

## Editorial

### *Changes in the field: Banning p-values (or not), transparency, and the opportunities of a renewed discussion on rigorous (quantitative) research*

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Research transparency is becoming increasingly important across the social and medical sciences and thus the field of child and adolescent mental health. As the incoming associate editor for quantitative methods to CAMH, my contribution to the journal over the course of my editorship will be to encourage a discussion on research transparency and potential new types of submissions.

Some editorials concerned with quantitative methods have recently taken rather stringent methodological stances, such as the one on “banning p-values” in the *Journal of Basic and Applied Social Psychology* and *Political Analysis* (Gill, 2018; Trafimow & Marks, 2015). These editorials are part of a wider discussion in psychology, social sciences, public health and the sciences more generally on the use of quantitative methods, and set the terms of the debate about the conditions for scientific research.

But these questions are by no means new, and the renewed emphasis of methodological debates – exemplified by the call to ban a statistical tool – is underscored by a growing body of *meta-research* (Ioannidis, Fanelli, Dunne, & Goodman, 2015). This research spans *analytical methods, reporting, reproducibility, how research quality can be evaluated and what incentives are needed for good research* (*ibid.* p.3). Improvements in each domain can be found, for example, in the increased use of checklists for reporting and the growing acceptance of studies with “negative results” – so much so that the “Journal of Negative Result in BioMedicine” was forced to cease publication (BMC, 2017).

Nonetheless a number of problems remain, often related to methodological issues. In psychology, for example, a large-scale effort to *replicate* published studies found that results could often not be replicated (Bohannon, 2015). A discussion about a potential “replication crisis” ensued in the early 2010s (Maxwell, Lau, & Howard, 2015), one response to which has been an increased attention to research *transparency*.

Efforts such as the *Berkeley Initiative for Transparency in the Social Sciences* ([www.bitss.org](http://www.bitss.org)) aim to promote preregistration of studies and analysis plans, the publication of protocols, use of reporting guidelines, and depositing of data and analysis syntax. An additional aim is to strengthen “open science”: the practice of (amongst others) open-access publication, use of non-proprietary materials and open-source software. Easy access and availability of preregistration platforms and data repositories greatly facilitate this. These include the Open Science Framework for studies [www.osf.io](http://www.osf.io) or protocols [www.protocols.io](http://www.protocols.io) as well as open-source software specifically supporting replicability of code (e.g. RNotebook’s (RStudio Team, 2016)).

This new ecosystem for open and transparent research provides a more holistic and fruitful solution to concerns about the (ab)use of p-values, which is only the “tip of the iceberg” (Leek & Peng, 2015). Banning p-values does not consider the “data-pipeline” as a whole, in terms

of steps such as data management, processing, and choice of method, all of which precede inferences based on p-values, and are equally if not more problematic in their influence on a researcher's conclusions. The attention to each step of the (quantitative) research process is what defines a robust research design.

Each of the above discussions on meta-research, replication and transparency will increasingly affect research in the field of child and adolescent mental health. Authors will find preregistration of trials and analysis plans, the use of reporting guidelines, the need to deposit data in public repositories and an increasing focus on study design and analysis methods, increasingly important for publication. New opportunities will arise such as the publication of inconclusive findings as well as the possibility of getting a study's results accepted based on its research design prior to data collection, in the form of a registered report (<https://osf.io/8mpji/wiki/home/>).

At the same time, these discussions, new demands and formats should not discourage exploratory and theory-generating research. Authors should be more explicit about the demands, limitations but crucially also the opportunities from these types of research. And it is likely that the debates on transparency and meta-research will also generate their own lines of argument for small-scale, exploratory and theory-generatic research.

As a new associate editor, I hope to bring these discussions and their corresponding innovations in terms, for example, of formats for publication, to the editorial board of the journal. In my reviewing and supportive activities, I will encourage authors to provide replication syntax and data through public repositories. Moreover, I will encourage the journal to focus on a manuscript's research design and the author's justification thereof, rather than the results, with the aim of ensuring that transparent studies that explore a research question with equipoise, will be published. At the same time I hope to drive the debate to be open to exploratory and theory-generatic research.

I encourage readers and future authors to engage with these ongoing debates, and to view them not as a burden, but as an opportunity to strengthen research in the field of child and adolescent mental health.

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