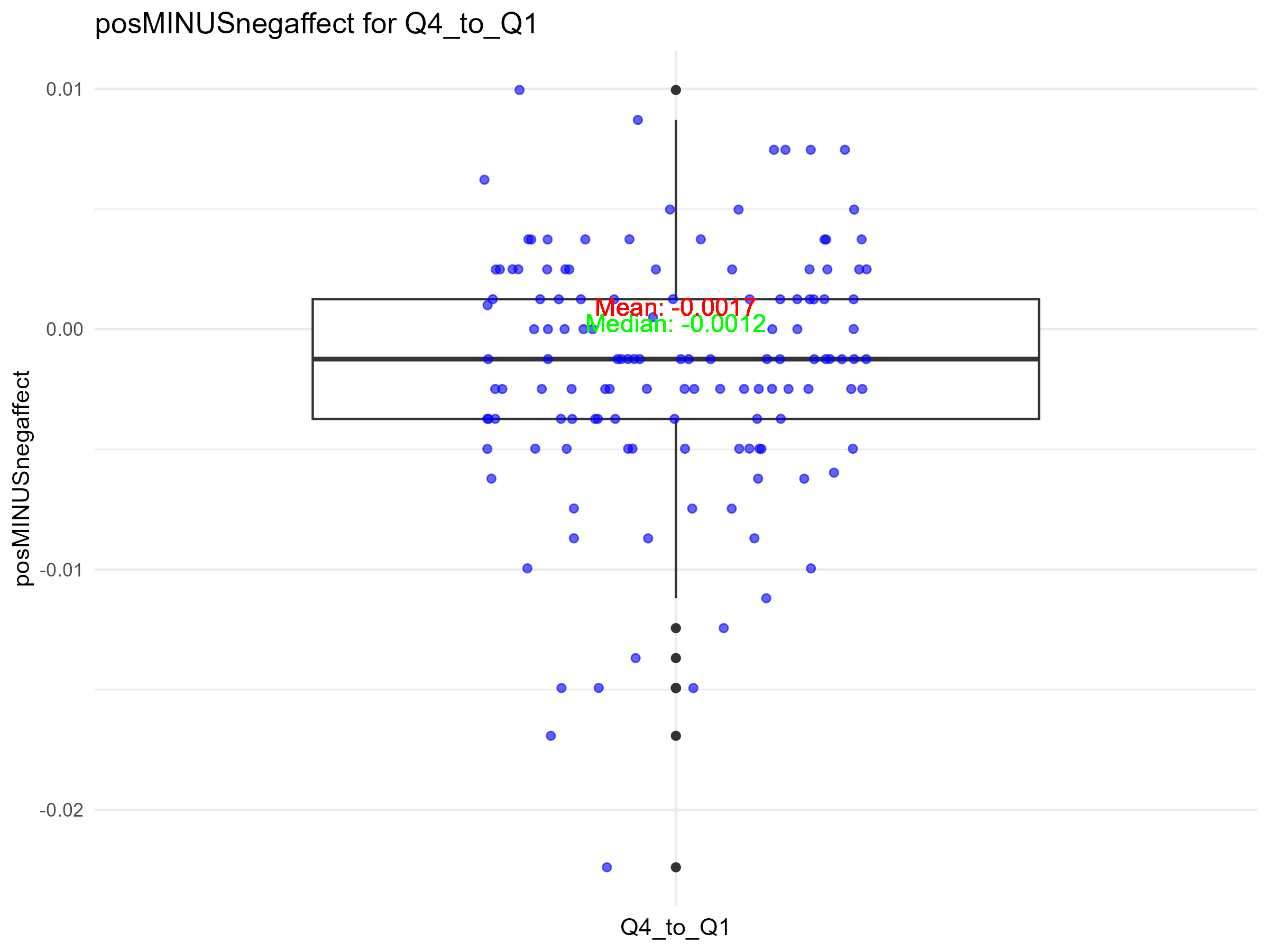
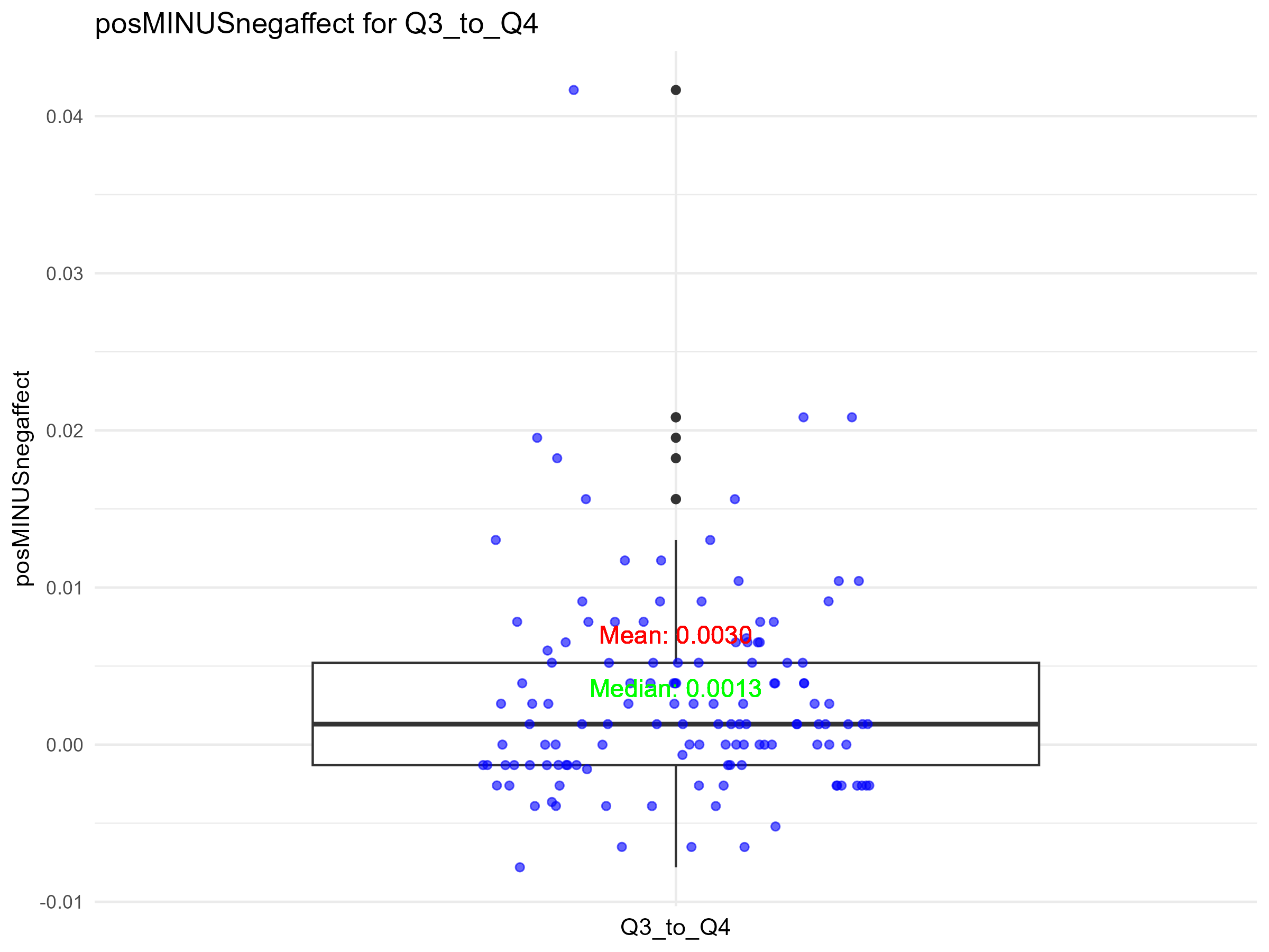
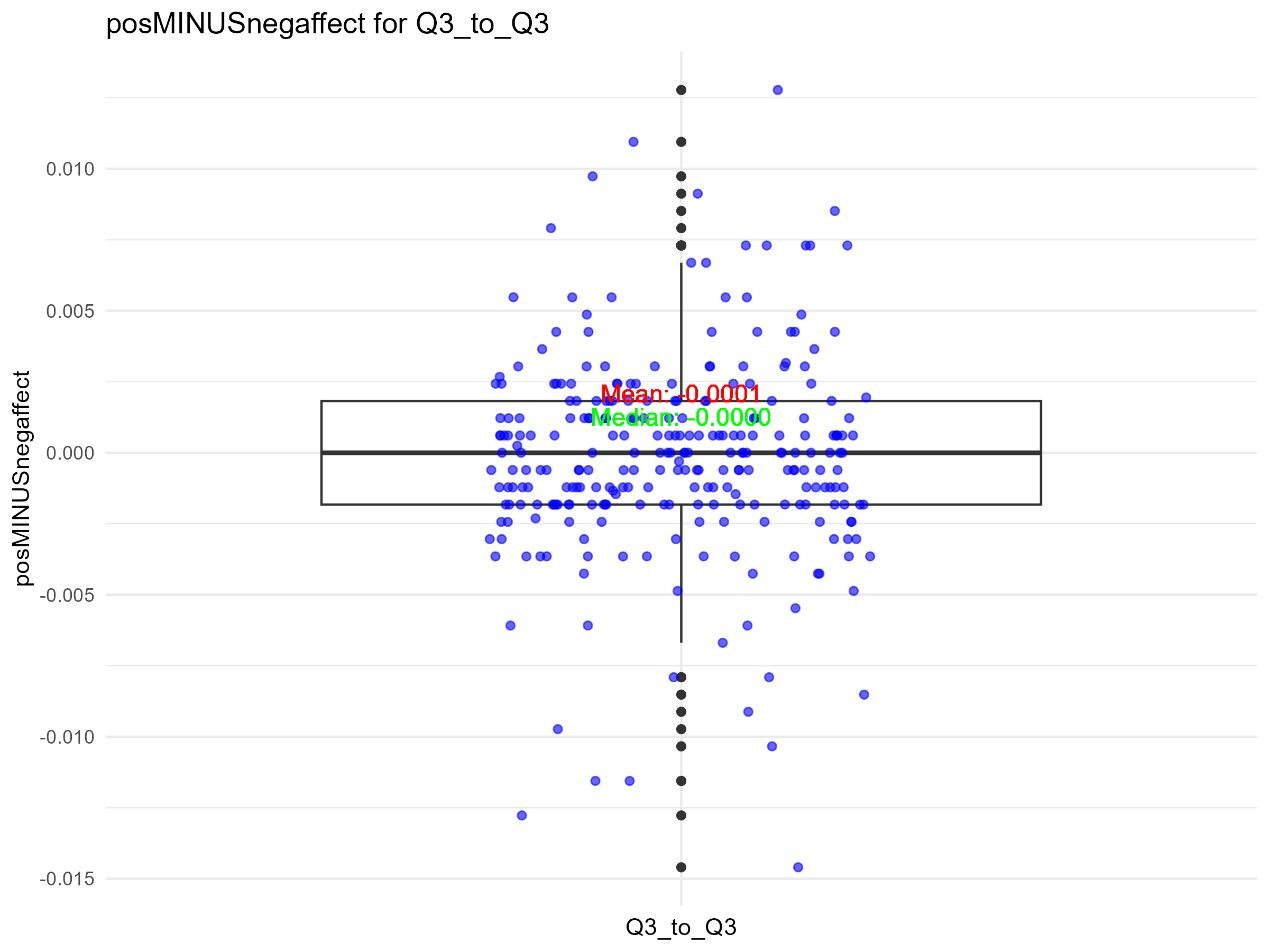
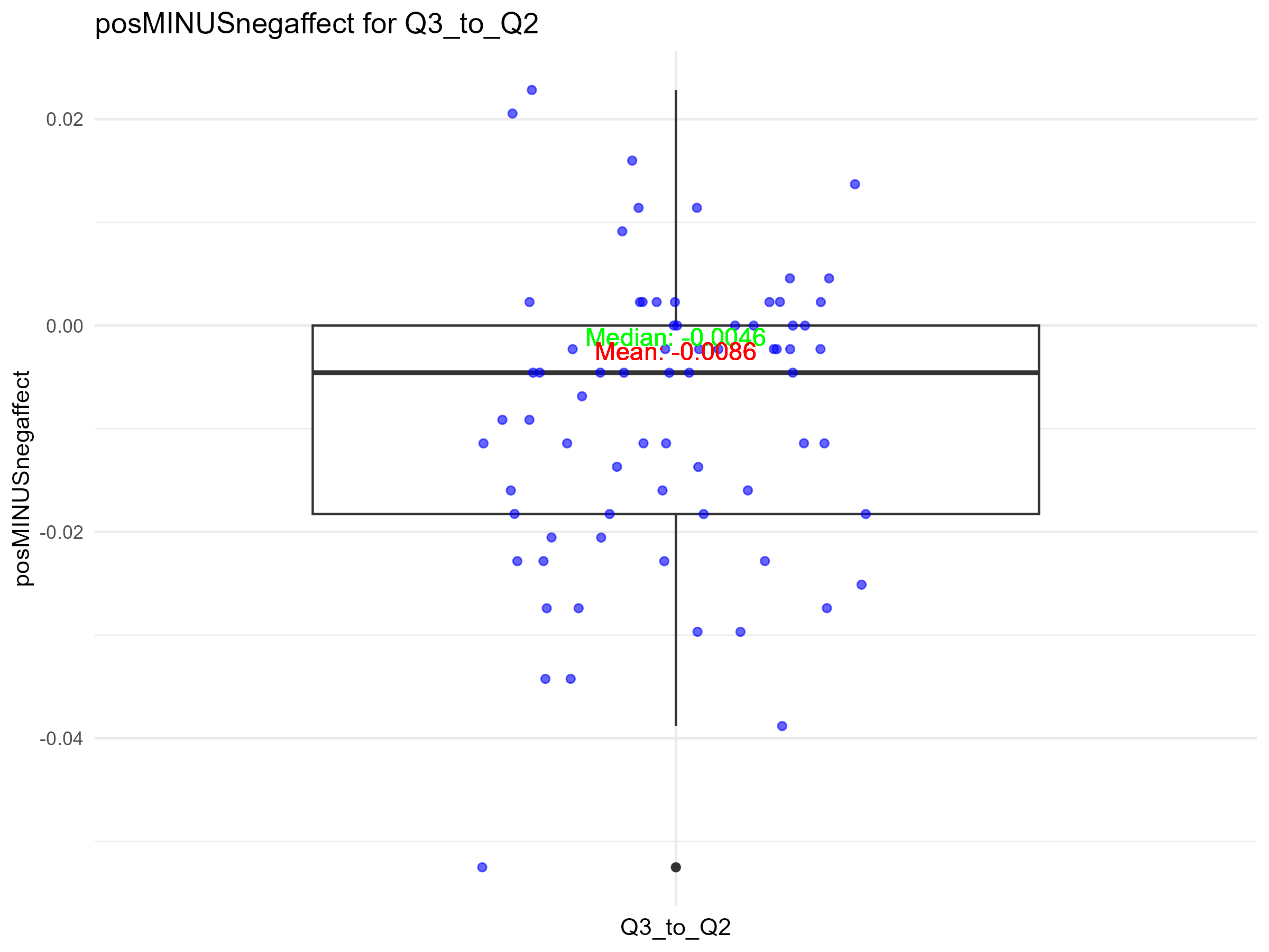
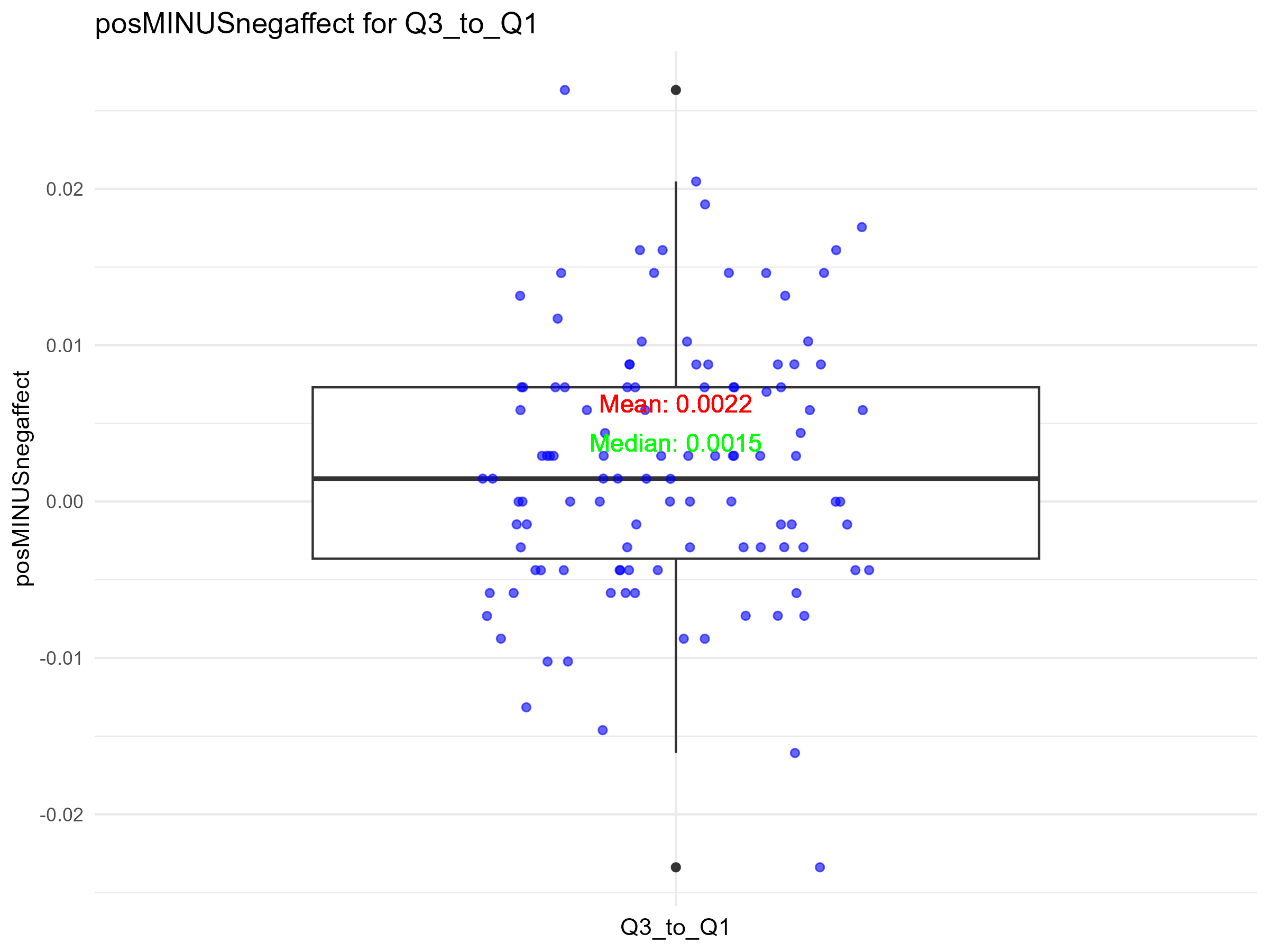
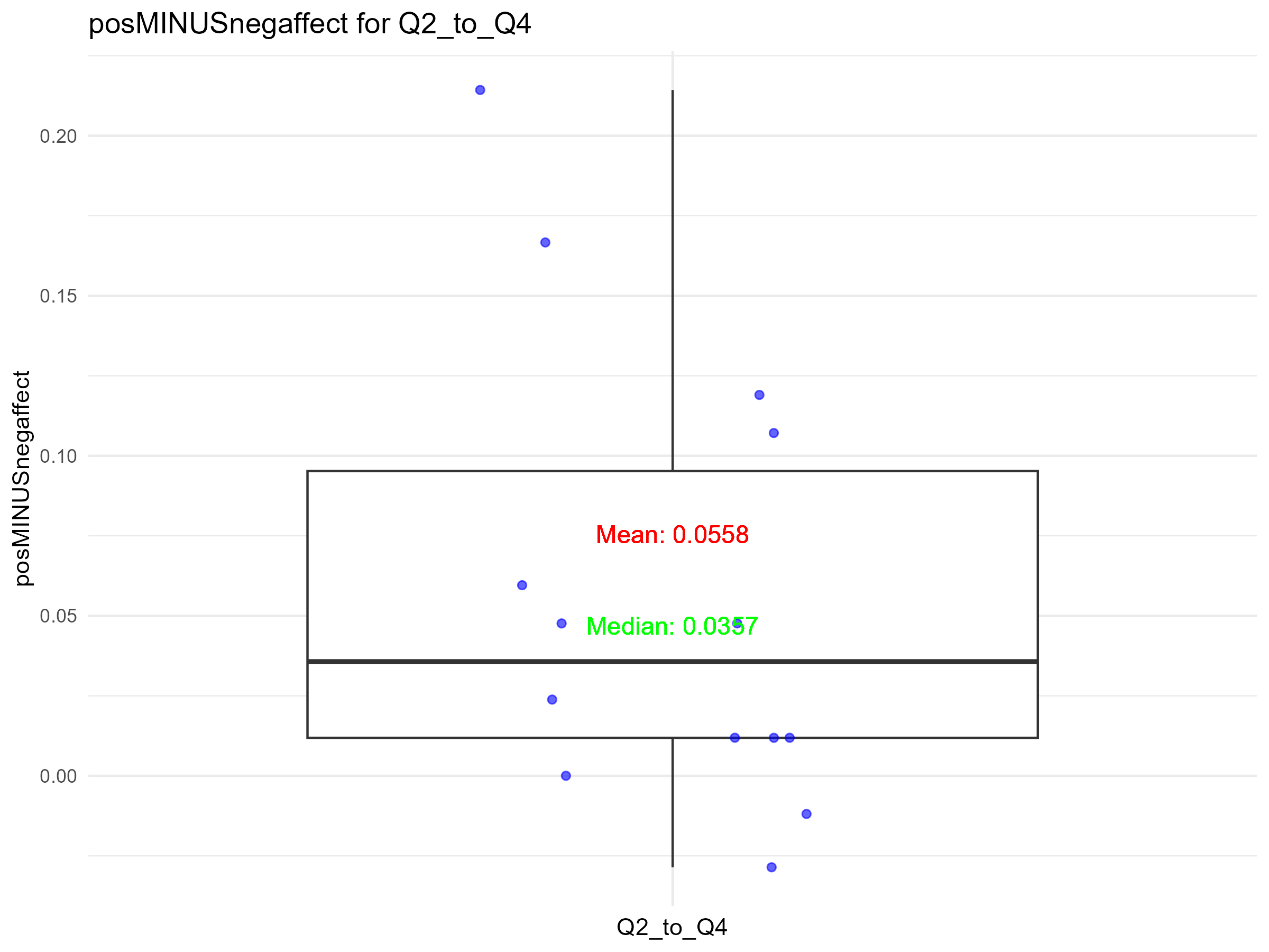
