

Review of: "Comments on “The Roles, Challenges, and Merits of the P Value” by Chén et al."

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This article offers a critique of Chén et al. (2023) in their review on "The roles, challenges, and merits of the p value". The primary focus is on the use, misinterpretation, and misuse of p-values, topics that have fueled much debate in recent years. The author of this critique disagrees with Chén et al.'s stance on p-values and advocates for the adoption of exceedance probability as an alternative, recommending the abandonment of p-value-based hypothesis testing altogether.

The article is well-structured, clearly highlighting some limitations of relying exclusively on p-values for hypothesis testing. It introduces the use of exceedance probability as an alternative, illustrating its application through the two-sample z-test. While the author presents a compelling case, I find the critique of Chén et al.'s work unconvincing. In fact, Chén et al. (2023) thoroughly address the main concerns regarding p-values, including issues like p-hacking (such as N-chasing). They also provide a comprehensive discussion on evaluating evidence using the Bayesian paradigm, propose the use of meta-analysis to combine p-values across studies, and offer practical recommendations, such as reporting confidence intervals, likelihood ratios, or Bayes factors to complement p-value findings.

Given this context, it might be more effective for the article to focus on its central proposition — exceedance probability for hypothesis testing — while outlining the advantages this approach offers over traditional p-values. By reframing the article to emphasize the proposed alternative rather than critiquing Chén et al. (2023), the discussion would be clearer and more focused. Consequently, a more fitting title would also reflect this shift, highlighting the defense of exceedance probability as a method for hypothesis testing, consistent with the author's previous work.