

Editor's Comment:

The work is publishable after suggested corrections.

Add these important reference:

Lakens D. Sample size justification. *Collabra: Psychology*. 2022 Mar 22;8(1):33267.

Schielzeth H, Dingemanse NJ, Nakagawa S, Westneat DF, Allogue H, Teplitsky C, Réale D, Dochtermann NA, Garamszegi LZ, Araya-Ajoy YG. Robustness of linear mixed-effects models to violations of distributional assumptions. *Methods in ecology and evolution*. 2020 Sep;11(9):1141-52.

Abstract section: One of the Keywords is "Inequality of Variances" this criterion is not used in the manuscript, so, it should be deleted or calculated.

Introduction sections:

Paragraph 4: you write "There are two components in equation 1.1: fixed effects $X\beta$ and random effects $Zu+e$. $X\beta$ is the mean of Y "

Comment: $Zu+e$. $X\beta$ should be $Zw+e$. $X\beta$

Table 5: "Type I error Rates of different sets of sample sizes under ZU MVN & exp scenario; unequal"

The Distribution Scenarios z_u do you mean "ZW". Please check it. This change should be inside the table: Distribution Scenario: ZU should be Distribution Scenario: ZW.

No dissection section: In this manuscript, there is no discussion section,

Comment: you should write a discussion section and put your findings in context and discuss it in relation with related research. Also make a comparison between your results and your initial hypothesis

Reference section:

Comment: Why your references are old, 20 years ago, only two of them are recent. It is better to be sure that you cover the most current research in your field which makes a lot of sense that your work is up-to-date. Otherwise justify why you use an old reference.

This study estimates the Type I error rates to check the validity of a MIXED model's statistical inference when violating the normality assumption. SAS program was used to perform simulations and analyses. Each simulation was examined using 5000 samples with a 0.05 significance level of α . The main results in this study show us that the MIXED model is reasonably robust to modest violations of the normal distribution.

My comment is:

1. The Title is informative and concise. The data are well presented and accurately situated in the tables.
2. Manuscript was written in a clear and specific English
3. The authors need to make minor changes mentioned in this report.

I recommend for publication of this manuscript in Asian Journal of Probability and Statistics.

Editor's Details:

Dr. S. M. Aqil Burney
University of Karachi, Pakistan.