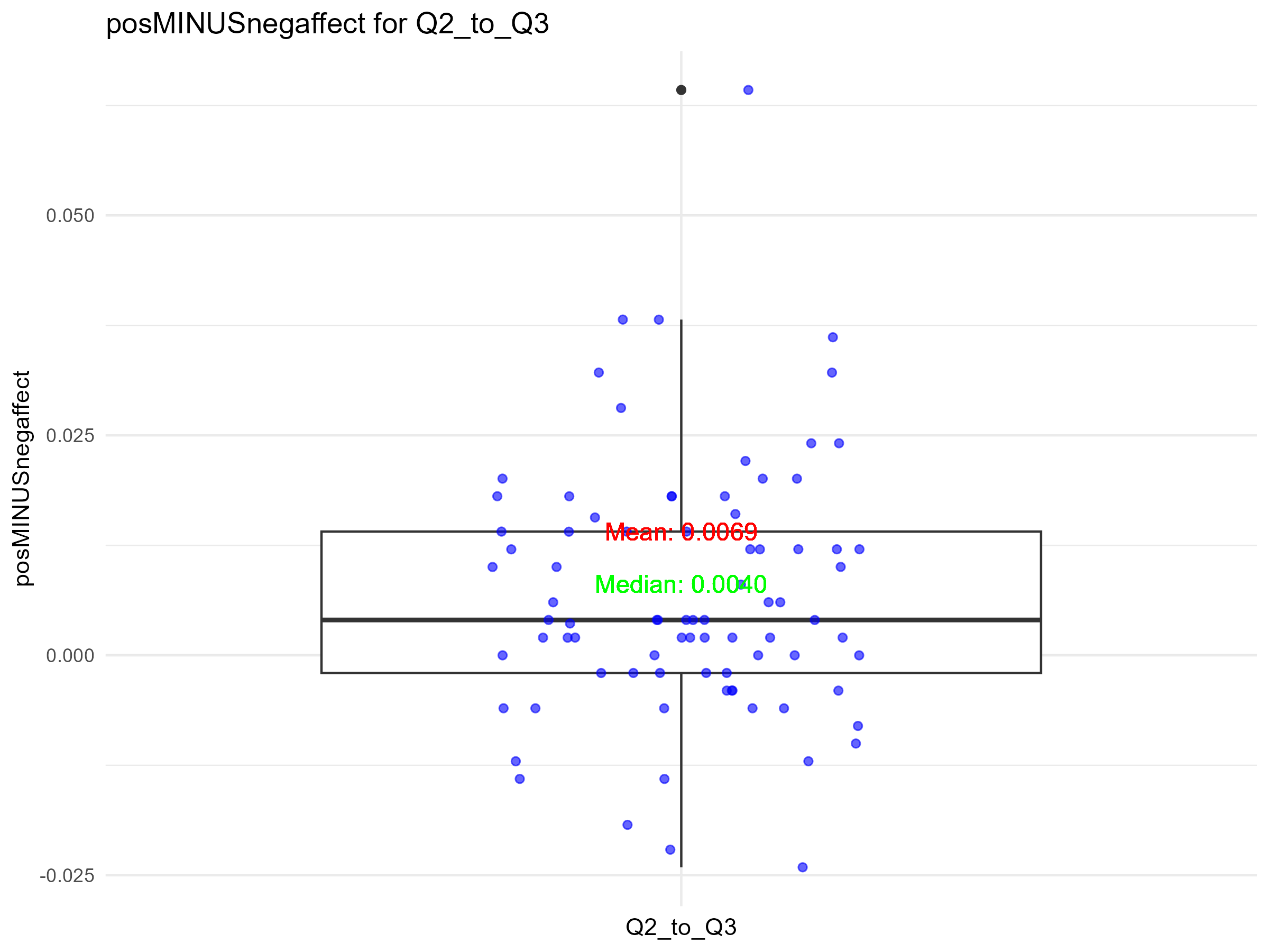
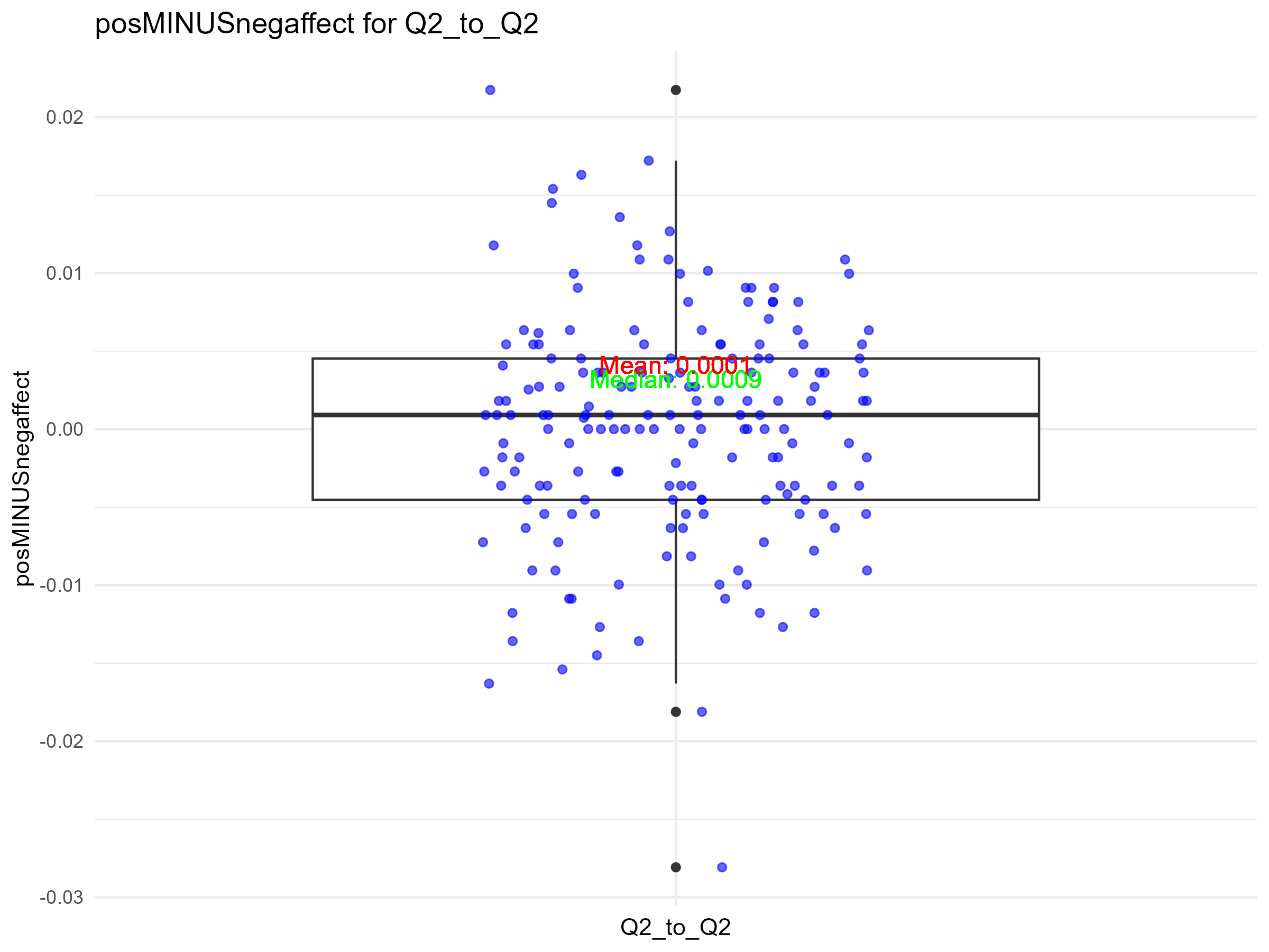
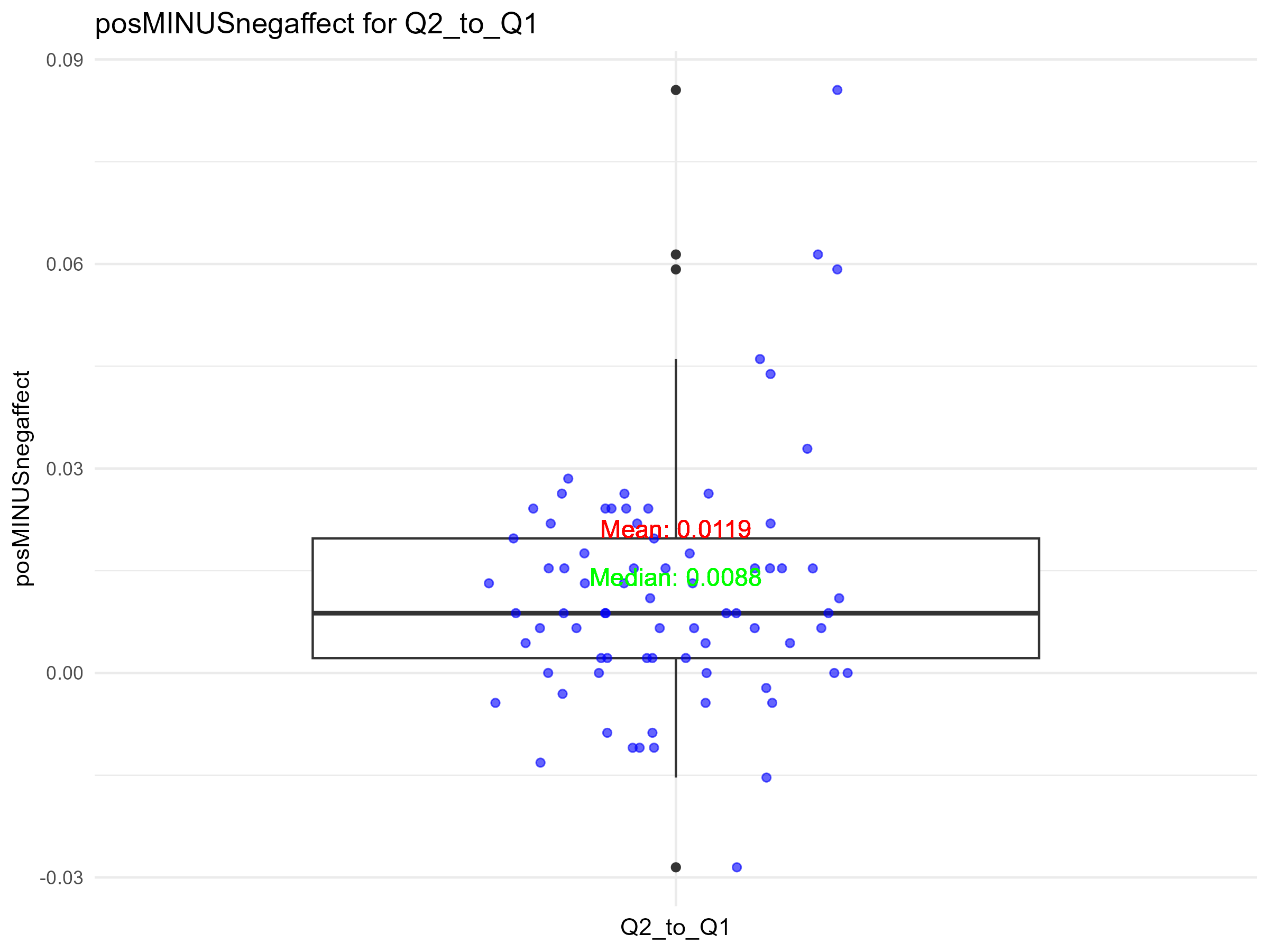
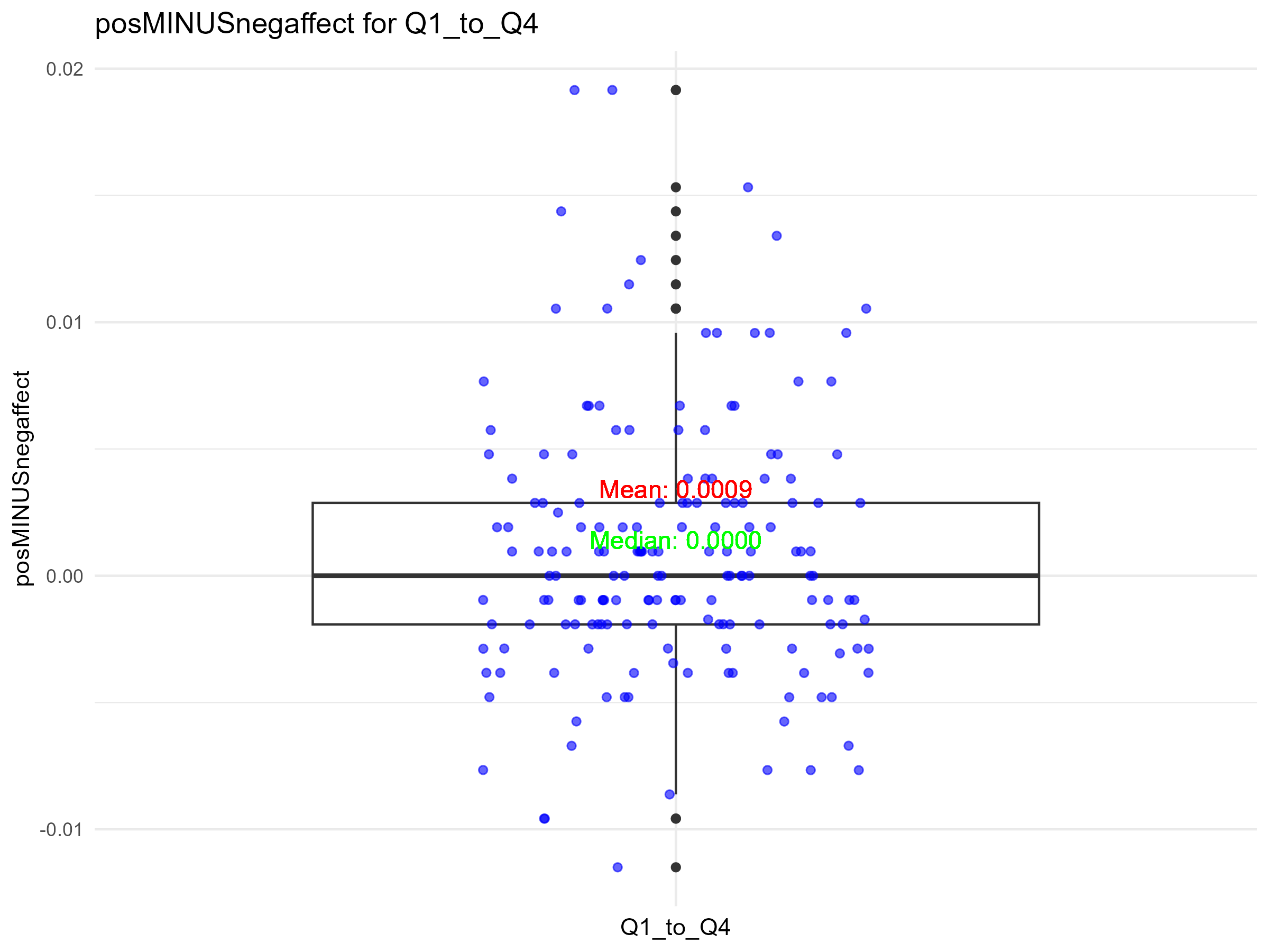
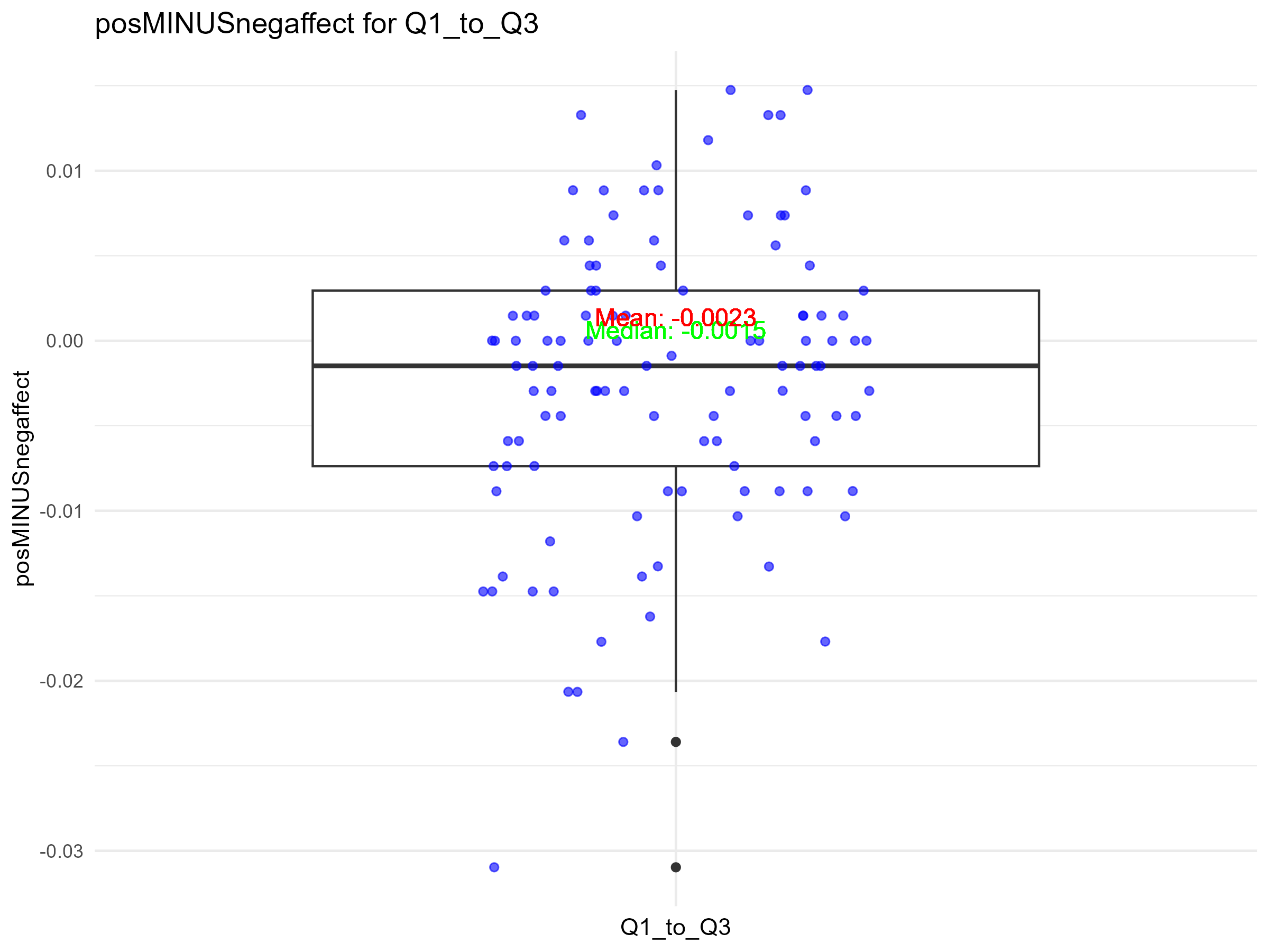
