The Burden of Proof: A Forensic Teardown of the Francesca Gino Allegations

AI narrator

For the first time in its 385-year history, Harvard University revoked the tenure of a faculty member, Professor Francesca Gino. This action was driven by a bespoke internal investigation. The administration concluded that Gino committed intentional academic data fraud across four separate research papers.

The legal and academic standard required to justify revoking tenure is clear and convincing evidence. It requires a firm conviction of guilt, typically defined as a 70% to 80% level of certainty. It sits well above a simple preponderance of evidence. A rigorous forensic review of the actual data and the procedural framework used to gather it reveals a massive evidentiary deficit in Harvard's case.

We are going to deconstruct the four allegations in reverse chronological order to test whether the evidence actually meets that strict threshold.

If the data fails to cross the clear and convincing line, then the institutional decision to revoke tenure lacks its required factual foundation.

Before analyzing a single spreadsheet, we have to establish the institutional procedures Harvard Business School used to run this investigation. The administration imposed a strict multi-year gag order on Gino. She was forbidden from discussing the charges with anyone outside of two designated advisors. Concurrently, the investigation blocked her from hiring an independent forensic data analyst to evaluate the evidence against her during the initial inquiry.

This timeline represents the standard academic statute of limitations.

Institutions universally recognize that research older than six years cannot be investigated because raw data degrades[1] and memories fade, making a fair defense impossible. Three of the four papers

[1] Correction: the evidence decays for multiple reasons, but the raw data, if preserved, does not degrade.

targeted by Harvard fell entirely outside of this permitted window: One study was 14 years old. [2]

By overriding the statute of limitations, enforcing a gag order, and barring independent expert analysis, the institution created an asymmetrical investigation uniquely prone to confirmation bias.

Allegation 4 targets a 16-year-old study conducted at the University of North Carolina. In that era, the raw data was collected using physical paper surveys. The committee based its entire conclusion on a digital file they called File A. They assumed File A was the complete, raw baseline data, perfectly transcribed from the physical paper surveys.[3]

They then compared File A to File B, the final data set used for the published paper. Finding discrepancies between the two, they accused the author of manipulating the data. That logic held until the original, physical participant payment receipts were discovered in an unpacked moving box in Gino's garage.

This schematic compares the physical records to the digital files. Forensic verification shows that File A was missing multiple participant entries that clearly existed on the physical receipts. File B matches the physical receipts perfectly. That proves File A was not the raw baseline. It was simply an incomplete mid-process draft. Because File A was demonstrably incomplete, the foundational premise that data was fraudulently manipulated between File A and File B simply does not exist.

Allegation 3 centers on a 14-year-old study involving a coin flip.[4] In the raw data, 12 participants truthfully reported their coin flip results, yet they were ultimately marked in the final data set as cheaters.

The investigating committee assumed that two specific columns in the spreadsheet, reported guessed correctly and cheated, were meant to be exact duplicates of each other.

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[2] Correction: the three papers were published 11, 12 and 14 years ago. At the time of the initial investigation, late 2021, the three papers had been published 6, 7 and 9 years earlier.

[3] Clarification: the study was conducted in July 2010. That's 16 years ago, and 11 years before the start of the HBS investigation.

[4] Clarification: the study was conducted in 2012. That's 14 years ago, and 9 years before the start of the HBS investigation. It is disputed whether the coin flip was rigged. This analysis assumes that Harvard is correct in claiming that it was rigged.

Operating on that assumption, the committee concluded that any discrepancy between these two columns was a deliberate, fraudulent cover-up by the lead author.

This flowchart models the actual design of the spreadsheet. Cheated was not a duplicate column. It was a derived multidimensional variable coded by research assistants based on multiple variables across the study. An assistant could review the data and see that a participant was truthful about the coin flip but had violated other critical rules of the survey, triggering the cheater code in the final column. To verify how this logic was applied, you would need to ask the research assistants who processed the data. The committee never interviewed them.

By failing to verify the coding logic with the specific assistants who did the work, the committee falsely presumed that standard academic coding was an act of fraud. [5]

Allegation 2 focuses on exactly 154 anomalous data cells.

