Wasserstein, Schirm, and Lazar (2019) advocate for abandoning the term "statistically significant" and its associated phrases because the dichotomous nature of p-values, and the subsequent interpretations derived from them, fosters a misleading understanding of scientific findings. The emphasis on a rigid threshold (p < 0.05) creates a false sense of certainty and oversimplifies complex relationships. It encourages researchers to focus on whether a result crosses an arbitrary boundary rather than considering the magnitude of the effect, the precision of the estimate, and the context of the study. This focus, coupled with publication bias, has led to a situation where statistical significance is frequently misconstrued as a measure of importance, truth, or replicability, which can lead to the inflation of false positives and a lack of scientific rigor.

Instead of relying on "statistical significance," they propose a shift toward a more nuanced and comprehensive approach to inference. This approach includes the following:

1. \*\*Emphasizing Effect Sizes and Confidence Intervals:\*\* The authors champion reporting effect sizes, which quantify the \*magnitude\* of an observed effect, and associated confidence intervals. This allows researchers to assess both the size and precision of the effect, providing a more informative perspective on the practical significance of findings. For example, rather than simply stating a treatment is "significant", a researcher would report the mean difference between groups, along with the confidence interval around that difference.

2. \*\*Focusing on Context and Prior Knowledge:\*\* The article suggests that researchers should integrate prior knowledge, domain expertise, and the study's context into their interpretations. Statistical results should be evaluated within the broader framework of the research question, the study design, and existing literature, rather than being the sole determinant of the conclusion. This fosters a more critical and nuanced understanding of the data, moving away from formulaic interpretations based purely on the p-value.