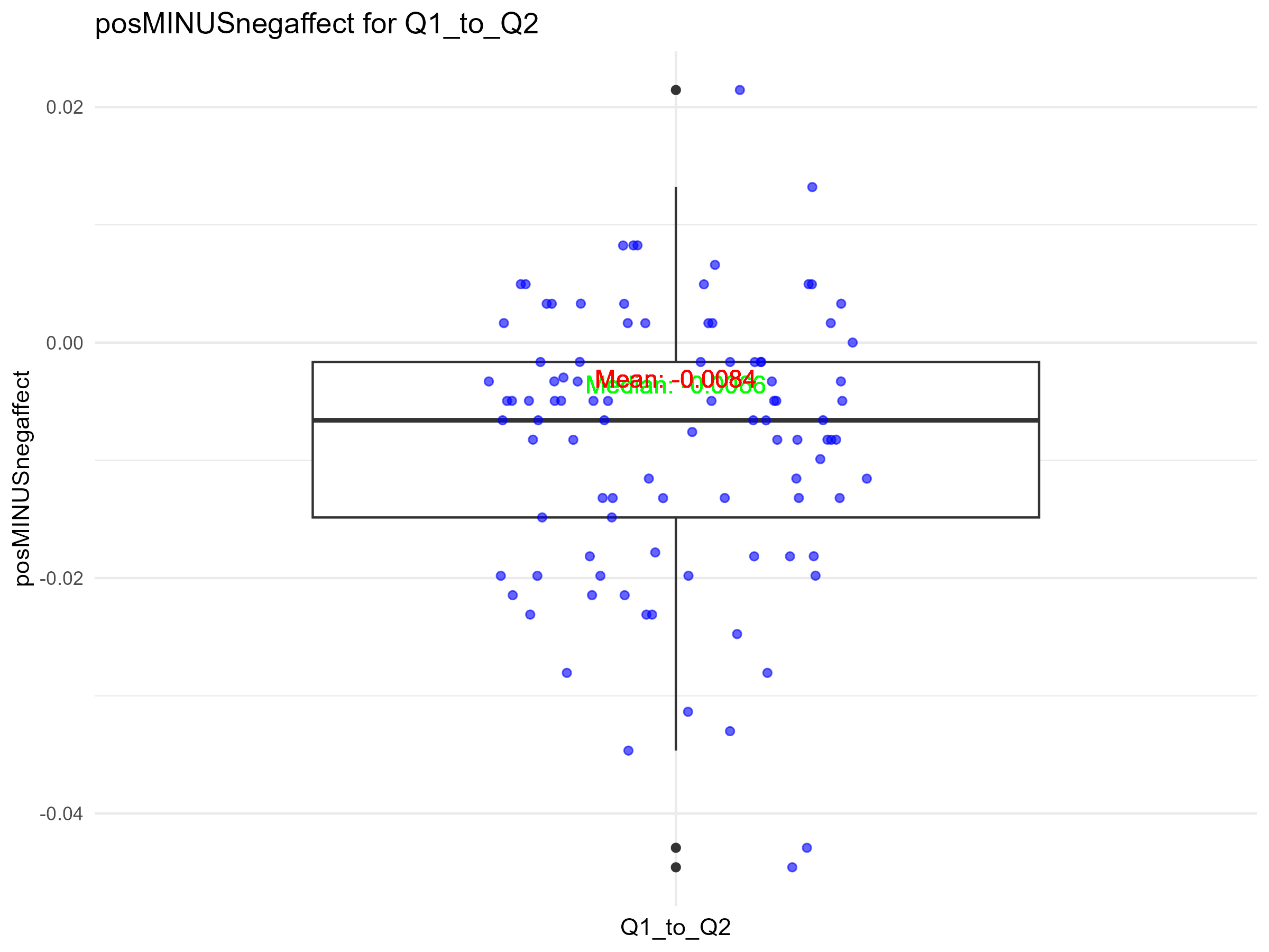




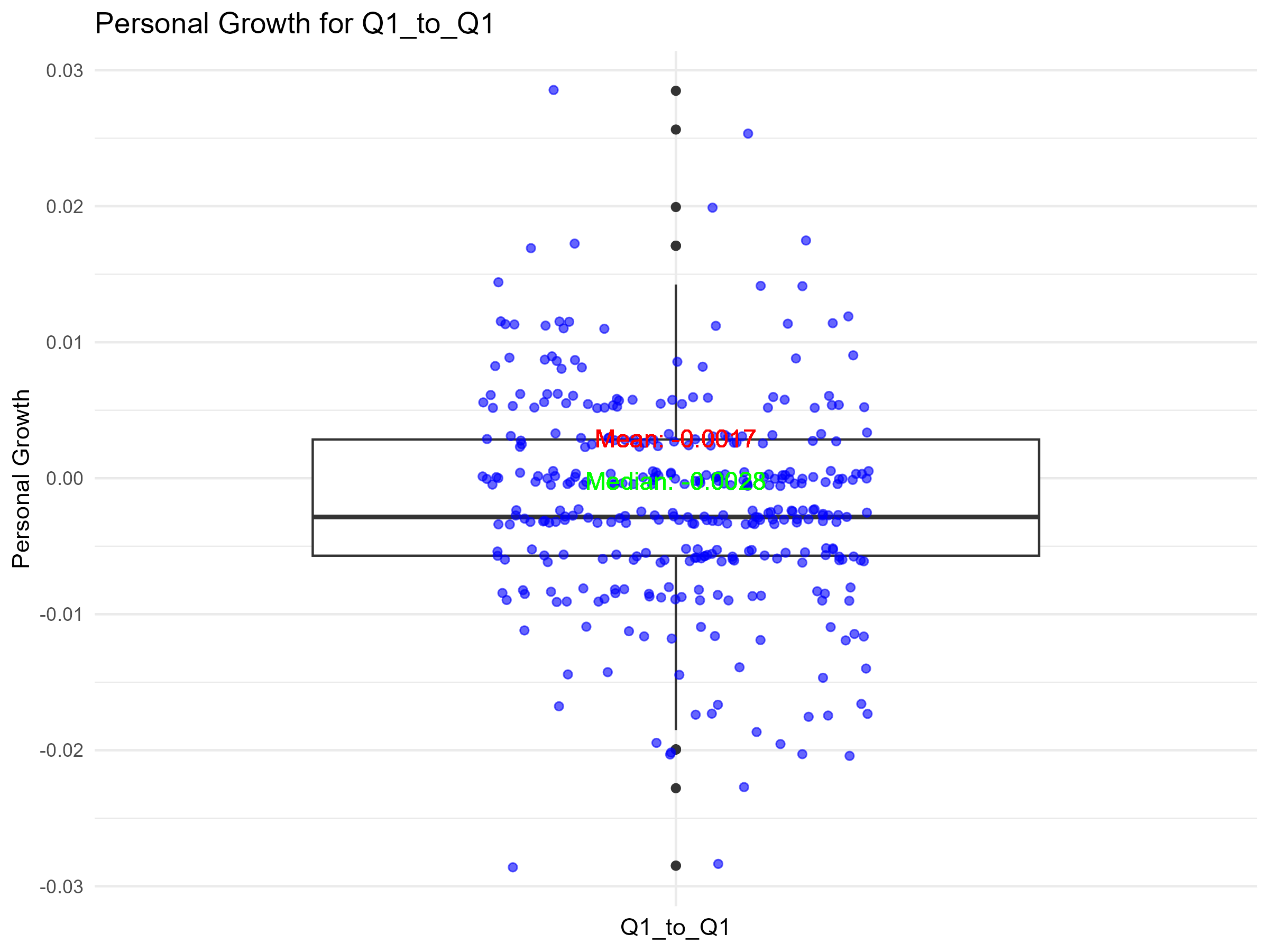
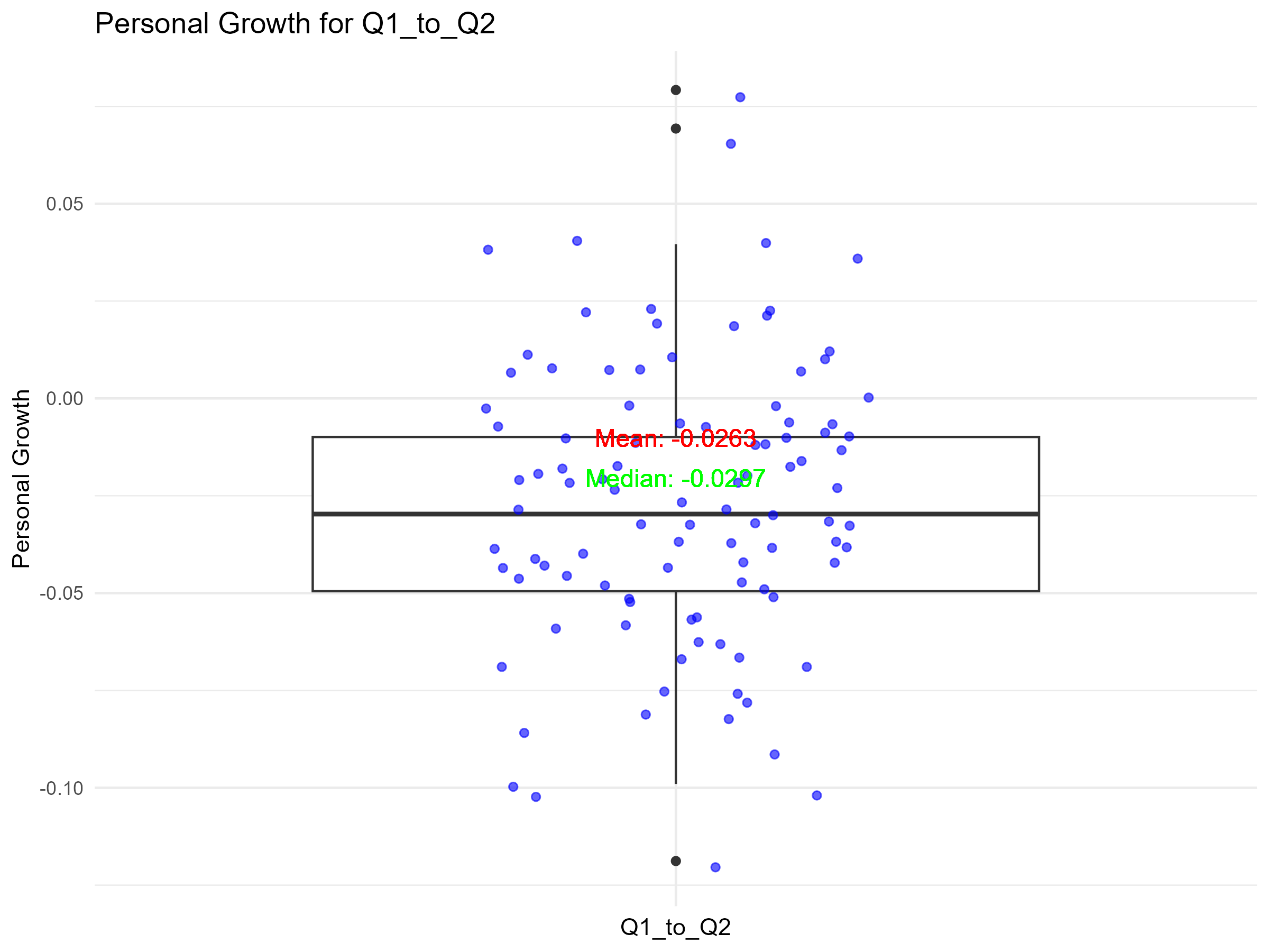
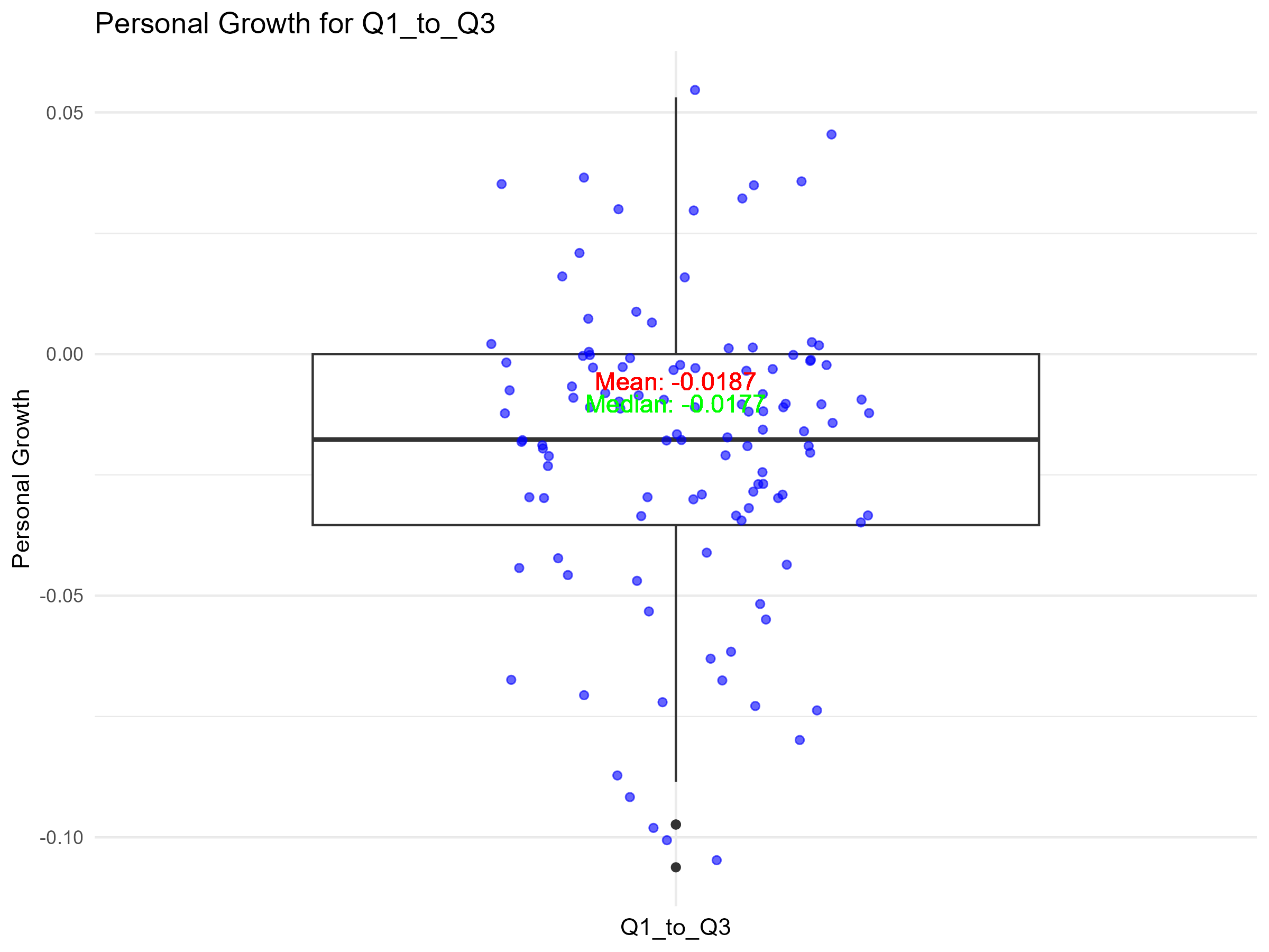
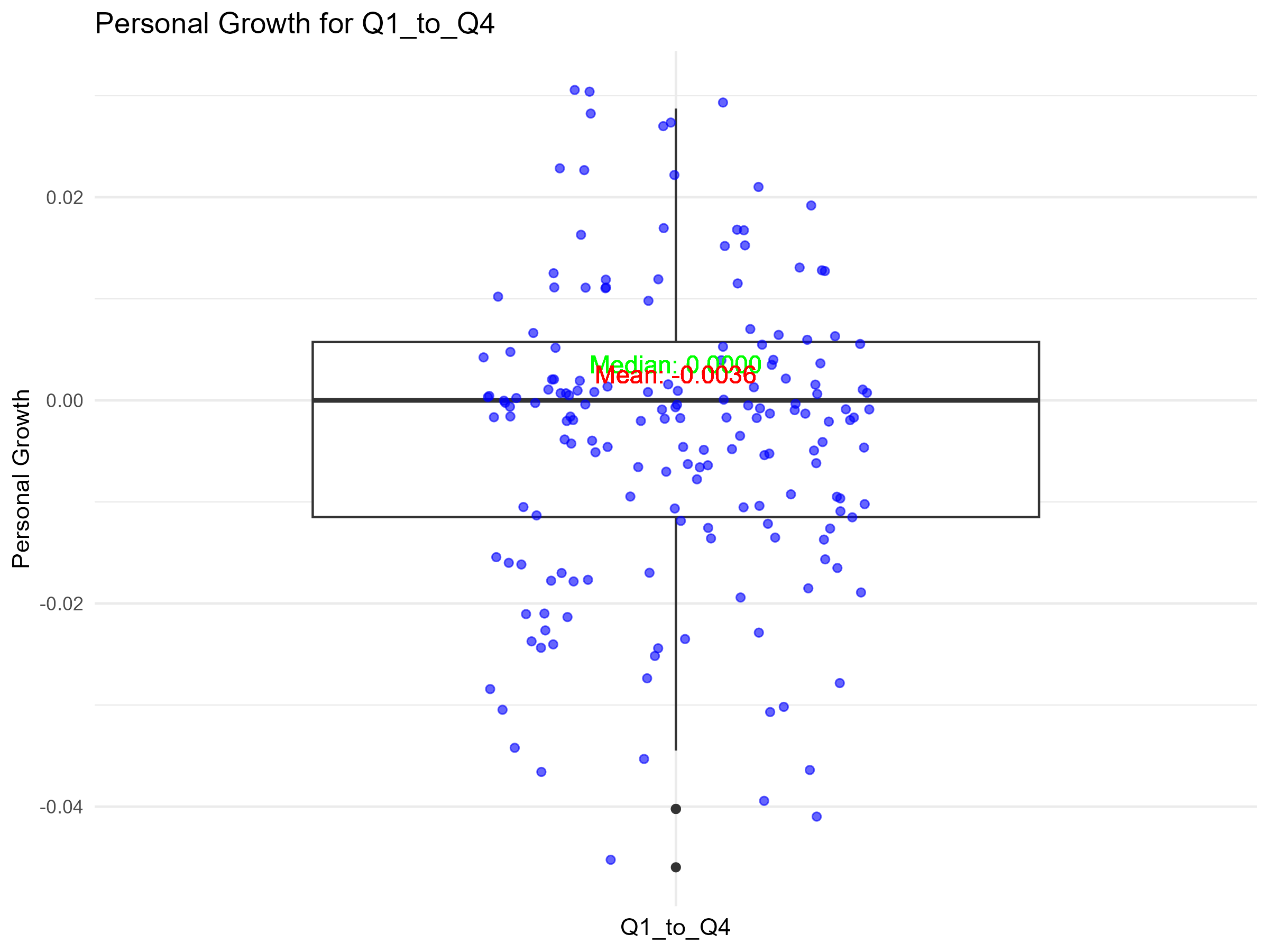
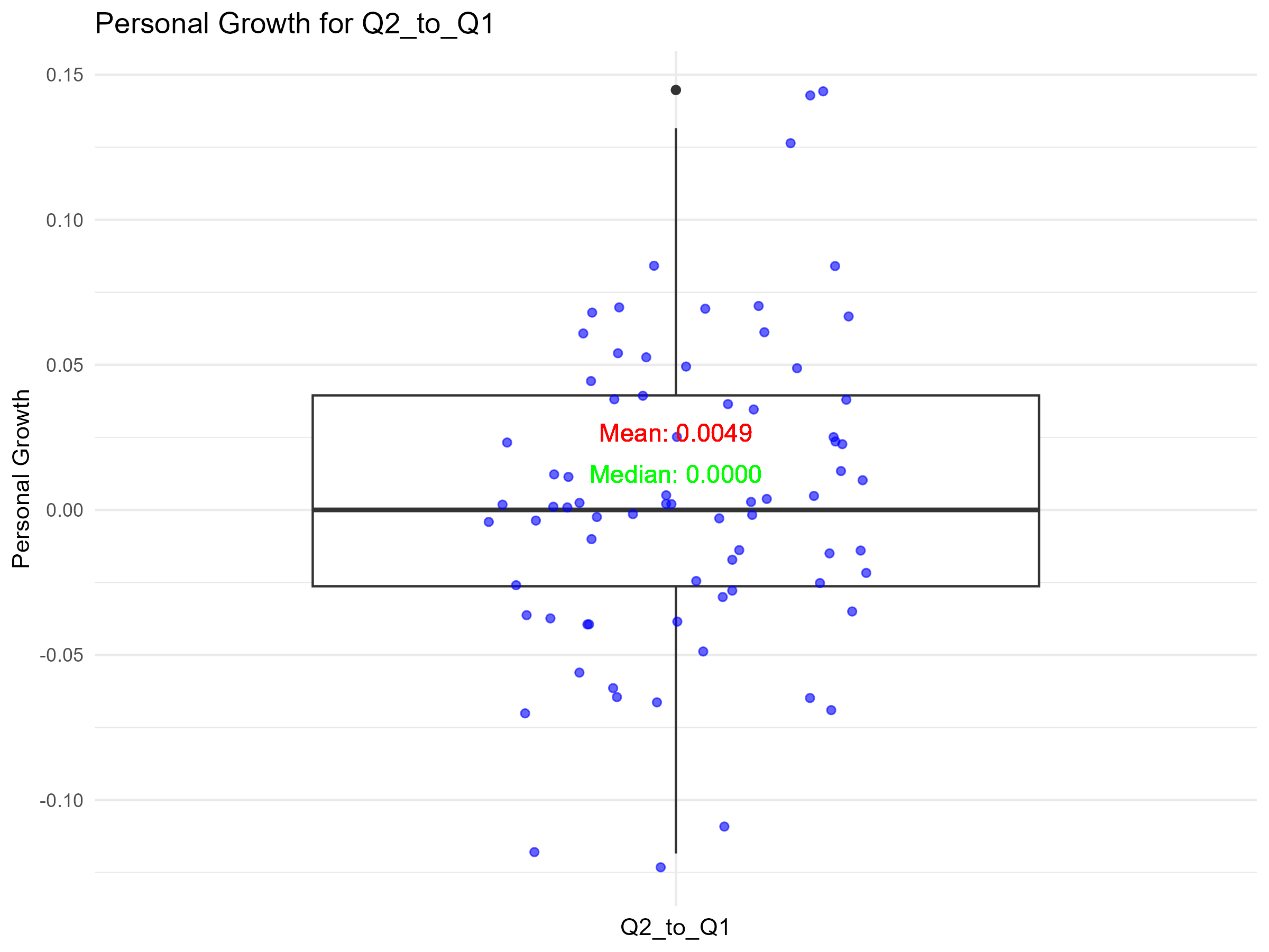
