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Editorial

# Redefining Scientific Success: How Null Results Foster Open Research

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**ABSTRACT**

A large number of studies that do not validate an a priori hypothesis or report statistically nonsignificant findings are absent from the published scientific literature. This long-standing absence creates publication bias, distorts meta-analyses, and results in the wasteful use of research resources. In this editorial, BioNatura Journal introduces a special editorial policy and submission track for methodologically sound studies reporting null or negative findings. In conformance with the values of open science, reproducibility, and transparency, this effort seeks to normalize the publication of results that are methodologically sound yet typically overlooked. The publication of null results encourages a more ethical, comprehensive, and cumulative approach to scientific advancement.

**Keywords:** null findings, negative data reporting, publication bias, scientific transparency, reproducible research, open science practices, research ethics, meta-research, file drawer effect, scientific publishing reform

## Embracing the Entire Range of Scientific Evidence

For decades, the scientific literature has been afflicted by a subtle but widespread distortion: the virtual absence of null and negative results. These are research studies where hypotheses are not supported or results are not of statistical significance—not because of defective methodology, but simply because empirical observation contradicts expectations. But such results are consistently not published, left on digital shelves, or relegated to abandoned laboratory notebooks[1].

This effect—the file drawer effect—has significant implications. An estimated 85% of researchers acknowledge that they do not publish null findings, sometimes because of perceived low impact, institutional disincentives, or expected rejection by journals[2]. Conversely, in some areas such as psychology and biomedicine, as many as 30% of published positive results can be unreproducible or false[3]. A meta-analysis in radiomics discovered that fewer than 1% of published research reported negative results[4].

As a visual representation of this systemic bias, Fig. 1 shows the distribution of publications of positive, negative, and null findings in major disciplines:



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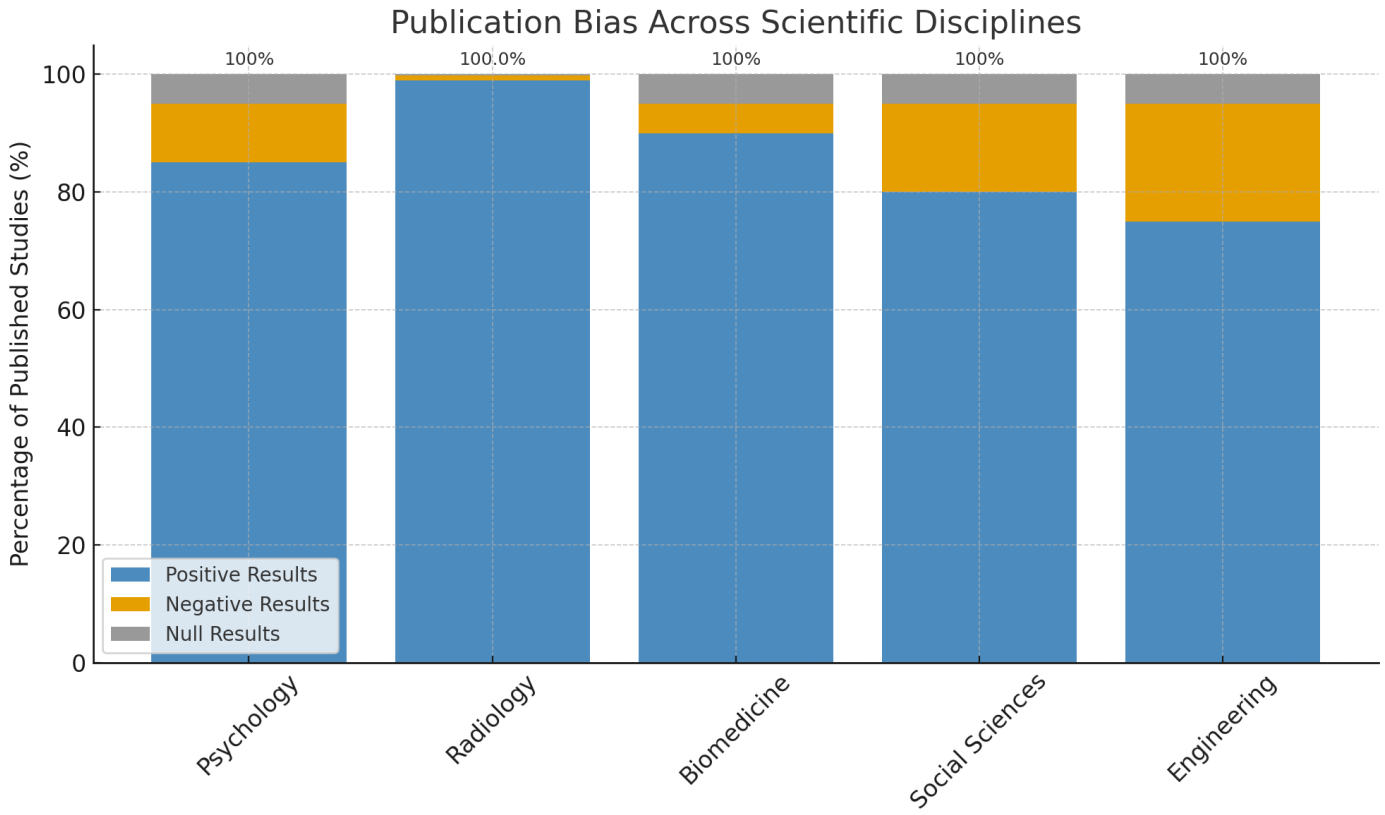


