Review of: "The Impact of Study Environment on Students' Academic Performance: An Experimental Research Study"

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Potential competing interests: No potential competing interests to declare.

The paper presents an novel idea of looking at the study environment for students and how this effects academic performance. In its current state there are a number of issues that need to be addressed to lift the paper and the research.

1. As noted by other reviewers the introduction to the paper needs to review the existing literature. I can see in the version history that a reference list has been added, however at each point in the paper you need to cite in the text the reference you are drawing the information from. If you look at some existing papers you will see how this is performed.
2. The study design is unclear for a few reasons. The main body of the text is that noise effects performance. However the table also has on it lighting and temperature. These have been recorded as variables. Taken with gender you have 2 x 2 x 2 x 2 = 16 different conditions (excluding subjects). You should look at the data to see if the confounding factors you have noted have an effect, eg was it really light levels that had the effect?
    1. How were temperatures and lighting controlled in this research this is not listed in the table.
    2. The text states a standardised question set was used, however for each subject area the text says that a different set of questions was used. You need to be clear about how the students were evaluated. It would be standard practice to show the questions as an appendix here.
    3. There is not indication in the text of how the scoring was achieved and so how you then did your evaluation. For example was it out of ten MCQ questions or was it a subjective text based answer? If the test is different for different groups you can explain to the reader where the standardisation comes in.
    4. T-test are for the comparison of two means, ANOVA is for the comparison of multiple means. Here it is standard to report the initial ANOVA statistic before performing post-hoc analysis (effectively weighted t-tests). In your text since you have 16 groups you should do the ANOVA first, and only then do the post hoc analysis if the p value is > 0.05
3. Data presentation, it is now good practice to show all the data points on a bar or box plot here is a free website that does this http://shiny.chemgrid.org/boxplotr/
4. The final section looks to be AI generated as the text is general in nature, can you tailor this directly to the your study. One would expect to see conversation around how this fits into the existing litutrature that would mean direct comparison with other works. Such comparisons set the work along side that of others and show the contribution it has made.