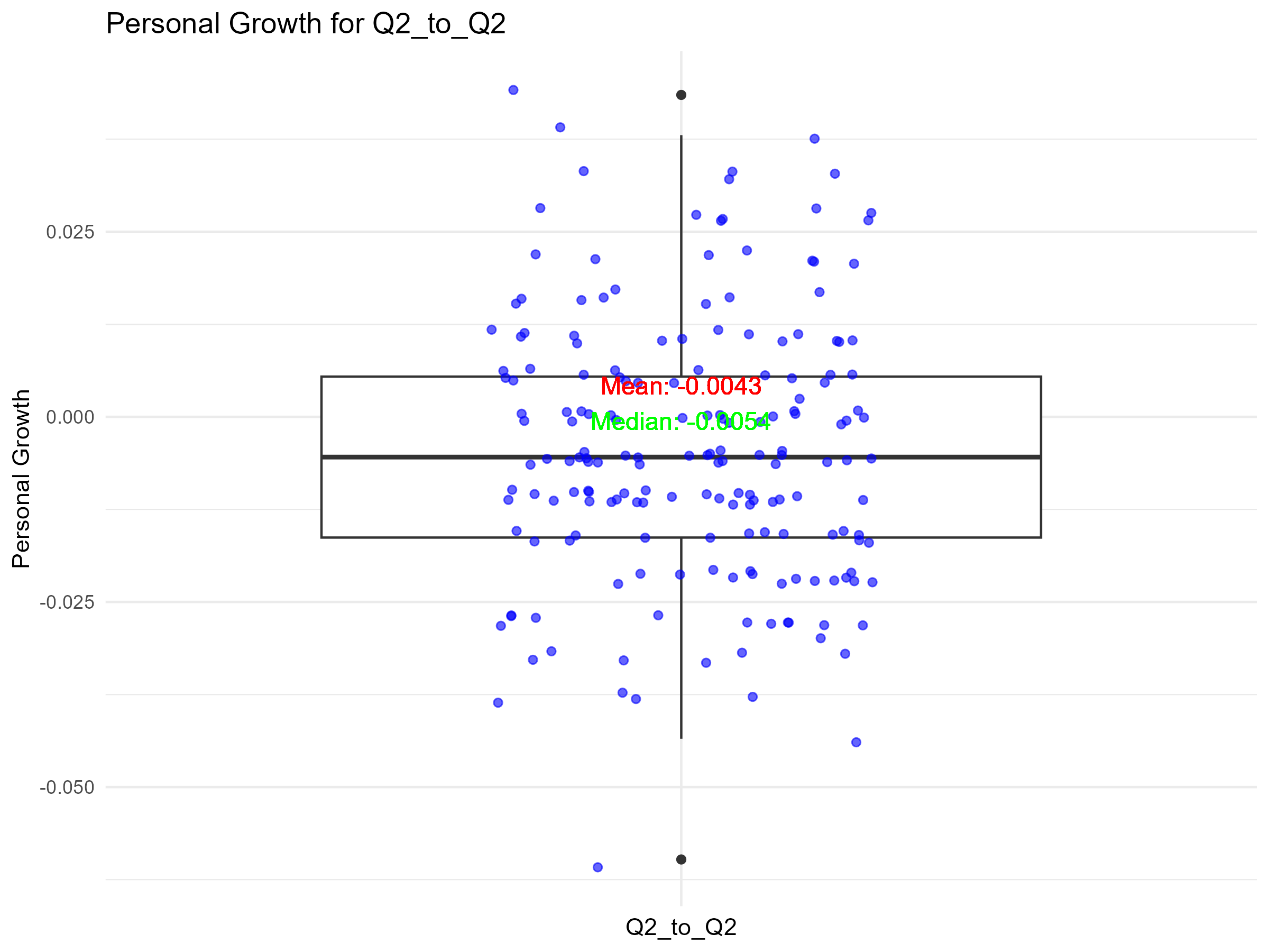
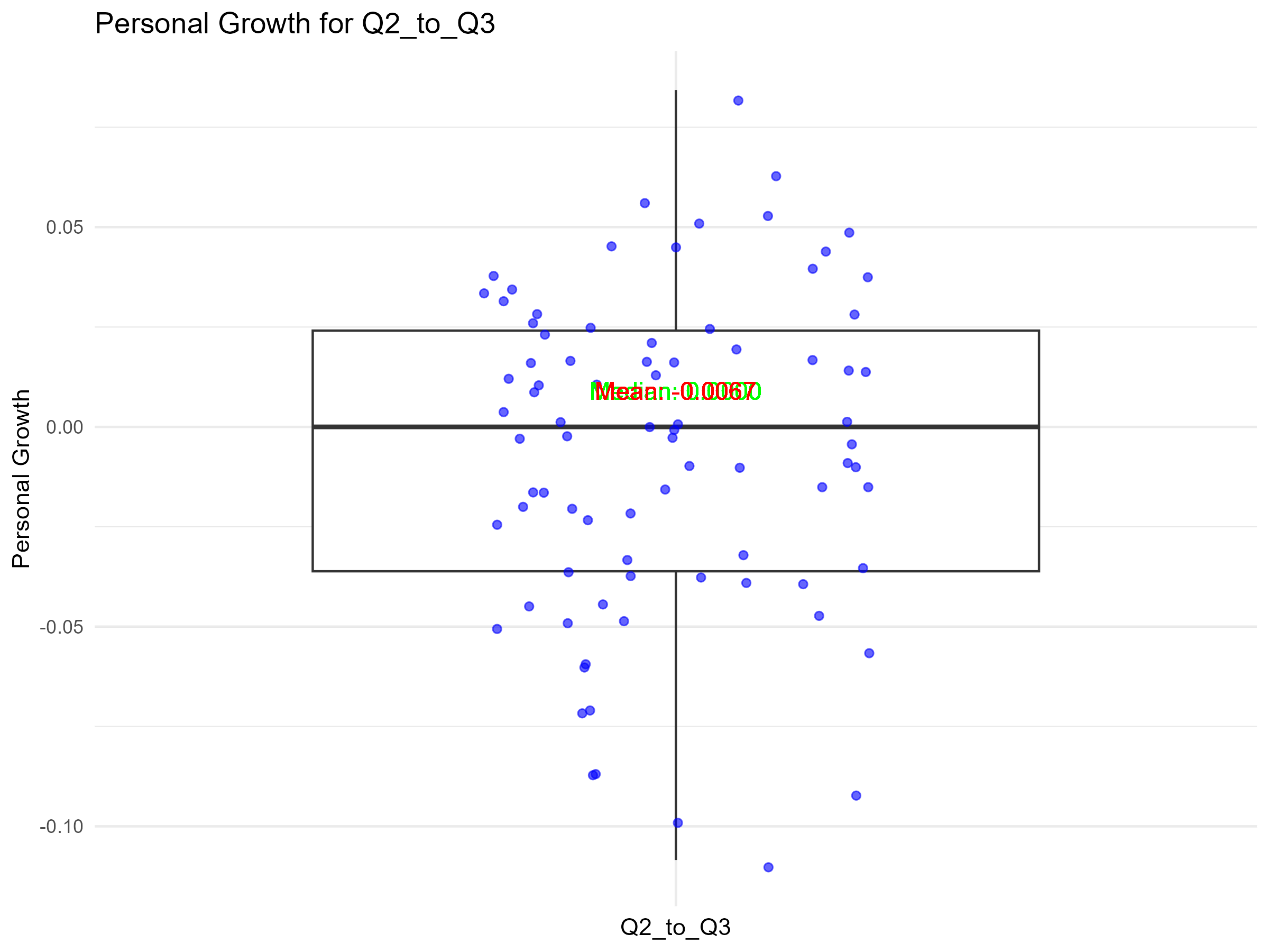
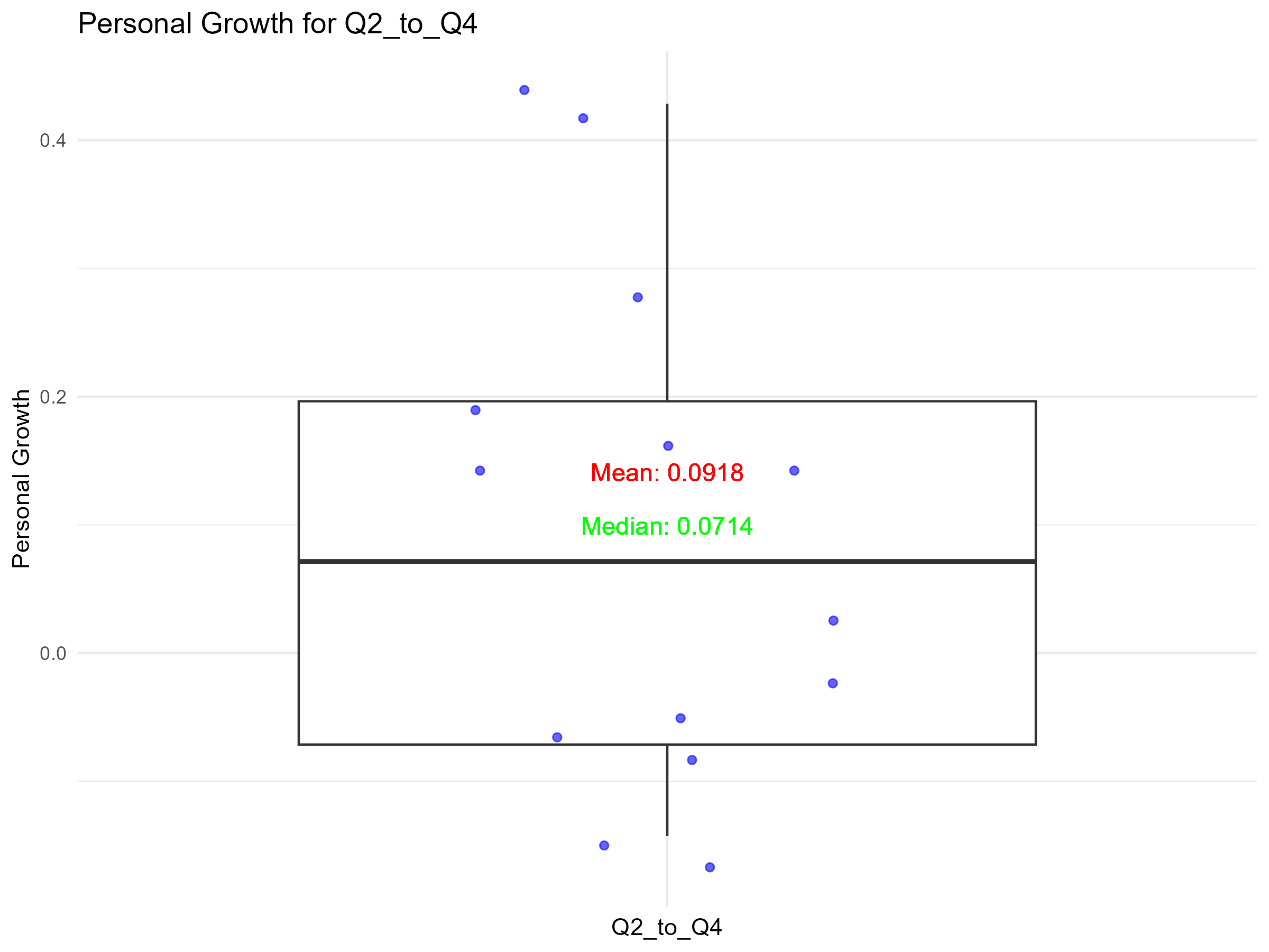
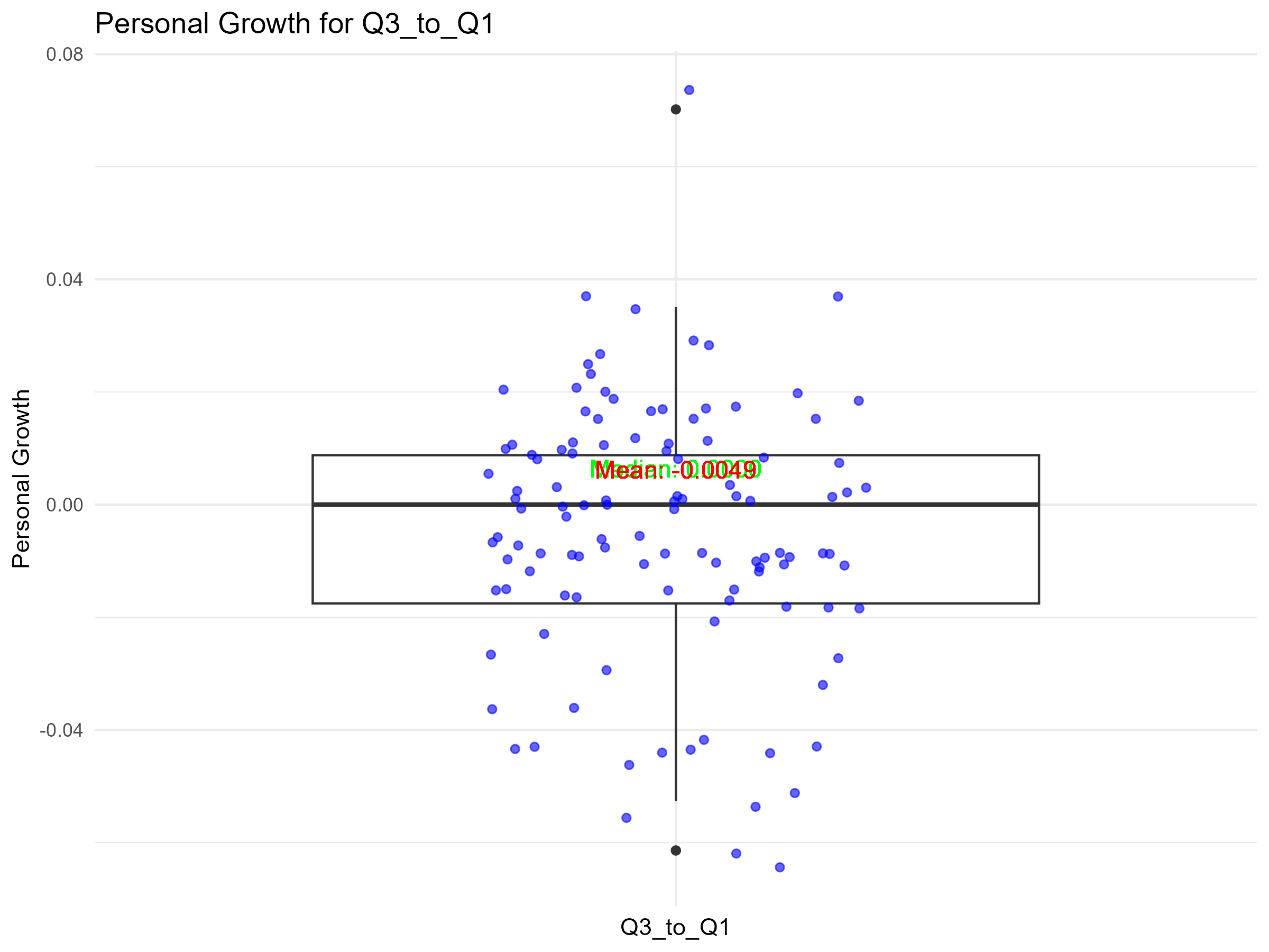
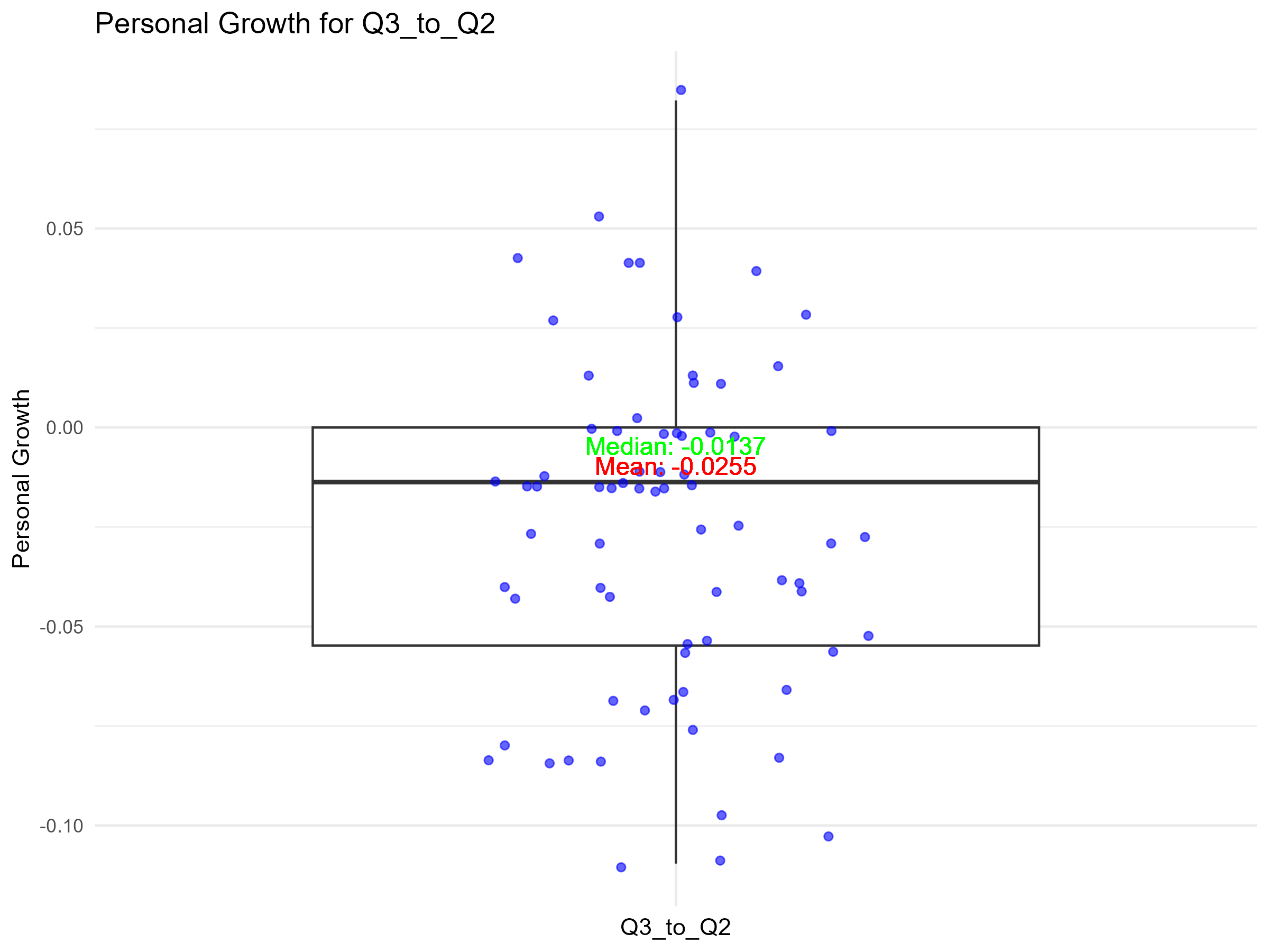
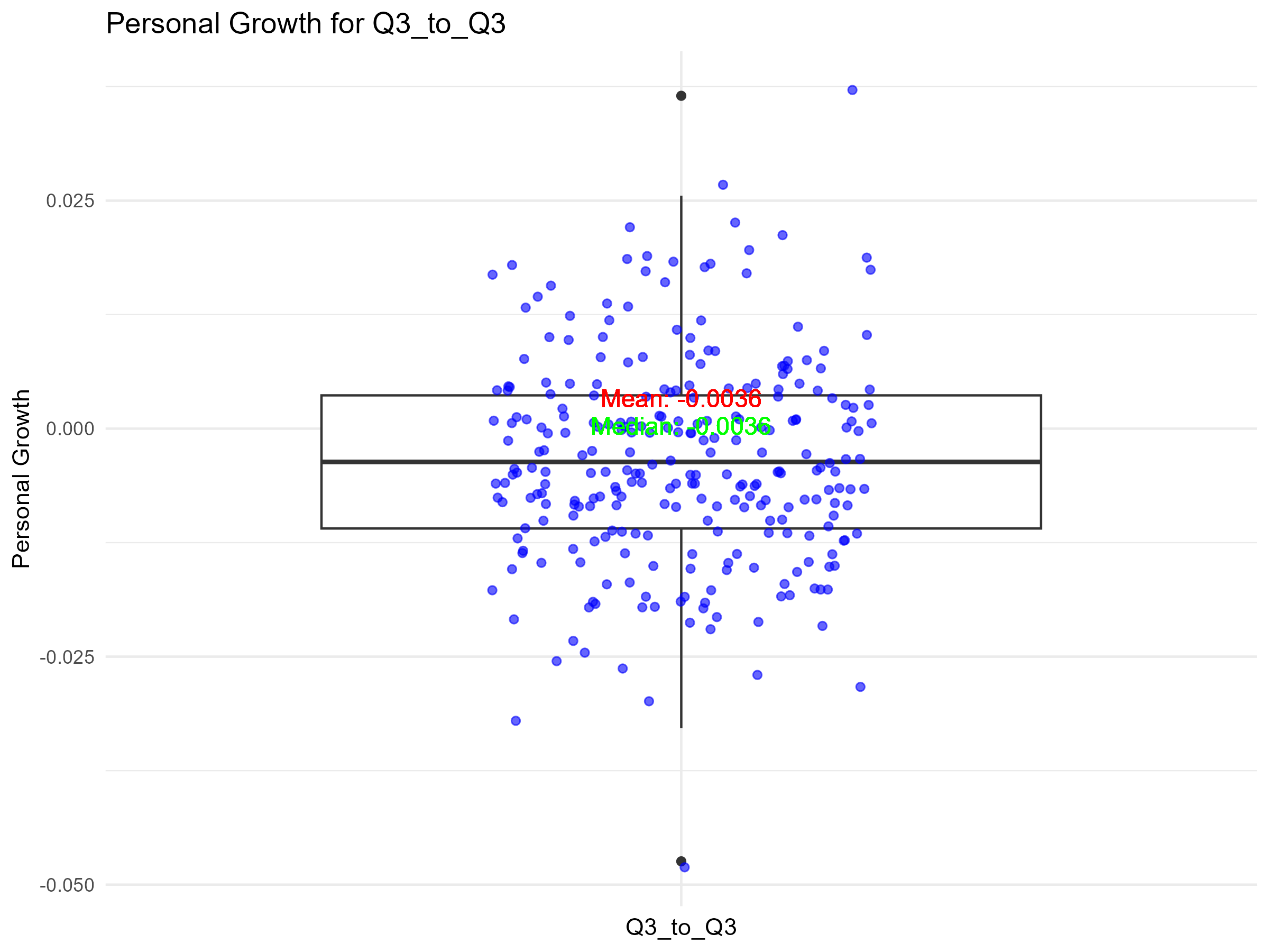
