

Research Reproducibility 2020

Educating for Reproducibility: Pathways to Research Integrity

ENCOURAGING REGISTERED REPORTS – METASCIENCE AND TOOL DEVELOPMENT

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ABSTRACT

INTRODUCTION: Registered Reports (RRs) is a publishing format which seeks to improve scientific reproducibility and research integrity, while eliminating publication bias and a range of questionable research practices. This is achieved via early peer review of study design and methodology before its results are known. High quality studies are provisionally accepted for publication if researchers later adhere to their registered protocol.

There is emerging evidence that the Registered Reports format has reduced bias in the scientific literature. For example in a recent analysis, 60% of RRs reported null results compared to 5-20% in the traditional literature.

Currently over 250 journals offer the Registered Reports format and there are over 400 published RRs articles - we want to build on this and accelerate its use as a format across the scientific community.

A number of factors are thought to be slowing the uptake of Registered Reports, including perceived additional workload for journal editorial staff, authors' unfamiliarity with the submission process, and concerns about the upfront time costs associated with preparing submissions. We see this as an opportunity for community-based education, facilitation, and advocacy using the proposed solutions.

OBJECTIVES: We aim to design, build, and evaluate a collection of tools to support the adoption of the Registered Reports format by journals and authors, monitoring quality.

These will include 1) a study design template, aiding authors' submission, and improving RRs protocol rigour and reproducibility 2) an editorial policy builder to facilitate journal adoption across fields 3) community tools for channelling advocacy and collating feedback from authors.

METHODS: A number of web-based tools with linked databases will be developed and publicly hosted. Openly available data sources will be integrated, with information regarding

journals and research fields presented in dashboards. All code and data will be made available and openly licenced.

RESULTS: N/A

CONCLUSION: We are seeking feedback from the community regarding what parts of the project are most important, suggestions for features, and any general comments to improve the initiative.