Source: Springer Nature (2025). The State of Null Results. https://stories.springernature.com/the-state-of-null-results-white-paper

**Figure 1. Publication bias across chosen scientific fields. Stacked bar plot of the percentage of published studies with positive, negative, and null outcomes in five scientific fields. Data taken from Springer Nature's white paper The State of Null Results (2025) and other meta-research investigations. The figure indicates that there is disproportionate underreporting of null and negative results, particularly in radiology and biomedicine.[11]**

## A New Editorial Policy for Null Results

At BioNatura Journal, we feel this status quo needs to change. Beginning with this issue, we formally introduce a special editorial track for papers that report null, negative, or statistically nonsignificant findings. This policy change is driven not by novelty but by necessity. Science can be cumulative, verifiable, and socially useful only when all credible findings—whatever the direction—are recorded and disseminated.

Our new editorial route is entitled: Null Results | Open Data Transparency, and is based on four basic principles:

1. Methodological rigor above statistical results
2. Complete disclosure of all results, independent of significance
3. Critical reflection on limitations and wider implications
4. Open availability of raw data, protocols, and analysis pipelines

Authors can mark their manuscript as "Null Results" at submission and adhere to the revised guidelines at: https://bionaturajournal.com/null-results.html

## Moving Beyond Impact Factor Thinking

This policy brings BioNatura Journal into line with editorial innovations introduced by PLOS ONE, Scientific Reports, and eLife[5–7] journals that recognize that what doesn't work can be just as informative as what does.

The stakes go beyond academia. Publication bias undermines meta-analyses, leads to redundant experimentation, and wastes billions in global research funding. One estimate suggests that USD 28 billion annually is spent on studies that are never published[8]. Equally critical is the ethical obligation: data from clinical participants, animal models, and community studies deserve to contribute to public knowledge, regardless of statistical significance[6–9].

## A Message to Early-Career Researchers and the Global South

- To budding scientists—particularly those in resource-poor environments—we confirm:
- A carefully crafted study with null findings is not a failure. It is a testament to scientific integrity.
- Making such findings public avoids duplication of effort, enables transparency, and makes a distinctive contribution to the scientific ecosystem[10]. BioNatura embraces such contributions with equal regard and scientific value.

## CONCLUSION

The omission of null and negative findings from the major scientific literature has retarded openness, reproducibility, and ethical responsibility. By officially welcoming properly conducted research with nonsignificant or hypothesis-rejecting findings, BioNatura Journal emphasizes its support for inclusive, truthful, and complete science. This editorial policy is not merely a correction of editorial bias—it is a call to action. Science progresses through transparency, not simply through success. We encourage researchers, institutions, and funders to follow us in this cultural shift toward a more complete, more accurate scientific record. If science is to serve society truly, it must tell the whole story.

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**Conflicts of Interest**
The authors declare no conflict of interest.

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**Información sobre la revisión por pares.** Bionatura agradece a los revisores anónimos su contribución a la revisión por pares de este trabajo utilizando https://reviewerlocator.webofscience.com/.

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