

# Promoting reproduction and replication at scale



**Nature Human Behaviour is partnering with the Institute for Replication for the large-scale reproduction and replication of our published research.**

Over the past fifteen years, there has been a substantial – and much needed – focus on rigour, reproducibility and replicability in science. Concerns that the majority of published research may be false<sup>1</sup> forced a reckoning in the research community and the next decade saw concerted efforts to identify and quantify the extent and impact of questionable research practices, publication bias, limited power and lack of transparency in reporting<sup>2</sup>. Replication efforts became highly visible – frequently with discouraging results (for example, ref. 3) – and the priorities of the research community have been fundamentally altered.

*Nature Human Behaviour* was launched in 2017 with a key mission to support robustness and rigour in science. We redefined what constitutes a significant scientific advance for a highly selective journal, by welcoming replication studies and studies that are highly rigorous regardless of their outcomes<sup>4,5</sup>. As a key part of our commitment to rigour, we adopted the Registered Report format at launch<sup>6</sup> and have always encouraged researchers to be transparent about their work and its limitations<sup>7</sup>. We introduced code peer review in 2021 (ref. 8) and, along with all other Nature Portfolio journals, mandate the inclusion of data and code availability statements to enable the reproduction and replication of the research we publish.

We are now partnering with the [Institute for Replication](#) to support the large-scale reproduction and replication of papers recently published in the journal (from 2023 onwards). Reproduction involves repeating



the same analyses on the same dataset, using the same code. Replication entails addressing the same research question using different data or different analytical procedures on the same dataset.

In a [Correspondence](#) in this issue, Brodeur and colleagues describe the Institute’s work and how it has already led to hundreds of reproductions and replications over the Institute’s short lifespan. We hope to see several – hopefully most – of our recently published papers being taken up for reproduction and replication as part of this initiative.

The journal will not be involved in the selection of studies or in deciding how reproductions and replications are carried out – this will be handled entirely by the Institute for Replication. However, we will facilitate the process of data and code sharing according to the terms stated in the data and code availability statements in our published articles and we ask our authors to readily assist replicators in their work. We will also take necessary action to correct the record if any issues arise with the original publications.

We call on all interested researchers to engage with this effort by [contacting](#) the Institute for Replication. We are hoping to see many volunteers step forward to reproduce and replicate our papers and we aim to publish outcomes of this effort in our pages. Reproductions and replications carried out over the first 18 months of the project will be included in a meta-research paper led by the Institute for Replication to be submitted to *Nature Human Behaviour* (and subject to peer review). We will also consider for standalone publication individual replication efforts, provided that replicators used new data and the submission meets our standards for an advance in evidence (we consider as an advance in evidence research that is of substantially larger scale and/or rigour than previously published studies). Individual reproduction or replication efforts may also be considered for publication in our pages as post-publication commentary in our Matters Arising format, if a specific effort challenges or clarifies the work we published.

Although the value of reproduction and replication is much better recognized now than at the beginning of this millennium, an initiative for reproduction and replication at scale in the context of a highly selective multidisciplinary journal is unprecedented. We hope that this initiative and its outputs will contribute to strengthening the credibility of research, promote the value and visibility of reproduction and replication efforts, and lead to increased transparency and rigour.

Published online: 25 January 2024

## References

- Ioannidis, J. P. A. *PLoS Med.* **2**, e124 (2005).
- Munafò, M. et al. *Nat. Hum. Behav.* **1**, 0021 (2017).
- Open Science Collaboration. *Science* **349**, 1–8 (2015).
- Nat. Hum. Behav.* **1**, 0033 (2017).
- Nat. Hum. Behav.* **4**, 559 (2020).
- Nat. Hum. Behav.* **1**, 0034 (2017).
- Nat. Hum. Behav.* **4**, 1 (2020).
- Nat. Hum. Behav.* **5**, 965–966 (2021).