



# Ethical Aspects of Data Manipulation in Research

**For Prelims:** Behavioural Sciences, Harvard University, [Plagiarism](#), Diederik Stapel, Piltdown Man, Open Science Framework (OSF).

**For Mains:** Issues and concerns related to data manipulation in scientific journals and researches.

[Source: TH](#)

## Why in News?

Recently, allegations of fraud in the behavioral sciences emerged as independent investigators exposed data manipulation involving Francesca Gino, a Harvard Business School professor **found guilty of research misconduct for studies on honesty and unethical behavior.**

- One such example is the case of **Annamalai University in Tamil Nadu**, where at least 200 academic papers published by researchers contain plagiarized text, manipulated images, and fudged data in which the university's vice-chancellor was also an author.

## Why do Researchers Commit Misconduct?

- **Root Causes of Research Misconduct:**
  - Researchers have strong motivations to produce groundbreaking findings and results supporting alternative hypotheses, largely due to incentives. **However, these substantial incentives have, in some cases, led to shoddy and even fabricated work.**
    - Scientific misconduct has a long history, from the **infamous Piltdown Man hoax in 1912** ( a fraudulent attempt to fill in the missing link between primate and man) **to more recent cases like Diederik Stapel.** It persists in various forms in different fields, even today.
- **Motivators and Contributing Factors to Misconduct:**
  - The **low risk of detection by reviewers** and the mentoring styles of research supervisors can play a role in misconduct. The **lack of comprehensive policies at the national and institutional levels** to penalize misconduct are also cited as contributors to the problem.
- **Systematic Causes of Misconduct:**
  - **Funding and Pressure Relief:**
    - One approach is to ensure adequate funding and reduce the pressure on researchers. This could involve **allocating a portion of research grants for quality-control activities**, allowing investigators to conduct more comprehensive and efficient investigations.
  - **Support for Replication Studies:**
    - Supporting replication studies, which verify the results of other studies, is another valuable method. **Financial aid for replication studies, in the form of cash rewards**, can incentivize researchers to conduct such studies.

## What are the Ethical Effects of Misconduct?

- **Long term Consequences:**
  - Scientific misconduct, regardless of its scale, can have far-reaching consequences, especially **when influential figures in a field are involved**.
    - For instance, leaders in a scientific field, such as Dr. Gino, whose work serves as the foundation for others, **can potentially damage years of research when their misconduct comes to light**.
- **The Widespread Implications of Misconduct:**
  - It's not limited to a single case; instead, **it can cast a shadow over numerous papers and findings** that relied on the compromised work, **endangering the integrity of years of scientific inquiry**.
- **Lack of Transparency in Scientific Publishing:**
  - Scientific publishing, beyond its role in research and academia, plays a significant role in perpetuating research misconduct, often without adequate investigation or correction of signs of misconduct in published papers.
    - Recent events, **like Nature retracting a paper due to data discrepancies**, highlight the **lack of transparency** in the publication process.

## How Should Misconduct be Dealt With?

- **Addressing Scientific Misconduct with the OSF:**
  - One innovative approach to tackling scientific misconduct is the **Open Science Framework (OSF)**. This framework aims to uphold scientific integrity by advocating for practices like pre-registration, which involves establishing a study's hypotheses, methods, and analyses before conducting it.
    - The OSF is a free, open platform to support research and enable collaboration established by the **Center for Open Science (COS), a non-profit organization**.
- **Ambitious 'SCORE' Project:**
  - Furthermore, the OSF team has launched the **'Systematizing Confidence in Open Research and Evidence' (SCORE) project**, which aspires to enhance research credibility through automated tools that generate rapid and accurate confidence scores for research claims.
- **Involve More Stakeholders:**
  - Dealing with fraud in the scientific community involves various methods. However, these methods can be inconsistent across institutions. This results in researchers who are willing to cooperate still facing unofficial forms of punishment, which **should be addressed by involving different stakeholders**.

## 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.

## UPSC Civil Services Examination Previous Year Question (PYQ)

**Q. With reference to the 'National Intellectual Property Rights Policy', consider the following statements: (2017)**

1. It reiterates India's commitment to the Doha Development Agenda and the TRIPS Agreement.

2. Department of Industrial Policy and Promotion is the nodal agency for regulating intellectual property rights in India.

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: c**

PDF Reference URL: <https://www.drishtias.com/printpdf/ethical-aspects-of-data-manipulation-in-research>