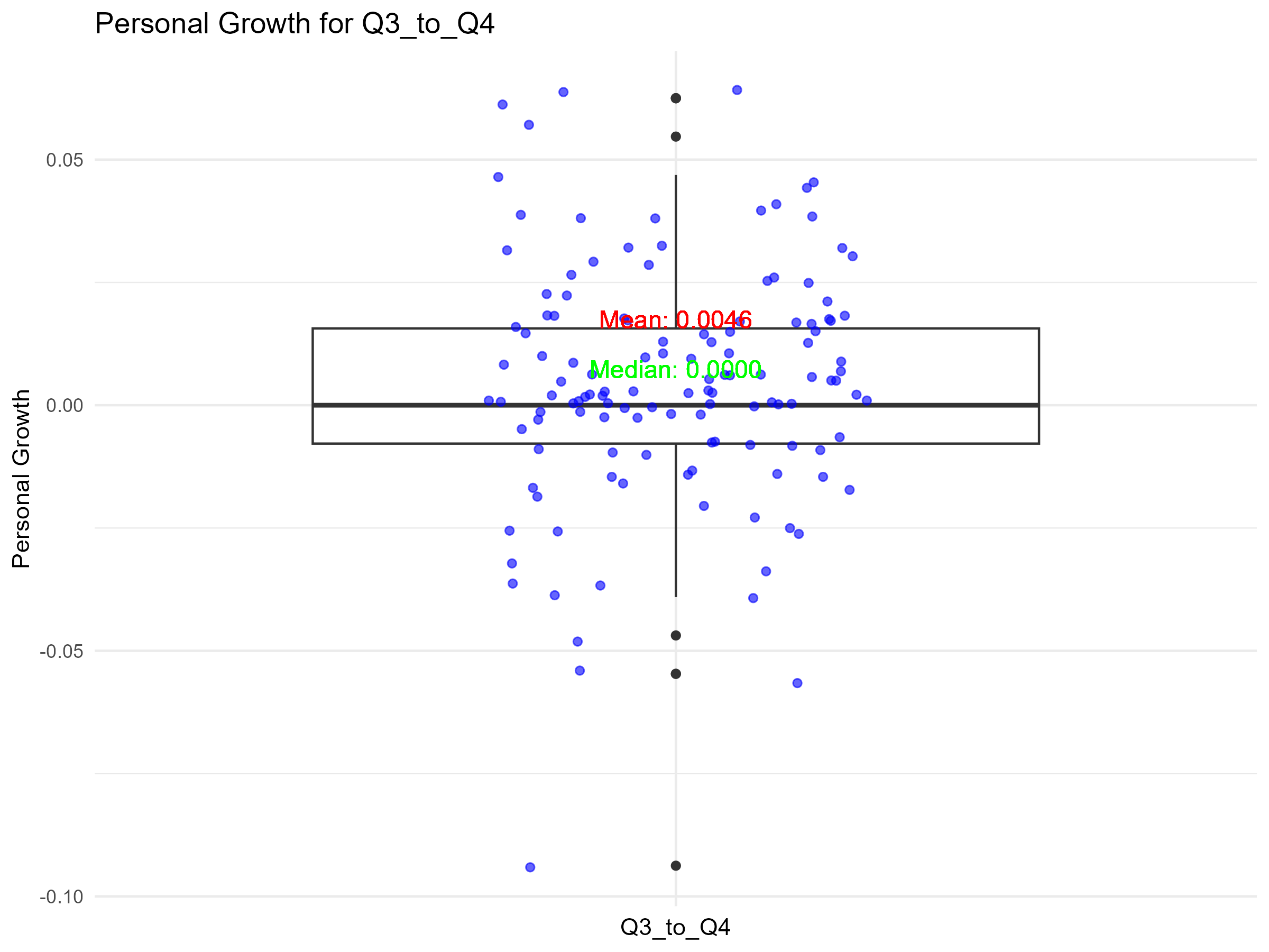
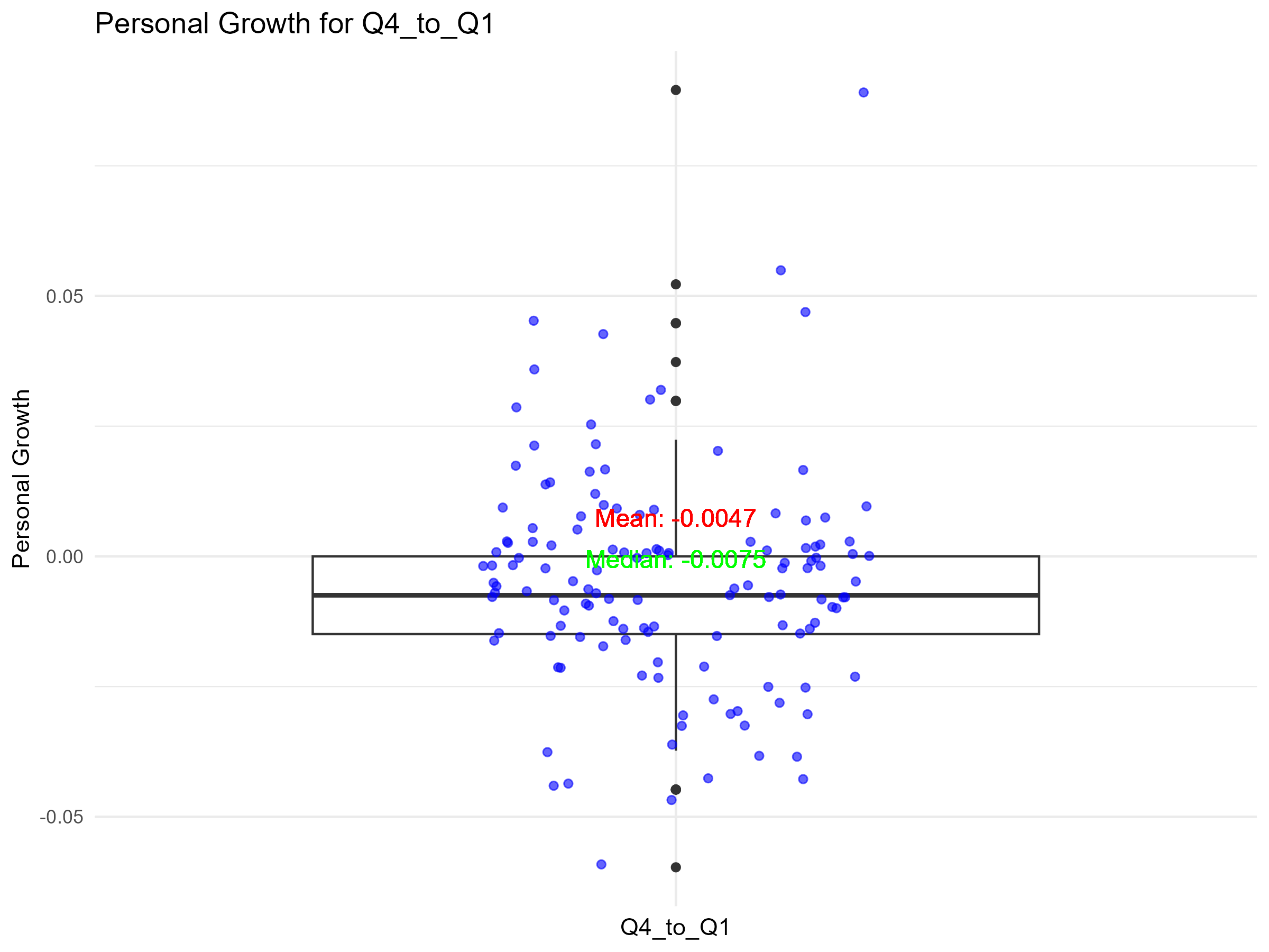
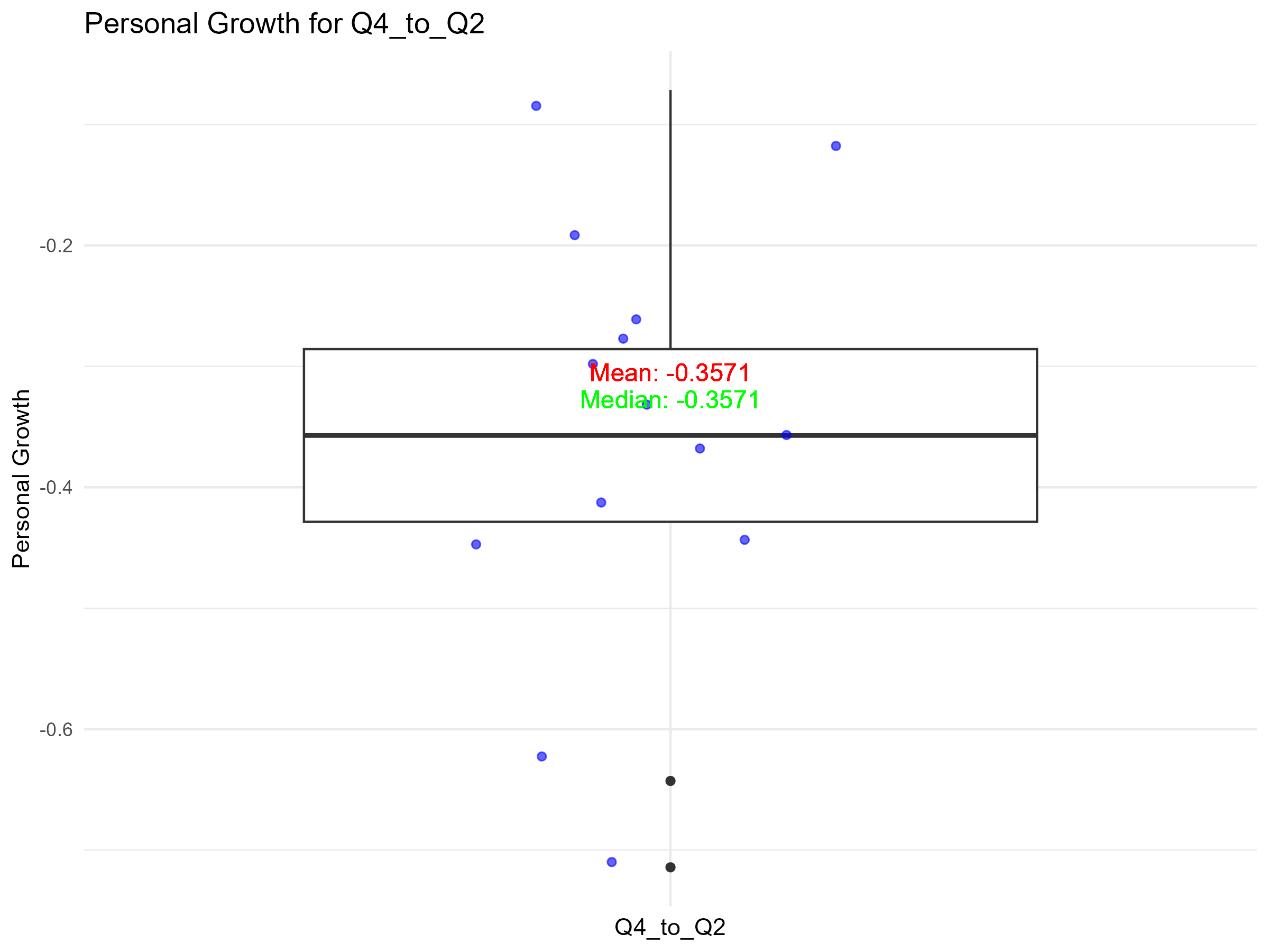
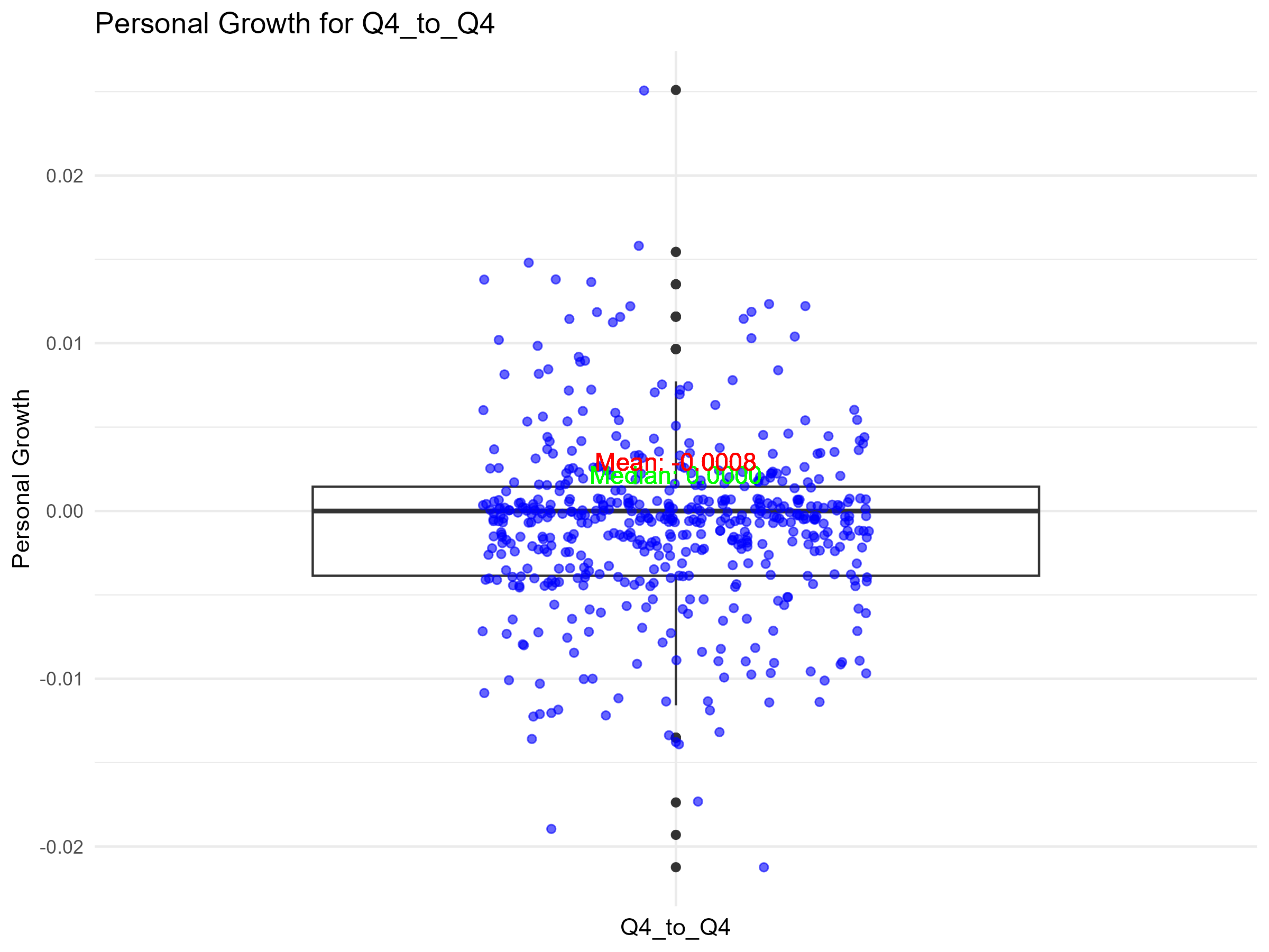
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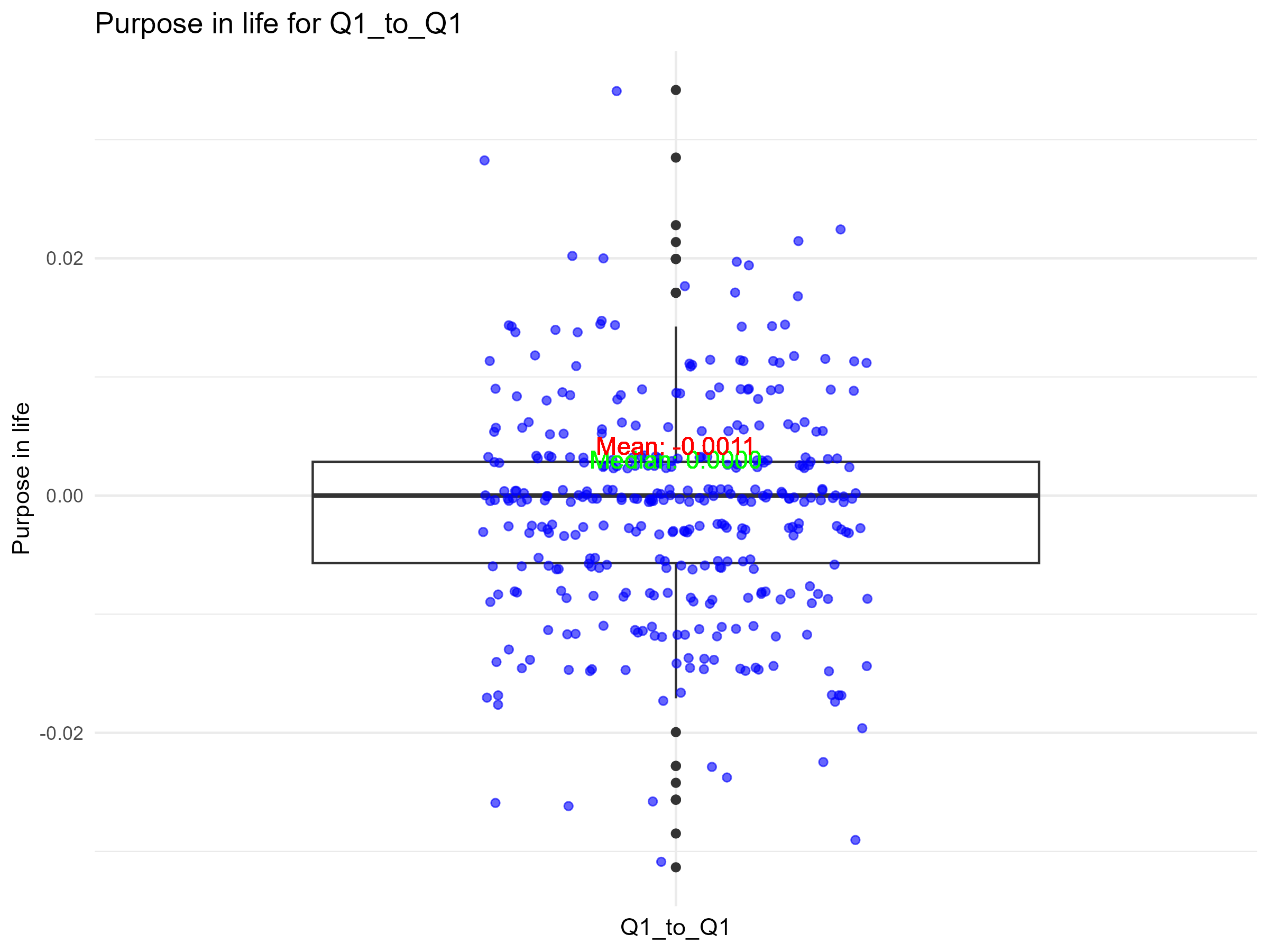