A separate claim regarding 20 fabricated rows was already conceded by the university to be the work of internet scammers, leaving these 154 cells as the core charge. The committee claimed the author manually manipulated these 154 specific cells to strengthen the study's overall hypothesis. This chart shows the exact breakdown of those 154 anomalies. While 56% do favor the hypothesis, a massive 44% actively weaken the results or have zero statistical effect.[6] Fabricating data that actively weakens the very results you are allegedly trying to forge undermines the theory of intentional manipulation.

Forensic analysis points to a highly specific mechanical mistake known as a drag-and-drop swap error.[7] If you highlight a block of data, hold the Shift key down, and drag it across a spreadsheet, this animation demonstrates what happens.

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[5] Clarification: in Allegation 3, there are other discrepancies between the first available dataset and the dataset used for the analyses reported in the paper. Some of the changed values strengthened the results of the paper, and some weakened them. The original, raw data has not been found.

[6] Correction: the changes affected variables irrelevant to the study hypothesis, but the changes do not weaken the results.

[7] Correction: in Excel, the Shift-drag is a feature that swaps the cells you had selected, and places them at the destination where you release the mouse. This feature is described in Microsoft technical documentation. See https://support.microsoft.com/en-us/office/move-or-copy-cells-rows-and-columns-3ebbcafd-8566-42d8-8023-a2ec62746cfc at "Move or copy rows and columns by using the mouse," and "Cut and insert."

The selected block perfectly swaps places with an adjacent block of identical size. Excel executes this action instantly without triggering an error warning. The exact geometric pattern of the 154 anomalies perfectly matches the footprint of this specific replicable software error. When the anomalies align with a replicable software error while simultaneously weakening the research hypothesis, the theory of intentional manipulation becomes significantly less probable than the theory of a mechanical mistake.[8]

The final allegation claims that 1,066 data changes occurred on a single date in 2014.[9] The committee concluded that the author downloaded raw data directly from the survey software on that exact date and immediately manipulated it.[10] The defense presented counter evidence.

A research assistant testified to providing a pre-cleaned file prior to that date. If true, the anomalies could simply be processing errors introduced during that initial cleaning.

This visualization represents the computer's internal operating system logs. These logs record every action, isolating exactly where a file originated, whether downloaded from a web browser or opened locally from a USB drive. But the university committed a catastrophic investigative failure. When they seized the computer, they failed to capture a proper forensic image of the hard drive.[11] Because they failed to secure that image, standard system routines cycled through and permanently destroyed those specific operating system logs. By destroying the definitive technical evidence, the investigation had to rely entirely on their own presumption of guilt rather than forensic reality.

Across all four allegations, the university's case relies entirely on the presumption of intentional manipulation. The data actively

[8] Correction: 94% of the 154 changes can be explained by the swap error. The remaining changes can be explained by another Excel feature used in error. As indicated, the changes affected variables irrelevant to the study hypothesis but the changes do not weaken the results.
[9] Correction: the year was 2020, not 2014.
[10] Clarification: Harvard presented a specific narrative. They claimed that Gino downloaded the raw data directly from Qualtrics on the afternoon of January 24, 2020, and then spent that afternoon and evening running commands in SPSS, a statistical software program, tweaking the data to force results.
[11] Clarification: as Gino's forensic expert testified, HBS did not make a forensic image of Gino's laptop. Instead, it appears that HBS only copied a subset of the files under the "fgino" profile of her laptop. We do not know how exactly the copy was made.

contradicts this presumption. Verifiable mechanical glitches and basic processing errors explain the anomalies, yet the investigation refused to test those realities. This was enabled by an asymmetrical process, enforcing gag orders, blocking independent experts, ignoring statutes of limitations, and overriding critical forensic logs.

The legal standard required to revoke tenure is clear and convincing evidence. Because the anomalies are ambiguous and highly plausible alternative explanations were systematically ignored, the evidence fails that standard.

The unprecedented revocation of tenure lacks a rigorous factual foundation.