

# Review of: "Intersections of Statistical Significance and Substantive Significance: Pearson's Correlation Coefficients Under a Known True Null Hypothesis"

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Potential competing interests: No potential competing interests to declare.

It was a delight reading the paper aimed at providing students, applied researchers, and science writers who are not statisticians with a simple and intuitive understanding of statistical significance and effect sizes.

I have some recommendations that could help improve the clarity of your paper:

**1. Notation for Fisher's Transformation:** Under the results section (after Figure 1), you use "zr" to denote Fisher's r-to-z transformation. This notation might be confused with the product of two variables, z and r. Consider using  $z_r$  instead to avoid any potential confusion.

**2. Cohen's Effect Size Cut-offs:** For Figures 4, 9, 14, 19, and 24, it might be helpful to restate the cut-offs for Cohen's effect sizes in the figure captions or the text discussing these figures to aid readers in interpreting the results correctly.

**3. Correction in Table 5 Description:** In the discussion of Table 5, you mention, "...leaving 14% (263) to be misinterpreted as meaningful effect sizes." According to Table 5, the correct value should be 221. Correcting this discrepancy will ensure consistency and accuracy in your presentation.

**4. Grammatical Errors:** There are a few minor grammatical errors that could be corrected to improve the readability of your paper. A thorough review would be beneficial. A few examples include:

a. Remarkedly > Remarkably

"Table 2 shows that with  $n = 4$ , remarkedly high correlations ...."

b. effet sizes > effect sizes

"Figure 14 displays 4950 Pearson's correlations categorized as Cohen's effect sizes. Approximately 69% (3394) can be ignored as non effet sizes"

"Figure 25 indicates that relatively few were statistically significant among the non-effet sizes."

c. propoer > proper

"However, when the parameter is not zero, the statistical test requires a Fisher r to z transformation to get the propoer p-value..."