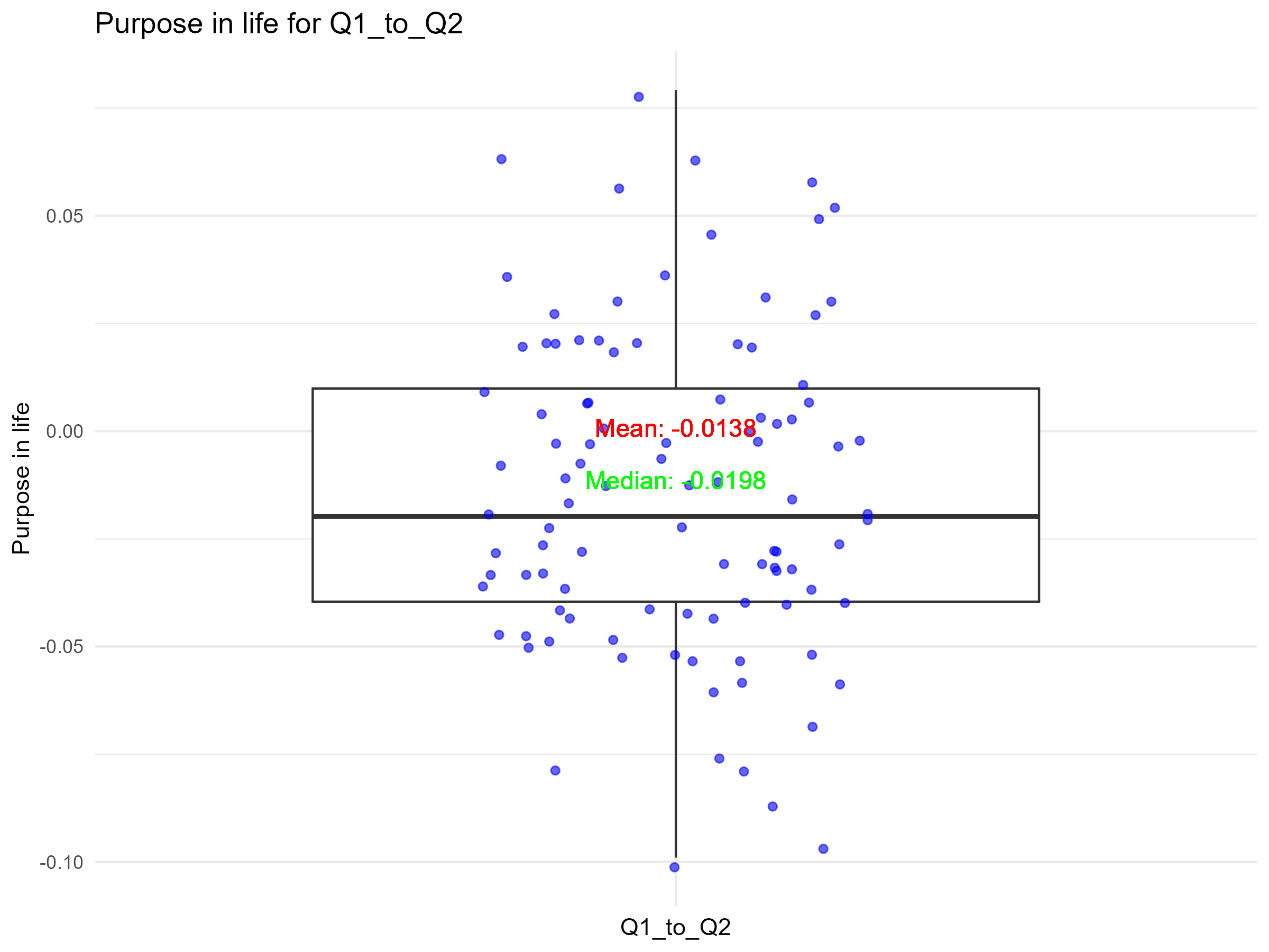
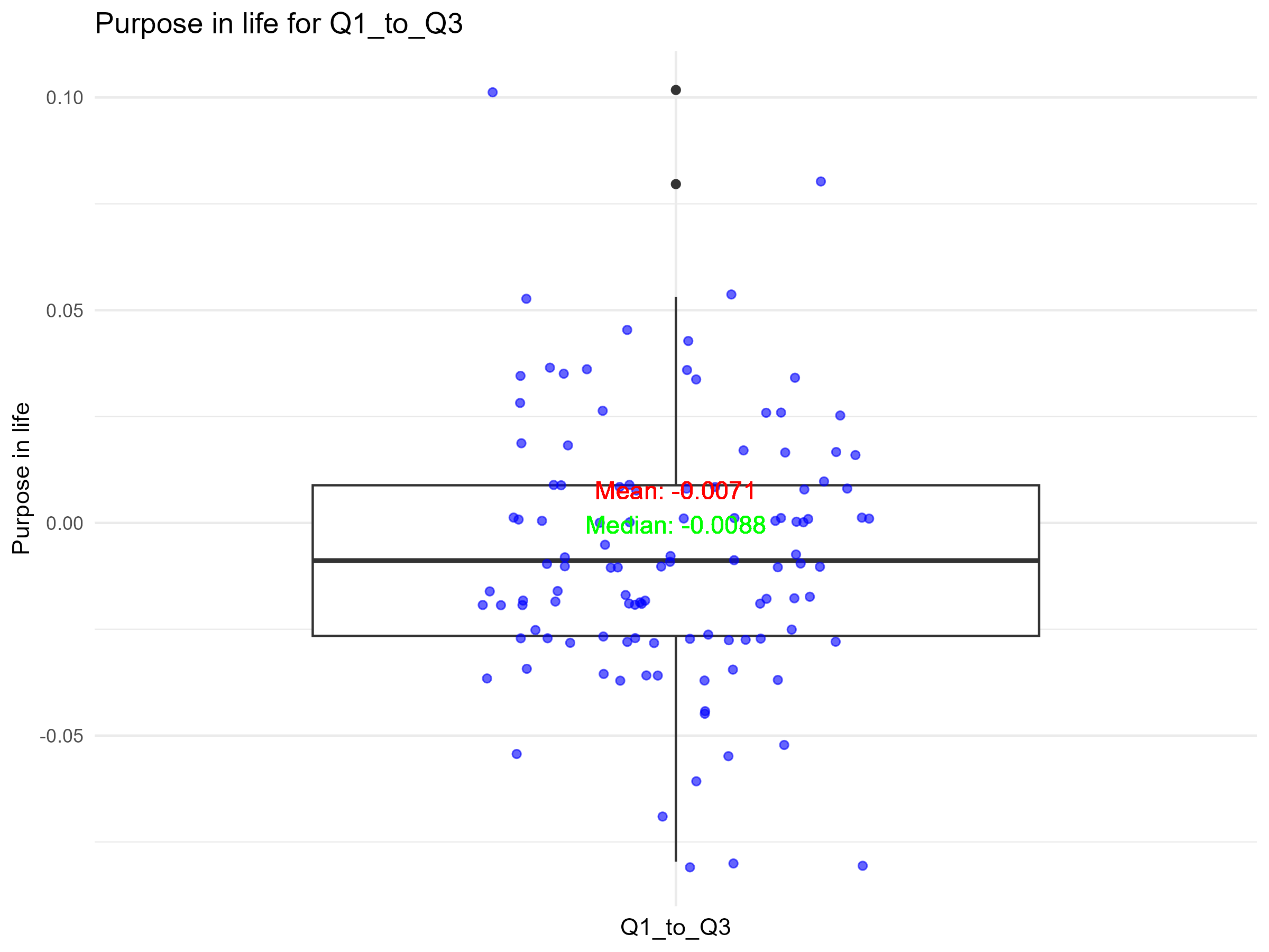
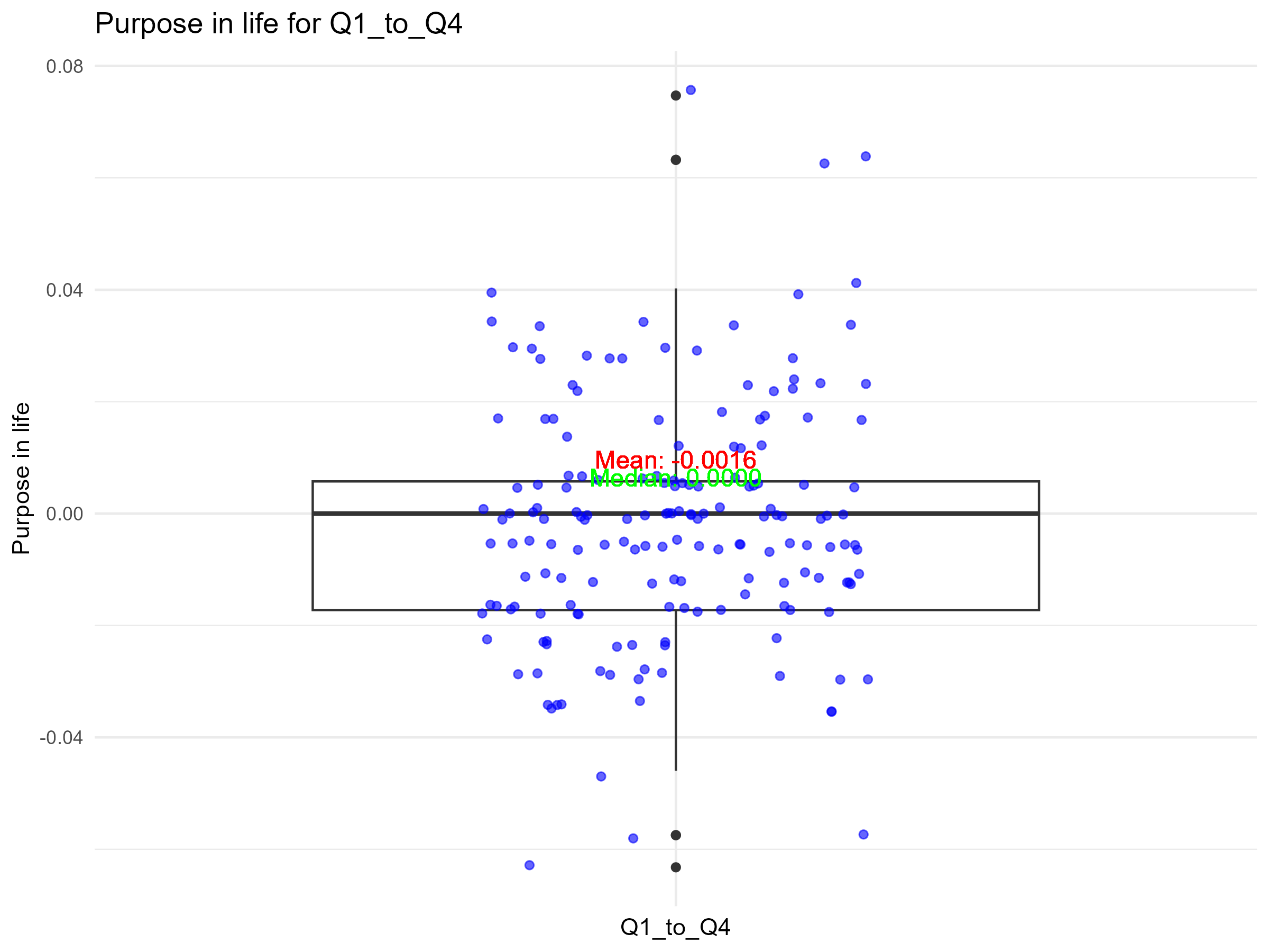
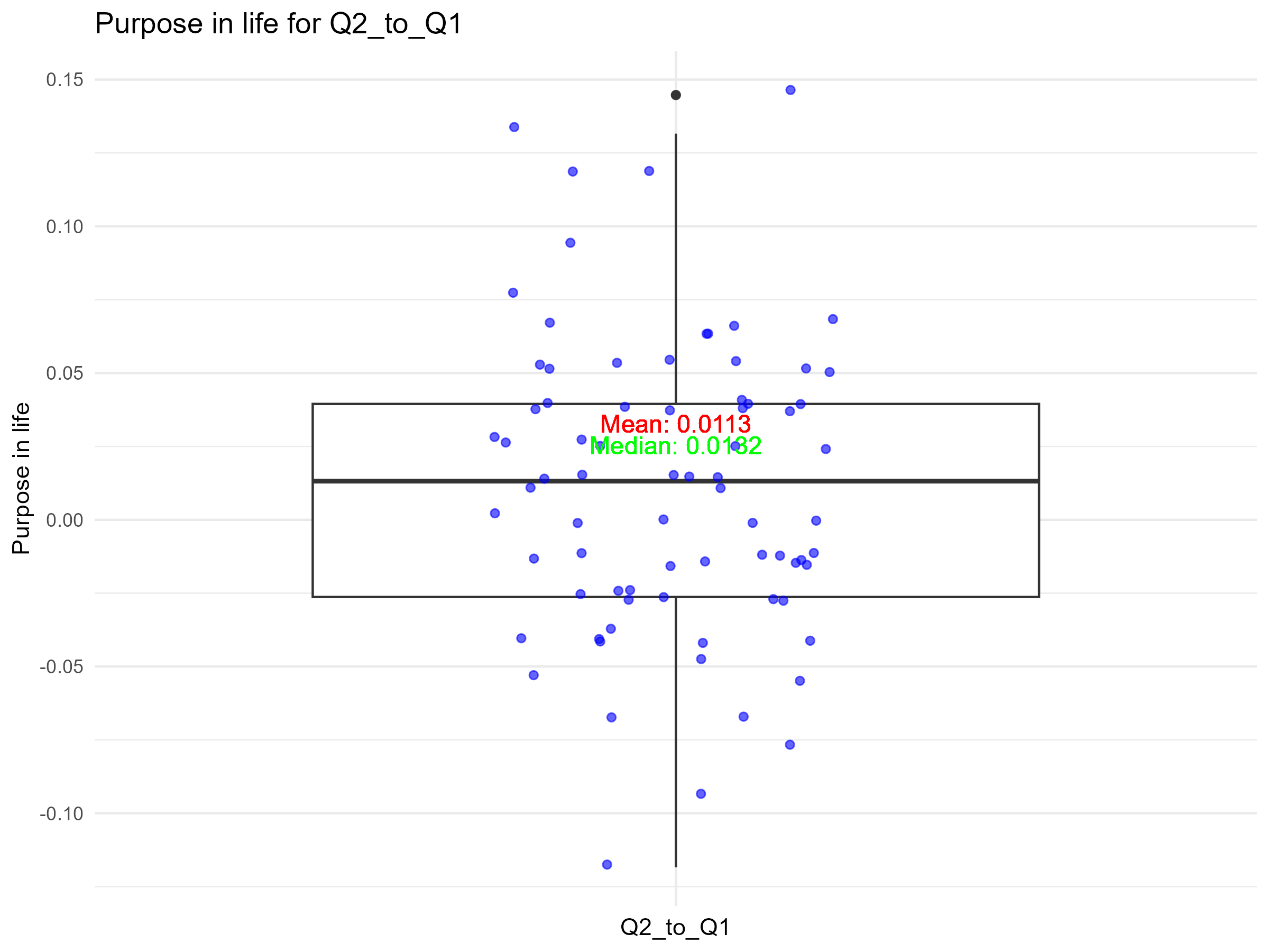
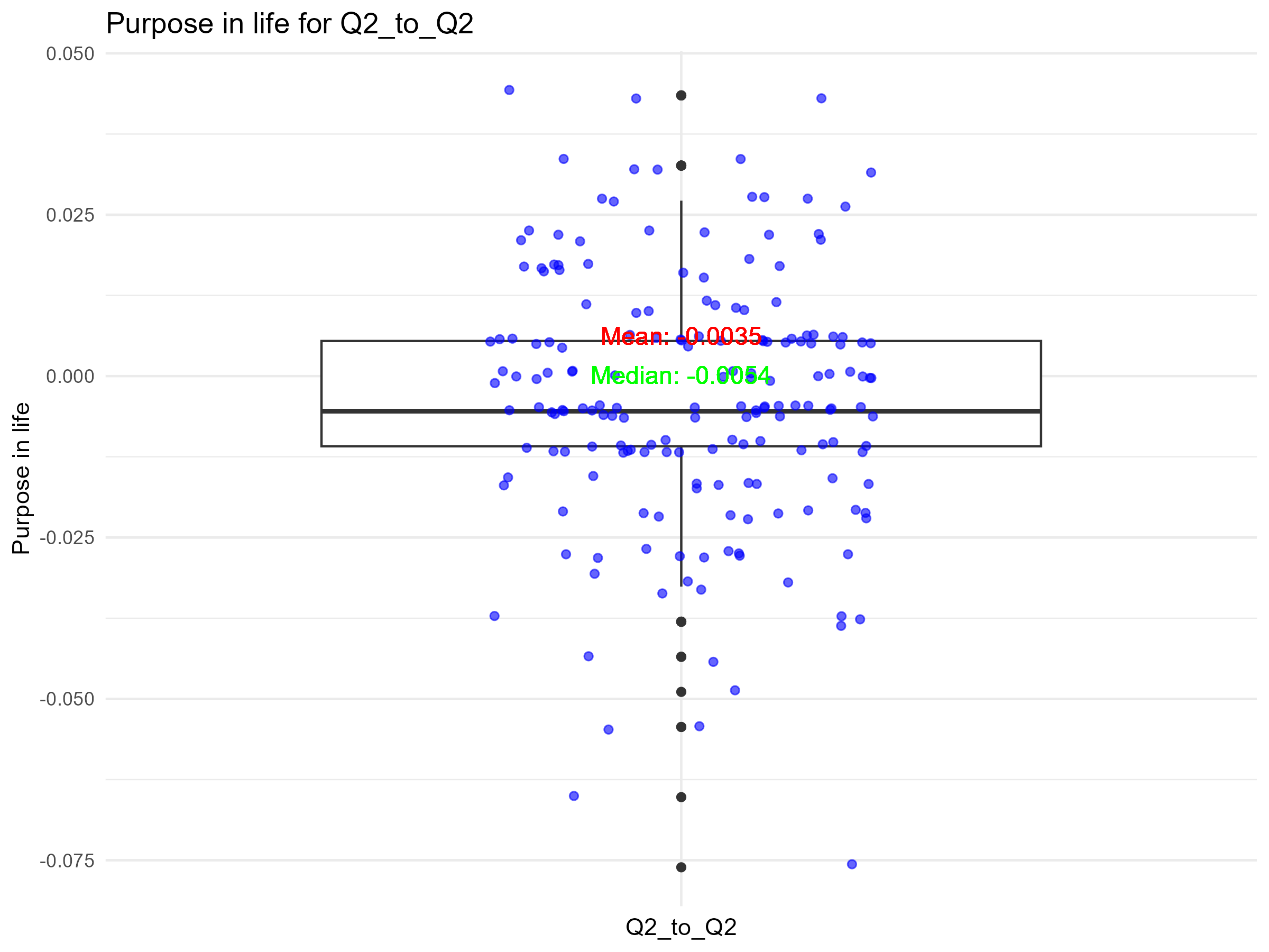
