

# **Academic Fraud Cross Impact Analysis**

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<b>Tables of content:</b>	<b>Page</b>
1. Introduction	1
2. Cross Impact Analysis for the Diederik Stapel Fraud	2
3. Conclusion	5
4. Reference	6

## **Introduction:**

The demand for research funding has exacerbated the issue of research fraud, which has been a long-standing problem. The paper I have selected examines the nature and extent of research fraud, the length of time required to investigate such fraud, and the inadequacy of university investigations. Additionally, there seems to be a hesitancy to inform the scientific community about fake research papers, and the media's coverage of fraud is explored. The study aims to determine whether the compensation system in higher education encourages research dishonesty by examining the reward structure in higher education and its impact on researchers, with the possibility that research fraud is normalized. It is noteworthy that only a small number of papers on Quality in Higher Education deal with academic research quality.

This extensive commentary focuses on research quality, specifically research fraud, which involves fabrication, falsification, or deception in the performance or reporting of research results. Research fraud attempts to publish misleading research that has either been created or previously published elsewhere, deceiving employers, funders, research publishers, and readers, including the public it's not surprising that research is also fabricated. Most of the research is primarily conducted with integrity, focused on furthering understanding rather than misleading scientific readers or funding providers. The article cites well-known cases of research fraud, such as Piltdown Man, a human skull fused with an orangutan's jaw and chimp's teeth discovered in England in 1912, which was hailed as the "missing link" in the evolution of hominids from apes before being exposed as a forgery in 1953. These cases are not new evidence but are taken from various lists of research fraud cases, such as Retraction Watch and Online Universities.

The article highlights examples of research misconduct, including the case of Dutch psychologist Diederik Stapel, who confessed to fabricating data and entire experiments that were published in several journals. Stapel published studies claiming that eating meat made people selfish and less social, that advertisements for beauty products made women feel insecure, and that an experiment at the Utrecht train station increased racist tendencies in individuals. When he was unable to validate his statistics, he was eventually removed from the University of Tilburg. Stapel's case is well-known as an instance of research fraud.

South Korean stem-cell researcher who in 2005 published an essay asserting that human stem cells were obtained from cloned embryos. However, after a colleague reported the human cloning results were inaccurate, the researcher, Hwang, was terminated from Seoul National University in March 2006. He was found guilty of misappropriating research funds three years later in 2009.

The Karolinska Institute's negligence in handling the case of Paolo Macchiarini, who was found to have manipulated data, lied about patient conditions, and evaded ethics approvals in six published papers. This resulted in harm and death for several patients. When the institution finally acknowledged the scandal, it turned on the whistleblowers, finding one guilty of scientific misconduct and recognizing two others as "blameworthy." In addition to data fabrication, another form of fraud is accepting a research grant but not conducting the research.

On September 11, 2021, TheLifeofScience.com organized a panel discussion aimed at exploring various aspects of India's scientific misconduct crisis. The event featured four panelists and attracted around 200 attendees, making it a promising success. One of the panelists was Mohana Basu, a special correspondent at theprint.in, and each of them shared their insights on scientific misconduct based on their personal experiences and areas of expertise. During the two-hour discussion, the panel shed light on what constitutes scientific misconduct, the institutional frameworks that enable its proliferation, concerns of scapegoating, and how power influences and shapes the discourse surrounding scientific misconduct in India.

Our CIA Spreadsheet shows that Diederik Stapel, the researcher in question, has a greater impact on the system, indicating that the entire case revolves around Dr. Stapel rather than the other variables.

## **Cross Impact Analysis for the Diederik Stapel Fraud**

Identify a set of actions and policies that can be implemented to prevent a recurrence of the type of academic fraud perpetrated by Dr. Diederik Stapel.

Steps are listed below

1. Based on a literature review, a set of interacting variables, facts, problems, policies, actions, decisions, actors, stakeholders, and outcomes relevant to our objectives was identified
2. Filling the CIA spreadsheet
3. What If Analysis
4. Summary
5. Position and Plan of Action

### **1. Interacting Variables:**

The guide used to identify variables included considerations of ethical, technical, and economic issues and problems, as well as the rights and responsibilities of affected stakeholders. Social and political constraints on potential solutions were also taken into account, along with the need for additional information to make ethical decisions and alternative courses of action to achieve objectives. Possible consequences of different actions and decisions were considered, as were alternatives based on fundamental ethical values.

