

Review of: "Intersections of Statistical and Substantive Significance Under a True and False Null Hypothesis"

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Potential competing interests: No potential competing interests to declare.

The paper serves as an accessible and valuable educational tool for understanding statistical significance, particularly for students and applied researchers who may not be confident in their statistical skills. This is why it is important for the author to further enhance its readability and the presentation of arguments and results.

The use of simulated data, as opposed to purely theoretical arguments, is particularly suitable for the target audience, allowing for an insightful examination of the interplay between statistical and substantive significance. The adoption of numerous graphical aids is commendable, though their presentation can be improved. For example:

- **Figures Consolidation:** Figures 1 to 6 could be combined into a single figure with improved titles (Figures 1 and 2 currently share the same title). This consolidation would enable the author to comment on the general results and their implications rather than listing each figure's content in the text. Figure 7's information on statistical significance could be incorporated into Figure 6, with similar consolidation for sample sizes $n=64$, 500, and 1000.
- **Table Formatting:** In Table 1, percentage numbers should be in italics, followed by a percentage sign ("%").
- **Color Distinction:** The two colors chosen to differentiate statistical significance are indistinguishable in black-and-white prints.
- **Alternative Graphical Representation:** Instead of Figure 8, a scatter plot of "d vs. p-value" or "d vs. t-statistic value" could better illustrate the strong correlation expected between these measures. Even though theoretical complexities should be avoided given the article's aim and audience, the formulas for calculating these measures should be included in the text.

Additionally, a more detailed explanation of the study's context and objectives would significantly enhance the quality of the work. Providing a more detailed interpretation of the findings, explicitly linking them to practical research scenarios, and offering concrete recommendations would also be beneficial.