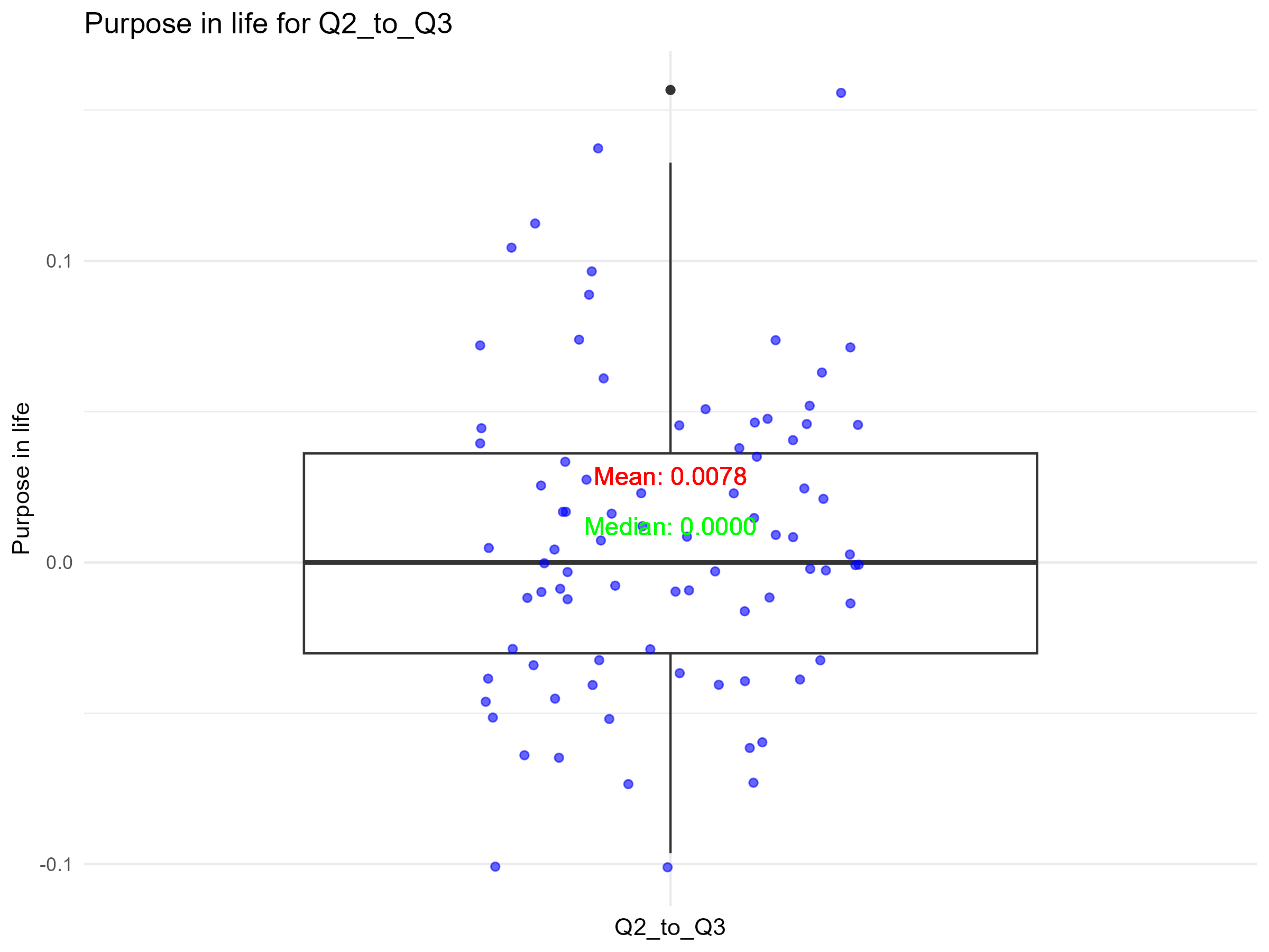
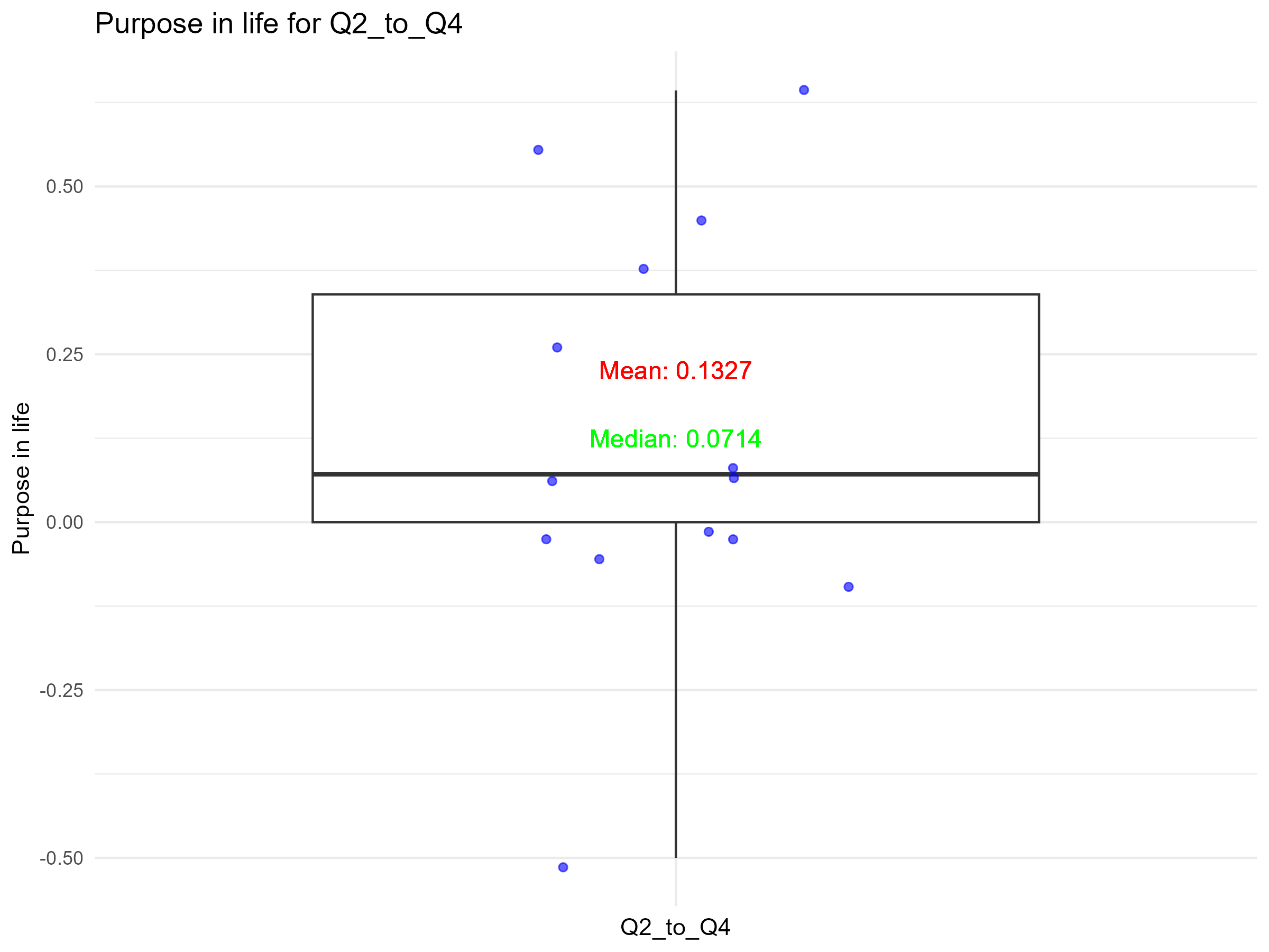
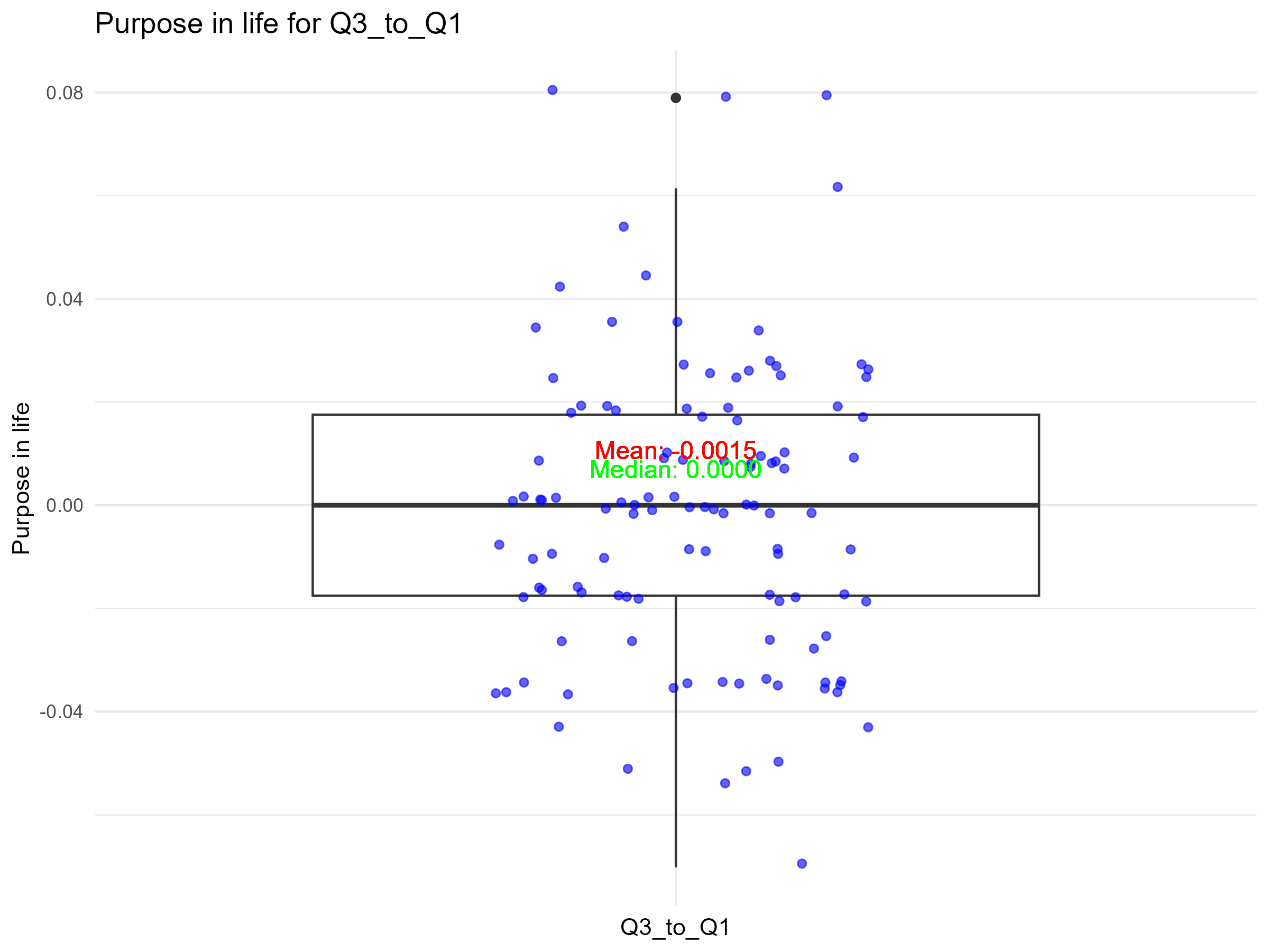
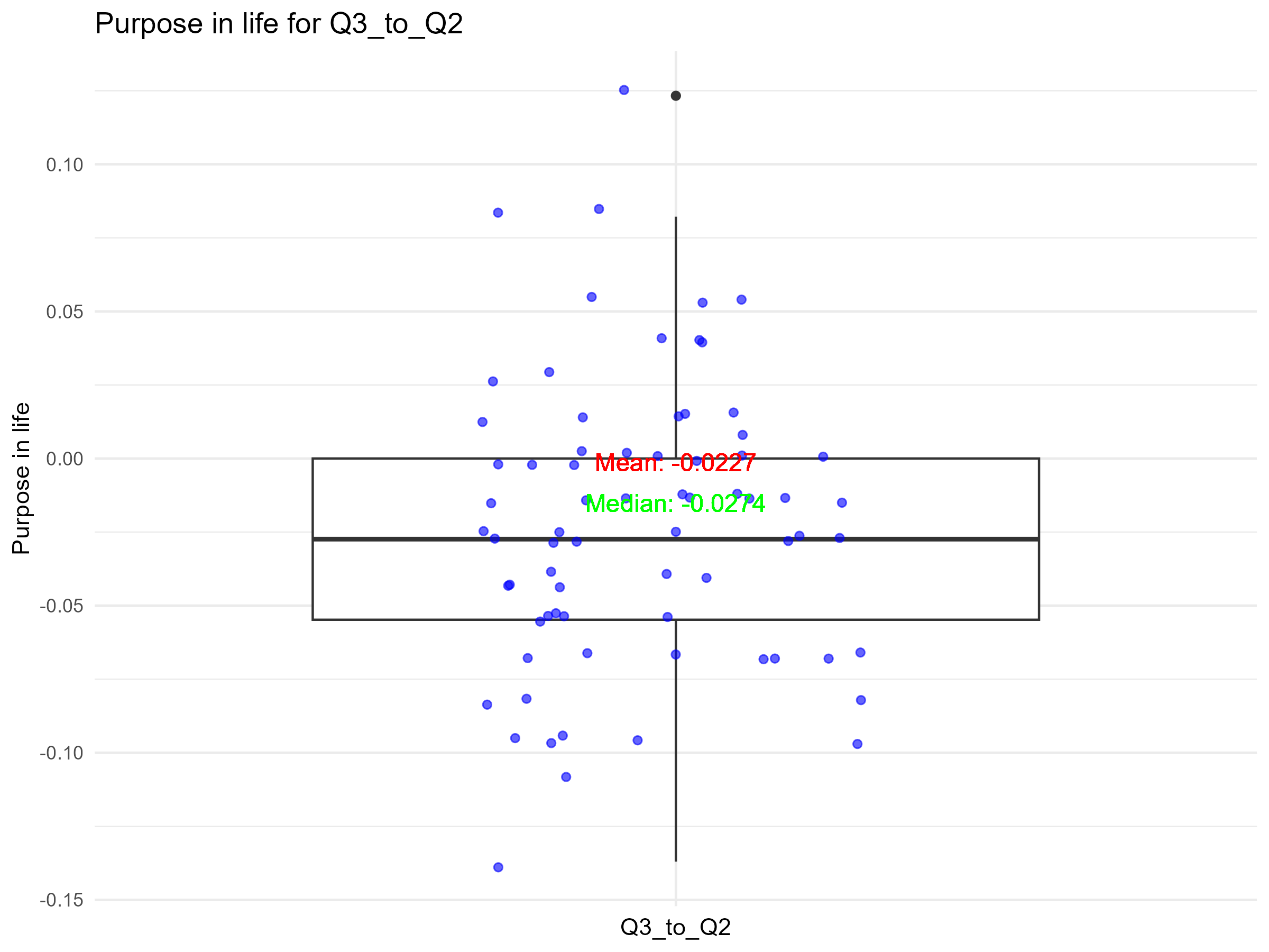
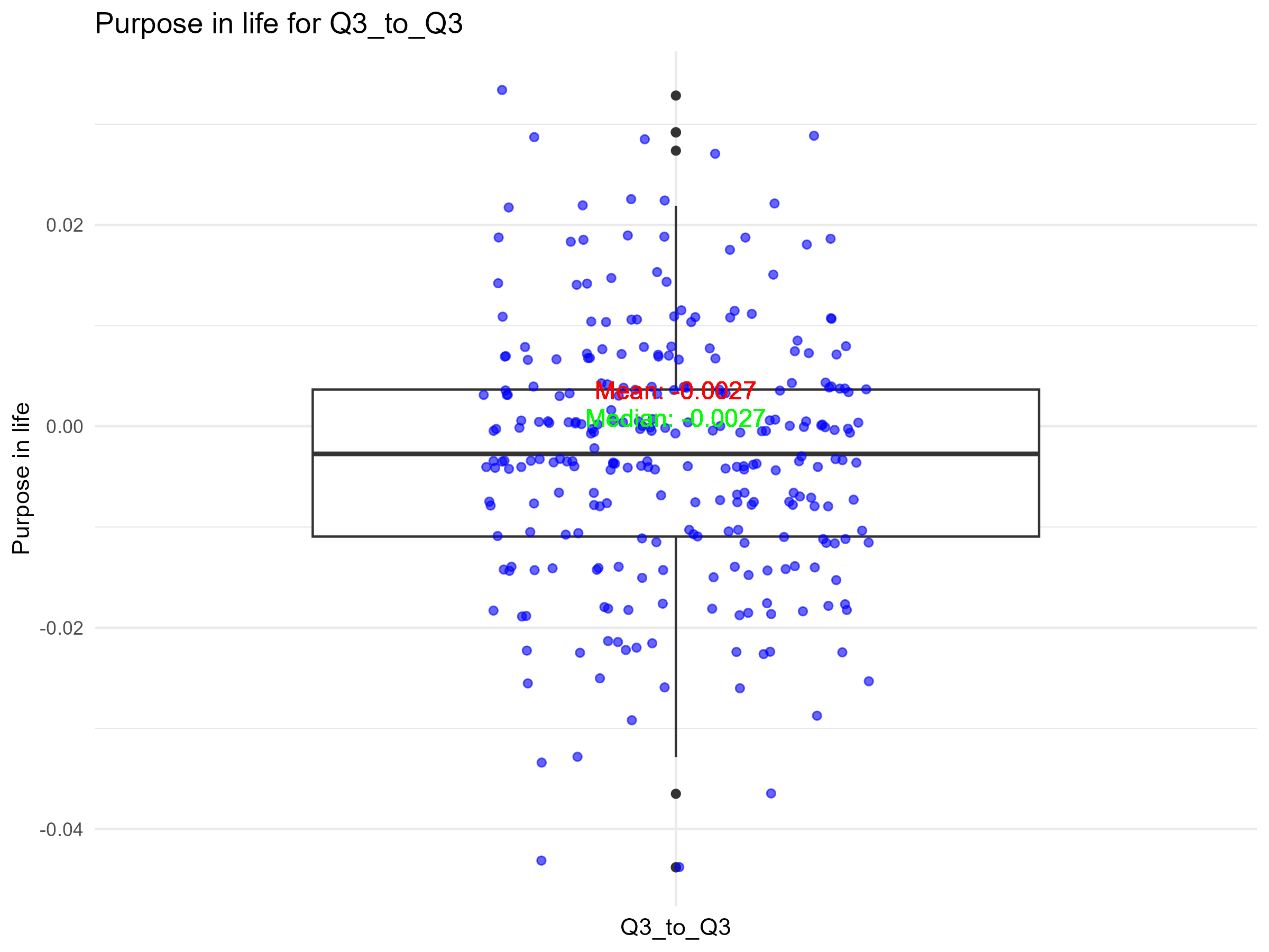
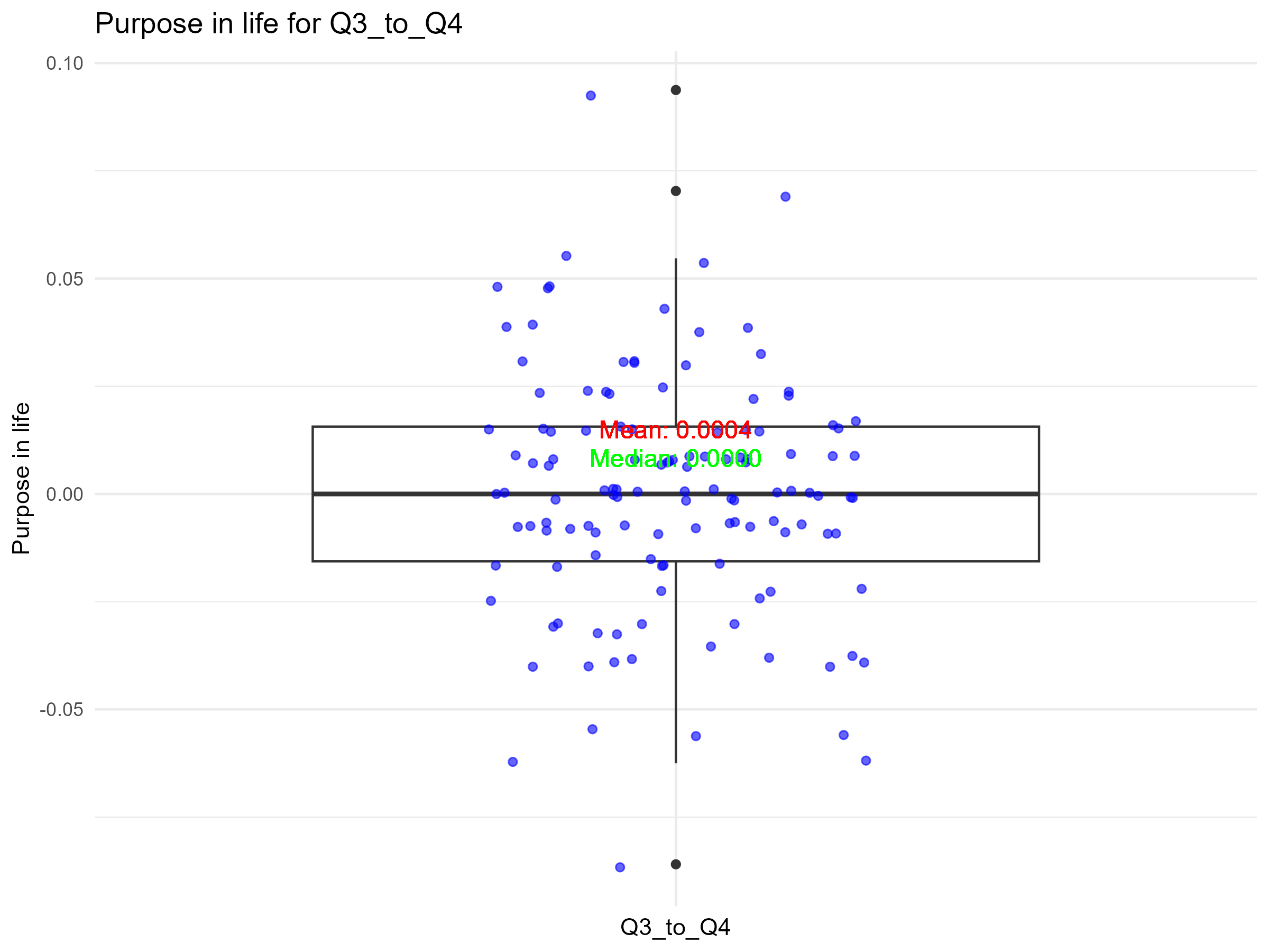
