Reviewer's report

Title: A framework for power analysis using a structural equation modelling procedure

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Reviewer: Fruhling Vesta V Rijsdijk

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The author did not address point b (and also point 8 of reviewer 1) to discuss the results presented in the Tables.

Table 3: in addition to describing the specific tests of the models, the results (in the table) should be discussed in the text to make clear to the in-experienced SEM reader what the p-value results mean: i.e. Model 2 > no effects of sex; Model 3 > significant effect of type; Model 0 > no interaction effect. The author claims to have added a sentence in the text to do so, but I couldn’t find it.

Table 4: same here, no discussion of the results in the text.

Table 5: results are still not discussed in the text.

Point d (Multivariate ANOVA), the following comments have not been addressed:
(i) the required sample size for 80% power in Mx for the first test (x1>y1=0), should be 27 not 28.
(ii) It should be stated in Table 8 (or in the text) that this number will be the same for all 3 univariate tests i.e. x1>y1=0 or x1>y2=0 or x1>y3=0, for 1df, since the effect of x on y1, y2 and y3 is the same.

Table 8 is not referred to in the text at all, only the indication of position in the text. The same is true for Table 10, whereas Table 9 doesn’t seem to belong in the paper at all.

Point e (Concluding Remarks): How is last paragraph ‘In addition’ different from the second? The author responded with ‘clarified’. I would like to know how and where it was clarified. Could the author be more specific?

Maybe I should be more specific as well. In the first paragraph, the author states that he has presented a SEM approach to test power. Three related applications are mentioned, the first one is complex relations between different variables ‘For example, the power to detect a difference in a repeated measures design is dependent upon the correlation between the variables.’ Then the third paragraph starts with: ‘In addition this approach provides a framework for the investigation of power.’ Wasn’t the author already trying to get this point across in paragraph 1? It continues: ‘The relationship between correlated variables in a repeated measures t-test, and the power of the test is not widely known, but using this framework, is easy to demonstrate.’ How is this ‘in addition’ point different from the first application example?

Minor points
Page 13 ‘The results from the analysis using the SPSS GLM procedure, and the model with restrictions described above in Mx, are shown in Table 5’. Should be Table 3.