



Rising Scientific Misconduct in India

For Prelims: Scientific Misconduct, India Research Watchdog, Retractions in Indian research, [Plagiarism](#), Misconduct involving experimental techniques, and Fraud.

For Mains: Scientific Misconduct, Ethics and Human Interface: Essence, determinants, and consequences of Ethics in human actions.

[Source: TH](#)

Why in News?

- According to a survey by **India Research Watchdog** the escalating number of **retractions in Indian research**, raising substantial concerns related to **Scientific Misconduct in India**.

What is Scientific Misconduct?

- **About:**
 - Scientific misconduct can be **described as a deviation from the accepted standards** of scientific research, study and publication ethics.
 - There can be **many forms of scientific misconduct** such as Plagiarism, Misconduct involving experimental techniques, and Fraud.
 - Retractions occur when **published papers are withdrawn from the scientific literature** due to various reasons, including mistakes, data fabrication, plagiarism, and other forms of misconduct.
- **Examples:**
 - When the results of a scientific investigation are reported **without giving credit to the principal investigators** whose work has been involved.
 - Scientific fraud, where authors create an article with fabricated images or data, which is then submitted to a peer-reviewed publication without approval from an independent oversight board.

What are the Statistics of Scientific Misconduct in India?

- **Increases Scientific Retractions:**
 - Retractions from India have increased 2.5-times between 2020 and 2022 over the number recorded between 2017 and 2019.
 - The primary reason for retractions is identified as misconduct, where authors **knowingly engage in unethical practices**.
- **Quality Decline Indicators:**
 - The ratio of research output to retractions is **used as a proxy for quality, revealing an alarming drop in India**, almost halving the ratio. This indicates a **potential decline in the overall quality of research**.
- **Domains of Retractions:**
 - Engineering sees a significant increase, accounting for almost 48% of all retractions, up

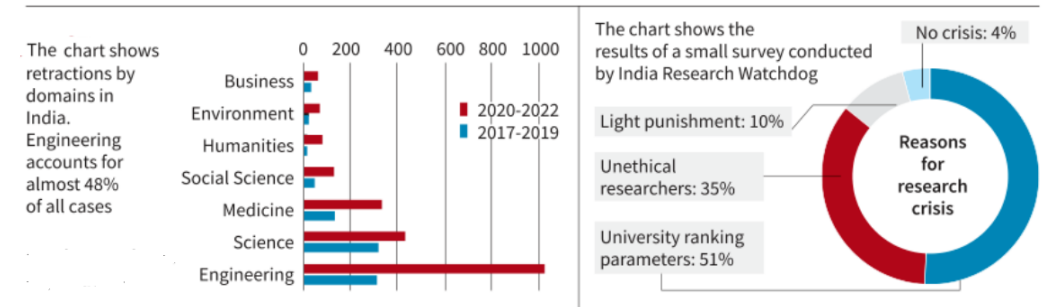
from 36% in the period 2017-2019.

- Additionally, the humanities **experience an extraordinary growth of 567% in retractions.**

▪ **Reasons for Rise in Scientific Misconduct:**

- A little more than half of the respondents believe that university **ranking parameters are behind the rise.**
- Another 35% attributed it to **unethical researchers**, while 10% pointed to the minimal action taken when an allegation is reported or **when an offender is 'caught'.**
- Additional factors contributing to the rise in retractions include the **compulsory publication requirement for PhD students** instituted in 2017, potentially leading to low-quality publications, and the proliferation of predatory journals.

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▪ **Urgent Call to Action:**

- The data is presented as an urgent call to action, emphasizing the need to **scrutinize research malpractice in Indian academia.**
- The potential consequences on both research and teaching are highlighted, urging immediate intervention to prevent the production of substandard or bogus research.

What are the Ethical Implications of Scientific Misconduct?

▪ **Long term Consequences:**

- Scientific misconduct, regardless of its scale, **can have far-reaching consequences**, especially when influential figures in a field are involved.

▪ **Breach of Academic Integrity:**

- Scientific misconduct, including plagiarism, data fabrication, and **manipulation**, **constitutes a serious breach of academic** and scientific integrity. It undermines the **foundation of honest and transparent scholarly** inquiry.

▪ **Impact on Trust and Credibility:**

- Unethical practices erode the trustworthiness of scientific findings, diminishing the credibility of research. This not only affects the reputation of individual researchers but also tarnishes the image of the entire scientific community.

▪ **Compromised Quality and Academic Rigor:**

- The alarming drop in the ratio of research output to retractions signifies compromised quality.
- This compromises **academic rigor, hindering the progress and advancement of knowledge.**

Way Forward

- In response to the absence of institutional efforts, some scientists have taken it upon themselves to **scrutinize collaborative work**, distinguishing between credible and flawed research to avoid tarnishing all their work.
 - However, a broader reevaluation is necessary, particularly among influential figures in science. The idealized notion that science is inherently rigorous and self-correcting needs to be revised, recognizing its complexity and the need for enhanced methods and norms.
- This requires **incorporating technology and incentives to promote continuous self-assessment** and improvement, making it a standard practice rather than a response to 'special'

circumstances.

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