

Report on Labs 6/7/Projects

More on Interaction Effects:

Remark: In case we are dealing with balanced design with size 1, that is only one observation per cell, cell mean is a well-defined object however cell variance (equivalently cell standard error) is not well-defined. Degree of freedom of interaction effect would be zero which leaves the test for significance of interactions nonsensical. In this case we only can assess interactions graphically (using interaction plots). This can give clues about whether there is evidence of interaction even if we cannot tell its significance.

On outliers while performing regression analysis

Can we remove outliers when performing the regression analysis?

The answer is that you can do so only if you have a valid reason. Leaving outliers out simply because this improves the results of the regression is not a valid reason. Possible arguments may include the authors following a similar procedure, or having a reason to believe that the outliers are not from the underlying population sample. If no information is provided about this in the respective papers, then we suggest you keep the outliers in the analysis. Furthermore, if you do remove outliers you should include both results. If removing outliers does not change the conclusion, then there is not a compelling reason to do so. In addition, removing outliers will make your model fit better, thereby biasing your results.