In this report, a group of stakeholders is usually assembled to develop a list of variables and reach agreement on the pairwise effects of those variables. A small cross-impact analysis table was utilized for the analysis, with identified variables sorted by type (internal or external) in the variable table before being copied to the CIM worksheet.

Type	Variable Name	Description
Internal	Diederik Stapel	Person who generated the Academic fraud.
Internal	University of Groningen	Institute which released a report on this fraud.
Internal	Tilburg University	Researcher worked in this University and also released report.
Internal	Racial Stereotyping	Part of a belief system about the typical characteristics of members of a particular ethnic group.
Internal	American Psychological Association	Scientific and professional organization which represents psychologists in the United States.
Internal	Advertisements on Personal Identity	How advertisements effect on how people are viewing themselves
Internal	Doctoral Thesis	Researchers oversaw more than a dozen doctoral thesis.
External	Science Journal	Publish the very best in research across the sciences
External	Psychologists	Actors who have reported a raft of findings on race biases

## 2.Filling the CIA spreadsheet

We utilized a row-by-row approach to assess the impact of each row variable on the corresponding column variable. The impact value entered in the spreadsheet ranges from -5 to +5, with -5 denoting a strongly negative effect and +5 representing a strongly positive effect. The chosen range is arbitrary.

Upon completing the Cross Impact Analysis spreadsheet, the bottom row of the top row displays the net impact of the system on a specific variable, taking into account both positive and negative

effects. A net impact of zero indicates that the variable has remained essentially unchanged throughout the system, possibly due to its difficulty altering. Conversely, a positive impact suggests that the variable is more susceptible to change. The left column of the interaction analysis summarizes the absolute values of all variables' effects on the system, providing an indication of how much a particular variable affects the system's behavior.

#### Variable Impact on System and System Impact on System

Type	Category	Variable Name	Variable Impact on System	System Impact on variable
Internal	Researcher's	Diederik Stapel	21	19
Internal	Institutional	University of Groningen	10	12
Internal	Institutional	Tilburg University	9	13
Internal	Information	Racial Stereotyping	12	15
Internal	Society	Advertisements on Personal Identity	5	14
External	Publication	Science Journal	0	11
External	Society	Former Students	0	19
Internal	Information	Doctoral Thesis	1	22
External	Information	Psychologists	0	17

### 3.What If Analysis:

- These rankings provide important insights into the consequences of Diederik Stapel's research fraud.
- The top three variables in terms of impact on the system are Diederik Stapel, Racial Stereotyping and University of Groningen.
- The top three systems in terms of impact on the variable are Doctoral Thesis, Former Students and Psychologists
- It is also worth observing that variable most negatively impacted by the research fraud is Science Journal

### 4.Summary

The responsibility for the fraud case involving social psychologist Diederik Stapel and the three Dutch universities where he worked goes beyond just him. In a final report jointly released by

three research institutions, the field of social psychology itself was criticized for a "sloppy" research culture. The reviewers noted that some scientists lacked a fundamental understanding of statistics and that certain journals enabled researchers to publish unnecessary information. This environment led to the omission of irrelevant data, and even respected journals published results that were too good to be true. The Committees at each of the universities concluded that basic scientific standards and methodological requirements were being ignored. In the past 13 months, Stapel's research agency examined all 137 of his treatises and interviewed over 80 people, including Stapel himself. The Tilburg Commission, chaired by psycholinguist Willem Levelt, coordinated the effort. The final report found data fraud in 55 treatises and 10 PhDs supervised by Stapel, and evidence of fraud in another 10 treatises, including mis-specified p-values and participant numbers.

### **5.Position and Plan of Action**

- Professional behavior is strongly influenced by the Code of Professional Ethics, and it is crucial for academic and professional organizations to ensure practitioners comply with it
- To prevent research fraud from being published, researchers should actively work on peer-reviewed publications
- Eliminating perpetrators of research fraud from research practices should be a proactive effort by professionals, academic institutions, and research institutes
- The Human Experimentation Commission needs to be strengthened to prevent the abuse of human experimentation
- Social media platforms must implement policies to effectively validate research and scientific information to prevent false information from being published online
- Healthcare professionals need better support systems in place
- Assistance should be provided to school systems to prevent communication illnesses
- Additional support should be established for parents of children with autism

### **Conclusion**

Detailed examination of the regrettable Stapel case have resulted in a beneficial outcome: increased attention to research integrity in the Netherlands and around the world. If this heightened awareness leads to the promotion of a prevalent culture of conscientious research and the implementation of strong management techniques that promote adherence to rigorous standards, then the significant efforts of the examination committee will not have been wasted.

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