Study Registration: Encouraging the Practice of Hypothetical-Deductive Research in the *Journal*

Earlier this year, we shared with you our commitment to supporting the dissemination of research that is well designed, carefully conducted, and properly interpreted, and our belief that authors, reviewers, editors, publishers, and readers should jointly strive to ensure the integrity of the science we publish.1 Towards this end, we are pleased to announce a new submission type beginning in 2019: *Registered Reports*.

Traditionally, manuscripts undergo peer review after data has been collected and analyzed. In contrast, study registration divides the peer review process into two stages. The first stage, pre-registration, occurs at the time the study is being planned while the second occurs after the study is completed. To “pre-register” their study, authors submit a manuscript consisting of the Introduction and Method sections for their study, along with a study synopsis, for peer review. If the study pre-registration is approved after this initial peer review, the *Journal* will issue an “in-principle acceptance” to the authors and the study synopsis will be published in *JAACAP* as a registered study protocol. The introduction and detailed description of the study methods will also be available to readers as an online supplement to the synopsis. When the study is completed, the authors will submit a complete manuscript, using the Introduction and Method sections that have already been reviewed and accepted (with an updated literature review) as well as newly Results and Discussion sections. This complete manuscript will undergo a second peer review focused on how consistent the manuscript is to the study’s pre-registration. If the paper is then accepted, it will be published as a “Registered Report

Dividing the review process into two stages creates additional work for authors, reviewers, and editors. So, given this additional burden, why would *JAACAP* offer this new submission type and why would prospective authors want to consider it for their own work?

There are several reasons.

First, study registration has the potential to reduce publication bias, where studies with negative/null findings are less likely to be published than those with positive findings.2,3 When a paper is issued an in-principle acceptance before the results of the study are known, the *Journal* is committing to publish the study regardless of its outcomes, ensuring a more complete scientific record.

Second, study registration substantially reduces the risk of peer reviewers’ and editors’ assessment of manuscripts being shaped by the significance of the results rather than the importance of the study and the soundness of its design and analyses. And because the peer review process is more narrowly focused on these factors, authors will have fewer incentives to engage in questionable research practices such as “p-hacking” (shaping analyses to achieve a statistically significant finding)4 and “HARKing” (developing hypotheses after the results of the study are known),5 that reduce the reliability and reproducibility of science and are very difficult to discern.

Third, similar to online databases and repositories such as clinicaltrials.gov6 (for clinical research), PROSPERO7 (for systematic reviews), and the Open Science Framework8 (for a broad range of scientific inquiry), study registration allows us to make our readers – and the research community more broadly – aware of important research that is being conducted far in advance of its final publication. A key enhancement that registration with the *Journal* offers is that study information is easily accessible through search engines such as PubMed and does not require separate searches through these online databases.

Fourth, study registration makes the difference between an a priori analyses and an exploratory or post hoc analyses far more explicit than the traditional review process by making the pre-registration documentation easily available to readers and by requiring that this distinction be explicit in the final manuscript. This makes it easier for readers to consider the distinction of these two kinds of analyses in assessing the implications of reported results.

Finally, study registration increases the value of the peer review process itself. While a thorough traditional peer review serves to strengthen a paper prior to publication, there are limits to what reviewers can request, and what authors can do, because the data has already been collected. While the study registration peer review process will often follow a rigorous review process for funding and investigators may have limited flexibility to adjust their approach because of funder requirements, funding limitations, and feasibility, a stage one review may identify pragmatic and actionable changes to a study that will further strengthen its science. As editors we are committed to assist our authors and reviewers in making this distinction and assuring that the Journal’s stage one reviews are truly helpful.

In sum, study registration has the potential to strengthen the science of child and adolescent developmental psychopathology and its treatment by ensuring that “hypothetical deductive research” is well designed, properly executed, and consistently presented in the published and indexed scientific literature. That said, while the promise of study registration for strengthening the scientific literature is compelling, its ultimate impacts are still unknown. Indeed, the barriers for widespread adoption of study registration are not only dependent upon journals such as ours offering it as a submission type, but also upon investigators being willing to shoulder the additional burden of a two-stage peer review process. Whether publishing Registered Reports will be recognized and rewarded by academic leaders, promotion committees, and government and private funders of research will likely prove to be pivotal in this regard. In the meantime, we are pleased to offer our authors, reviewers, and readers the opportunity to participate and help shape this growing initiative while maintaining our firm commitment to our authors to conduct thorough, thoughtful, constructive, and efficient peer reviews through our traditional peer review process.

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