Nature editorial: â??Tell it like it isâ?•

Description

Tweet

22 January 2020. Aimed at researchers, but equally relevant to evaluators. Quoted in full below, available online here. Bold highlighting is mine

Every research paper tells a story, but the pressure to provide â??cleanâ?? narratives is harmful to the scientific endeavour. Research manuscripts provide an account of how their authors addressed a research question or questions, the means they used to do so, what they found and how the work (dis)confirms existing hypotheses or generates new ones. **The current research culture is characterized by significant pressure to present research projects as conclusive narratives that leave no room for ambiguity or for conflicting or inconclusive results.** The pressure to produce such clean narratives, however, represents a significant threat to validity and runs counter to the reality of what science looks like.

Prioritizing conclusive over transparent research narratives incentivizes a host of questionable research practices: hypothesizing after the results are known, selectively reporting only those outcomes that confirm the original predictions or excluding from the research report studies that provide contradictory or messy results. Each of these practices damages credibility and presents a distorted picture of the research that prevents cumulative knowledge.

During peer review, reviewers may occasionally suggest that the authors â??reframeâ?? the reported work. While this is not problematic for exploratory research, it is inappropriate for confirmatory researchâ??that is, research that tests pre-existing hypotheses. Altering the hypotheses or predictions of confirmatory research after the fact invalidates inference and renders the research fundamentally unreliable. Although these reframing suggestions are made in good faith, we will always overrule them, asking authors to present their hypotheses and predictions as originally intended.

Preregistration is being increasingly adopted across different fields as a means of preventing questionable research practices and increasing transparency. As a journal, we strongly support the preregistration of confirmatory research (and currently mandate registration for clinical trials). However, preregistration has little value if authors fail to abide by it or do not transparently report whether their project differs from what they preregistered and why. We ask that authors provide links to their preregistrations, specify the date of preregistration and transparently report any deviations from the original protocol in their manuscripts.

There is occasionally valid reason to deviate from the preregistered protocol, especially if that protocol did not have the benefit of peer review before the authors carried out their research (as in Registered Reports). For instance, it sometimes becomes apparent during peer review that a preregistered analysis is inappropriate or suboptimal. For all deviations from the preregistered protocol, we ask authors to indicate in their manuscripts how they deviated from their original plan and explain their reason for doing so (e.g., flaw, suboptimality, etc.). To ensure transparency, unless a preregistered analysis plan is unquestionably flawed, we ask that authors also report the results of their preregistered analyses alongside the new analyses.

Occasionally, authors may be tempted to drop a study from their report for reasons other than poor quality (or reviewers may make that recommendation)â??for instance, because the results are incompatible with other studies reported in the paper. We discourage this practice; in multistudy research papers, we ask that authors report all of the work they carried out, regardless of outcome. Authors may speculate as to why some of their work failed to confirm their hypotheses and need to appropriately caveat their conclusions, but dropping studies simply exacerbates the file-drawer problem and presents the conclusions of research as more definitive than they are.

No research project is perfect; there are always limitations that also need to be transparently reported. **In 2019, we made it a requirement that all our research papers include a limitations section, in which authors explain methodological and other shortcomings and explicitly acknowledge alternative interpretations of their findings**.

Science is messy, and the results of research rarely conform fully to plan or expectation. â??Cleanâ?? narratives are an artefact of inappropriate pressures and the culture they have generated. We strongly support authors in their efforts to be transparent about what they did and what they found, and we commit to publishing work that is robust, transparent and appropriately presented, even if it does not yield â??cleanâ?? narratives.?

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