



## ASA Statement on Effective Use of Preprints

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The American Statistical Association calls on researchers, science journalists, and all those who communicate research results to bring extra caution and scrutiny to preprints. While a skeptical approach is especially important in the biomedical realm it should be applied generally whenever data has been collected, analyzed, and statistically summarized. Any media coverage of a preprint should clearly convey its preliminary status and that it has not yet been formally reviewed and critiqued in the way that research in a scientific journal might be.

Preprints are an increasingly important part of the scientific communication lifestyle. They are not a new form of publication, but rather an early stage in the research sharing process. When used as intended, preprints provide the opportunity for researchers to get feedback on their work, establish their claim to the research, demonstrate their research output, and more. This important functionality comes at a price, however.

Preprints are research manuscripts that have been publicly posted, but have not been published in an academic journal, and, critically, **have not been peer reviewed**. Preprints have not received the scrutiny of independent researchers who can objectively review the reported methods and conclusions, identifying for the authors suspected problems with the study design, data collection, data analysis, presentation or interpretation of the results as reported in the manuscript. Most preprint servers typically include disclaimers noting these important caveats. Furthermore, while all preprint repositories have submission requirements and typically conduct some level of basic screening prior to accepting and posting content, these screening practices can vary widely and never constitute the full rigor of a formal peer-review process. Yet as the number of preprints grows exponentially and the interest in and urgency of research in some areas is particularly high, the rush to ascribe reliability and accuracy to this work could result in real harm.

Caution with regard to preprints is particularly important when the research involves data collection and statistical analysis. Methodologies and analyses require careful review. They need to be evaluated by people with appropriate expertise. It is risky when the results of preliminary research that has not been peer reviewed are promoted publicly in the form of press releases and media communications. High-profile examples related to COVID-19 illustrate this well.

Note: ASA publication policy allows all authors to post their articles on preprint servers. See <https://authorservices.taylorandfrancis.com/sharing-your-work/> for details.