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Stat 528
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HW2

Q1

I have updated the writing as well as the formatting, along with updates to the graphics. I added the corresponding titles for each section, and clearly reorganized the language in terms of wording, paragraphs, syntax, etc. Moreover, I added clear indexing for the figures. I also added a mosaic plot that helps to show the trend of change in exercise intensity. For the tables, I avoided raw outputs as mentioned in the feedback and provided a more formal table result.

Q2

(a)

The objective of the study is to evaluate the effectiveness of captopril for decreasing blood pressure (as measured via systolic and diastolic). Therefore, it's important that we should be able to see the difference clearly, and we should be able to compare the two methods per patient.

The first shortcoming is that the table is completely unordered. We might want to look at the biggest difference for either the systolic or the diastolic measuring methods. Ordering the data in this manner can help us understand the trend and make quick comparisons. The patient number is simply an index and may not be useful if that is the sorting criteria.

Second, we might need to put the difference side by side for the two difference values. To do this, either we can merge the results per row by reordering the columns or double sizing the rows so the differences for each patient can be next to each other for both measuring methods. There will be other concerns though, such as comparing within one approach might be slightly harder. But overall, it's possible to see how the two measuring methods can have different values in each column.

Third, although there can be seen a decrease, the magnitude is on absolute level. It might be helpful to include percentages such that we can observe how much percentage points the drug has done the effect.

One possible addition is a placebo or control group to the data to compare the results, but this is more systemic rather than in terms of the table.

(b)

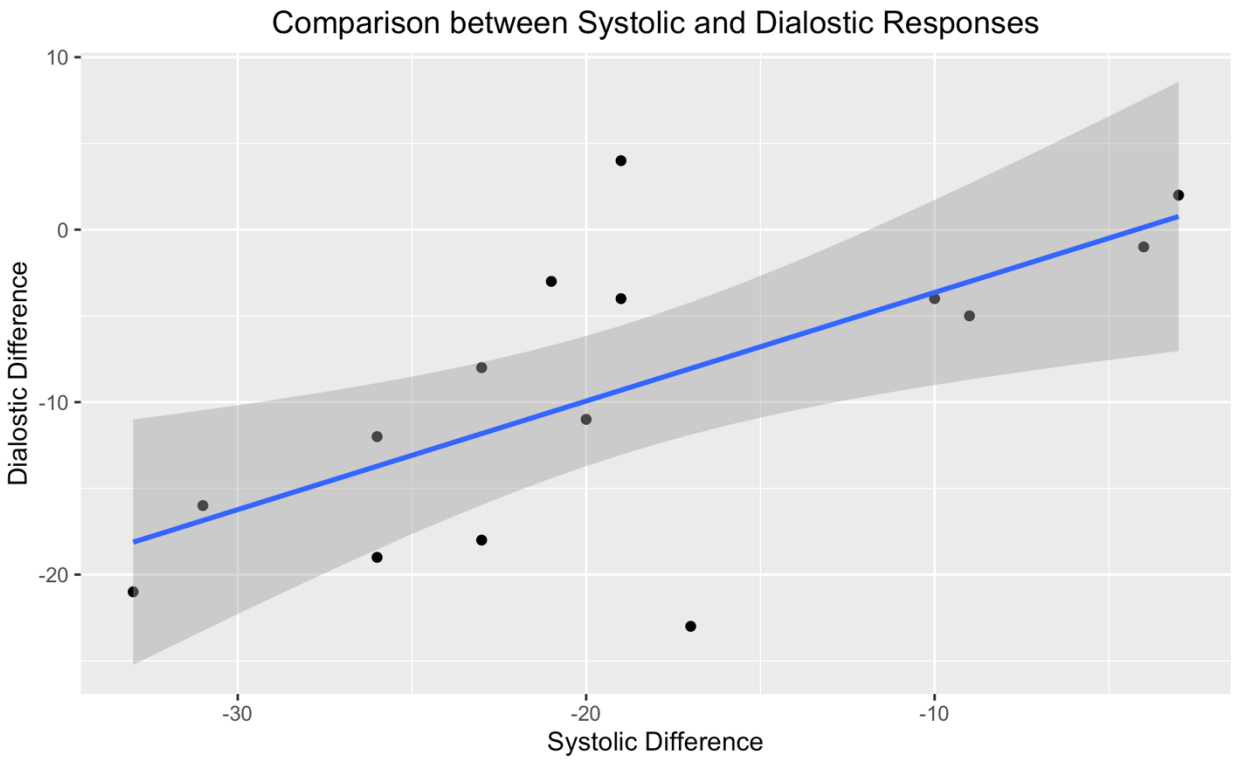
Regarding the comments I had above, we can change the table correspondingly.

First, we might order the table by the difference calculated/measured with a systolic approach. This way, we can see in descending order the comparison between the two approaches, as well as how much the effectiveness has kicked in.

Second, possibly reordering the columns, so the columns are grouped first by before, after, difference, and then grouped by the measuring approaches. We can further construct the table by using dashed vertical lines to indicate the different categories. This facilitates our comparison of the results.

Third, adding in percentage columns for both approaches will help readers to understand the effectiveness.

(c)
The following plot shows the comparison of the two responses in terms of their difference. The trend line is the simple linear regression linear with the shaded region being the confidence interval.


Comparison between Systolic and Dialostic Responses
Dialostic Difference
10
0
-10
-20
-30
-20
-10
Systolic Difference