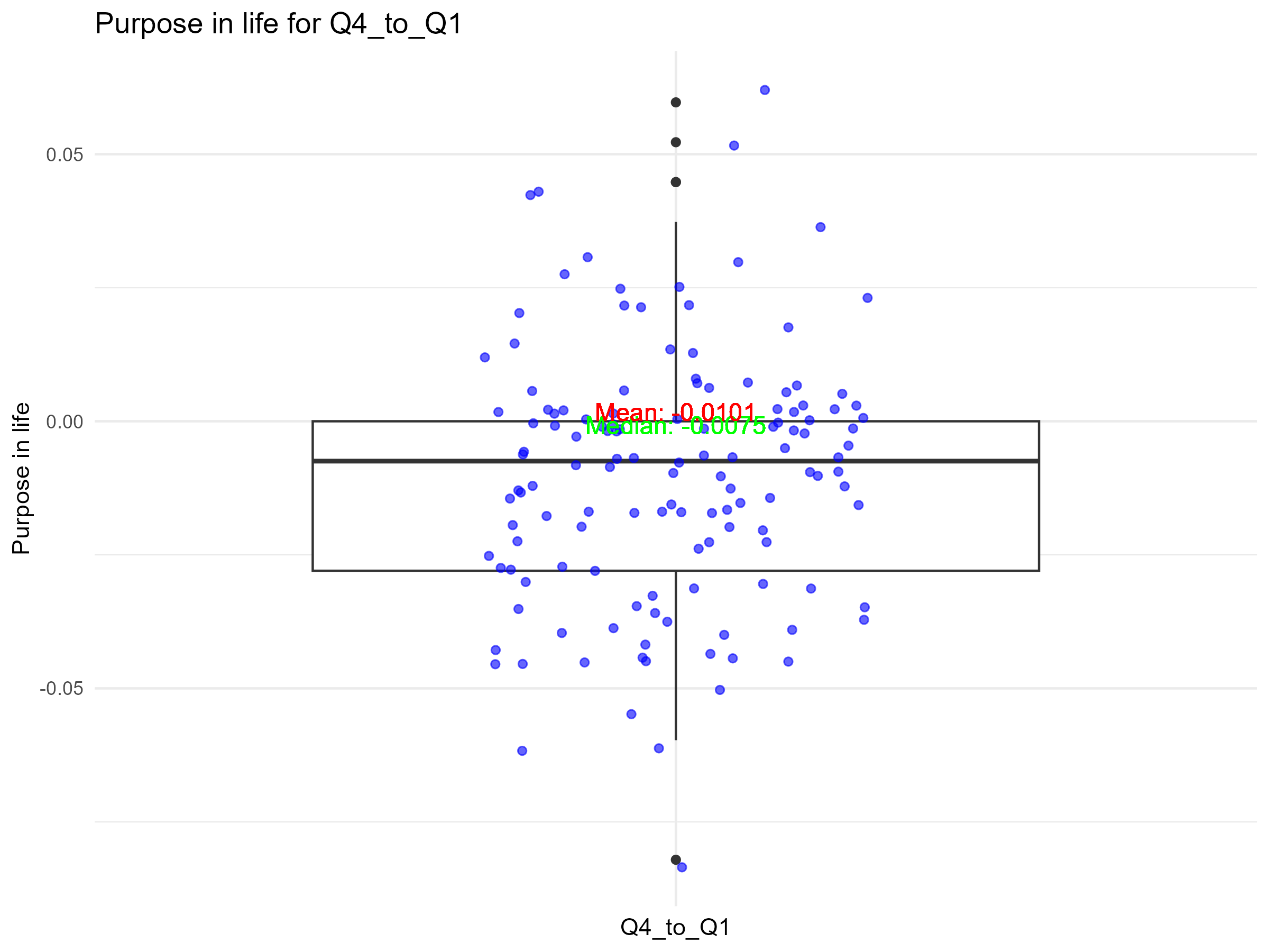
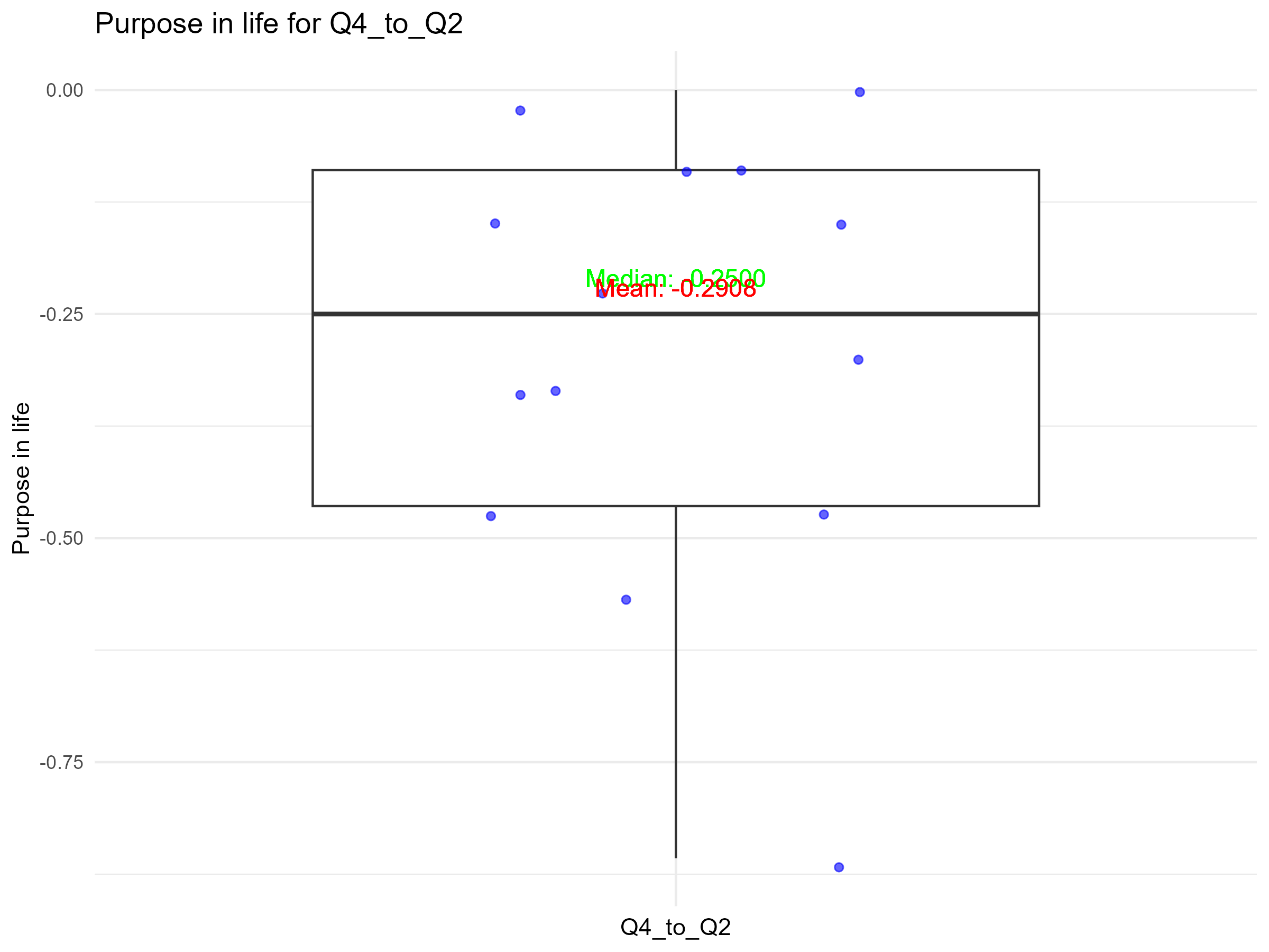
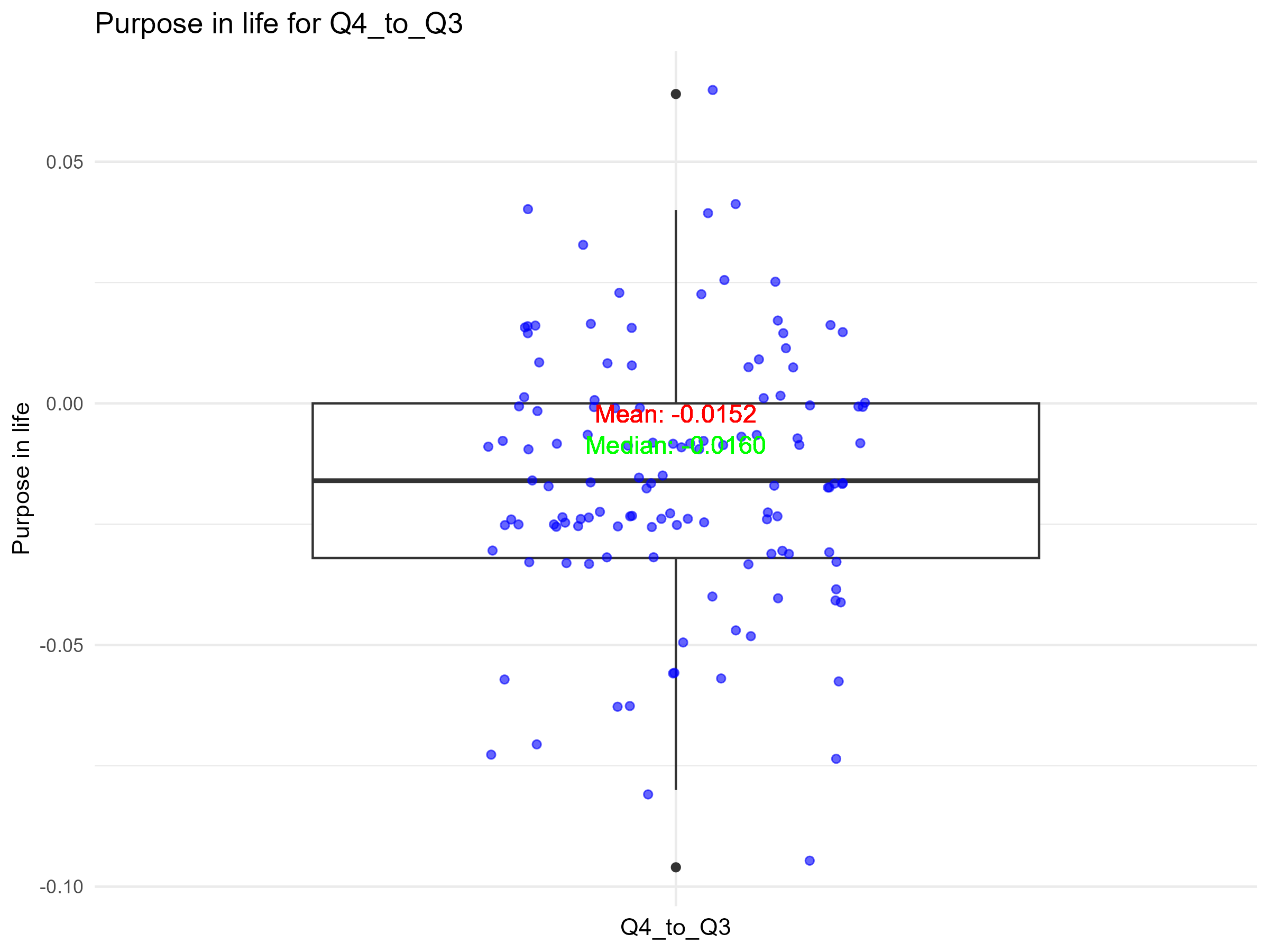
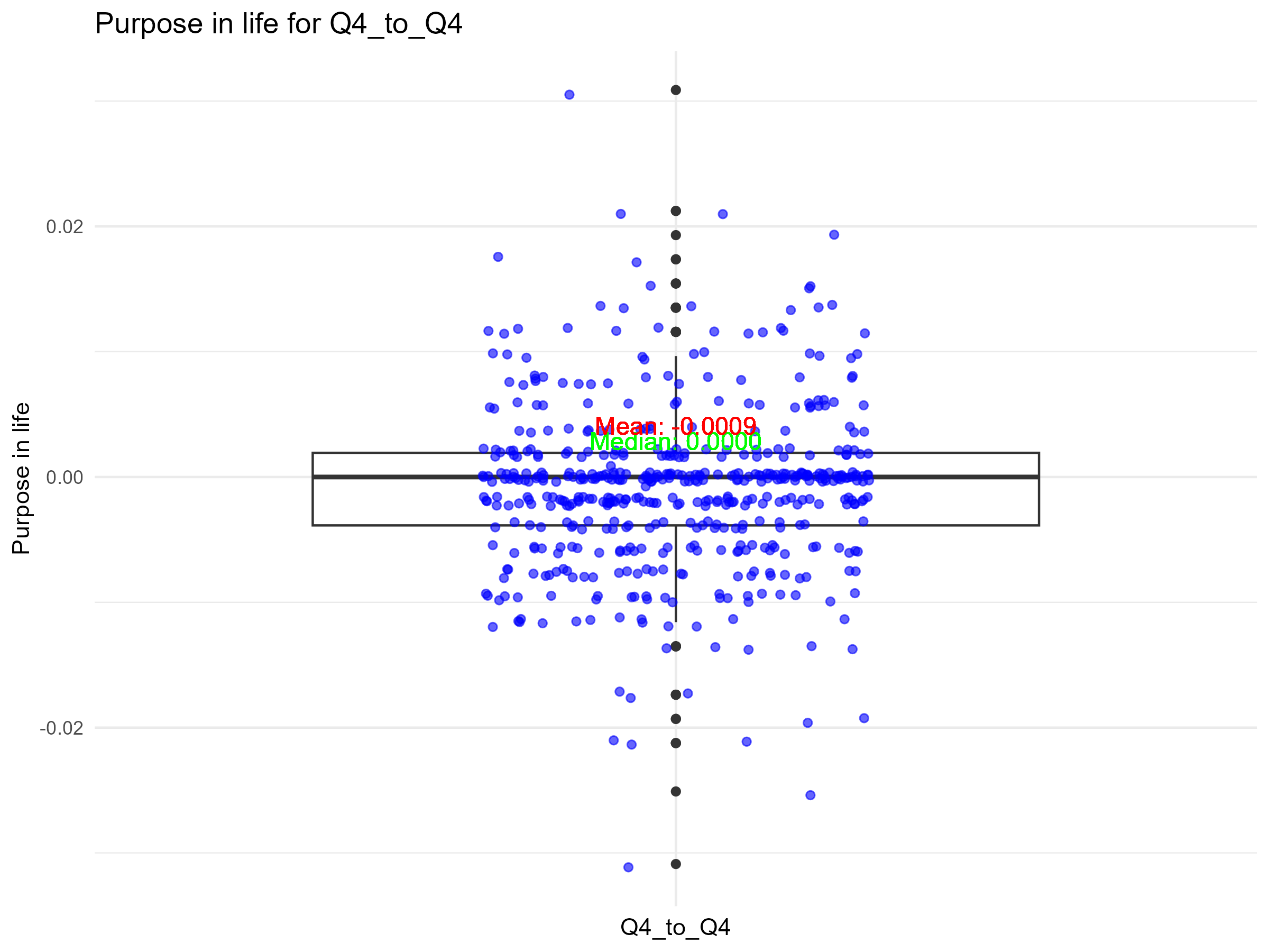




Personal Growth:



Purpose in life:



Self Acceptance:

