Academic Fraud in the Use of Generative Artificial Intelligence (GenAI) for Faculty Promotion and Tenure

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Abstract

Since its emergence in 2022 through OpenAI, generative artificial Intelligence (GenAI) has represented a major technological breakthrough with the potential to revolutionize higher education systems. However, in addition to being a potentially helpful work tool, GenAI can also enable academic fraud. The purpose of this manuscript is to propose the foundations of a legal framework for addressing academic fraud in university faculty promotion and tenure that is facilitated by the use of GenAI. This manuscript begins with an introduction outlining how current GenAI capabilities could be used to engage in academic fraud. The manuscript then examines the underlying ethical systems in higher education that underpin decisions to utilize GenAI broadly, as well as more specifically in the creative process of scholarship. This discussion is followed by a section that explains the incentives to engage in academic fraud caused by national policies and university systems governing the promotion and tenure of faculty members in the United States (U.S.) and Spain/Europe. The legal framework at the end of this manuscript provides policymakers in government and university administration with interrelated concepts to guide the drafting of new policies that would govern the use of GenAI in academic scholarship. As stated in the concluding section, the authors have designed an empirical study to test the response to their proposed legal framework among faculty researchers, considering their systems of ethics and incentives that undergird temptations to engage in academic fraud. The authors present this manuscript as a primer for that future study.

Keywords: generative, artificial intelligence, academic dishonesty, ethics, law, international, tenure, promotion

1. Introduction

Since its emergence in 2022 through OpenAI, generative artificial Intelligence (GenAI) has garnered significant attention from academia and the media. GenAI has the potential to revolutionize higher education, which prepares future professionals. We can define GenAI as a system of sophisticated algorithms in computing technology that generates content using data from all available sources, such as scholarly works (Kalota, 2024). GenAI builds upon earlier versions of what are known as large language models, a process in machine learning (Megahed et al., 2024). Machine learning generates predictions based on patterns in existing input data (Megahed et al., 2024). These predictions take the form of outputs, such as text, images, and more, which users of GenAI receive as responses to their prompts in programs like ChatGPT.

Machine learning models have, for many years, made prediction outputs using numerous coexistent parameters. Parameters are values akin to coefficients in an equation that enable GenAI models to make their predictions. However, the current generative models of artificial intelligence are far more sophisticated than those of the past, often incorporating as many as 175 billion parameters (Megahed et al., 2024). This level of sophistication in GenAI models has empowered programmers to design applications that generate new content by leveraging the stochastic properties of the data, rather than merely analyzing existing content (Megahed et al., 2024). Furthermore, GenAI offers users multiple ways to interact with it. These interactive modalities include text, images, videos, code, sound, and other generated content, such as molecules and 3D renderings, which can be translated from one modality to another (Banh & Strobel, 2023).

GenAI promises to support or possibly even automate many aspects of a faculty member's teaching and scholarly work. For example, GenAI chatbots could adapt a faculty member's explanations of course concepts, teaching methods, and materials to address student misconceptions in addition to their interests and learning levels (Ahmad, Murugeshan, & Kshetri, 2023; Baidu-Anu & Ansah, 2023; Cooper, 2023; Pack, 2023; Rashel et al., 2024). This adaptation is possible because GenAI collects and analyzes performance data while it interacts with the student (Chiu, 2023; Fui-Hoon Nah et al., 2023; Kaplan-Rakowski et al., 2023; Rashel et al., 2024). In addition, GenAI can facilitate the brainstorming and creative writing process and generate new content such as research papers, images, audio, videos, computer code, and 3D models by typing requests (Ali et al., 2024; Ahmad, Murugeshan, & Kshetri, 2023; Chiu, 2023; Cooper, 2023; Fui-Hoon Nah et al., 2023; Kanders et al., 2024; van den Berg, 2024; Yu & Guo, 2023).

Multiple authors and institutions have addressed the challenges posed by GenAI. On the one hand, some view GenAI as a scourge capable of destroying jobs that have traditionally been unaffected by technological advancements. At its extreme, this doctrinal perspective can be outright hostile toward GenAI. An example of this can be found in Andy Farnell's statement: "Talking to ChatGPT is like talking to a psychopath" (Grove, 2023). On the other hand, GenAI could transform educational models for the better at all levels by, for example, helping faculty members improve their writing (UNESCO, 2023).

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) (2023) presents, in the authors' view, an example of excessive optimism regarding the potential usefulness of GenAI. The authors agree with much of UNESCO's (2023) assertions, such as the idea that GenAI could act as a Socratic opponent, but there is a certain idealization of the technology within its text. For instance, the text mentions the potential use of GenAI to take over all the technical aspects of research, including grant writing and communications plans, as if these activities do not involve unique and creative inputs from the researcher to justify funding for and attention to their projects. This idealization of GenAI does not consider its practical limitations, such as hallucinations. In a review of 333 most relevant articles published from 2013 to 2023, Maleki, Padmanabhan, and Dutta (2024) found that GenAI hallucinations, the fabrication and stochastic (or random) parroting of unsupported facts, are endemic to GenAI outputs. For instance, a later UNESCO (2024) report emphasizes the risk of GenAI minimizing or distorting events such as the Holocaust, downplaying its significance. Hallucinations represent the greatest limitation to faculty researchers in utilizing GenAI to support their teaching and scholarly work.

GenAI hallucinations stem from two primary, generalizable issues: the use of incomplete or biased input data to train the technology, and the complexity of the models and algorithms that process this data (Gondode, Duggal, & Mahor, 2024). Additional factors contributing to GenAI hallucinations include bias in model design, as well as incorrect encoding of input data, decoding of output data, and the matching of heuristic data collection (Siontis et al., 2024). These technology-based challenges necessitate technological solutions. Hence, studies focused on technology, such as those by Kim et al. (2025) in the field of Bioengineering, have developed potential tools for their specific disciplines to address the causes of hallucinations in GenAI. However, the effectiveness of these tools remains uncertain. Further time and research are required. Meanwhile, other studies investigate user-focused solutions, such as artificial intelligence literacy, to identify GenAI hallucinations and mitigate their negative effects (Hien & Nga, 2024; Walter, 2024).

The authors of this manuscript take a balanced stance, appreciating the opportunities offered by GenAI while highlighting the precautions needed to address its limitations. The public must be critically oriented toward the use of GenAI. From an educational perspective, supervision by human beings is essential and should not be automated, as the safe and ethical use of GenAI requires both technical knowledge and the user's critical stance. This supervision is also necessary for legal reasons. For instance, the use of GenAI in the medical field has been extensively studied. In the event of an incorrect diagnosis by GenAI, which is possible due to hallucinations or other potential errors, the doctor's legal responsibility cannot be transferred to GenAI. To whom, then? The company that developed the GenAI? These questions have yet to be answered, but it is unlikely for GenAI itself to be held completely responsible since its outputs are a function of human inputs of data, programming, and model specification.

This is the same situation observed in higher education. In the case of scholarly work, which is also prone to hallucinations or other potential issues, the legal responsibility for egregious factual errors that create ripple effects of misinformation, potentially tarnishing the reputations of other researchers, cannot simply be transferred to the GenAI. Thus, the authors of this manuscript identify a first challenge: the need for faculty members and other researchers to adapt to GenAI in their respective fields, which requires constant learning and updating, given the rapid advancement and improvement of GenAI. A second challenge, given the limitations of GenAI, is the need to incorporate (or reinforce) skills such as critical analysis among faculty members and students. These are skills that guarantee both the

appropriate use of this tool and its ethical use, which are the same. By overcoming these challenges, faculty members might be able to reduce or even eliminate potential harm from the use of GenAI.

However, another major and more pernicious source of harm from the use of GenAI is the possibility of academic fraud on the part of faculty members and researchers, which risks distorting scholarly work that is so critical to the progress of university careers. Academic fraud is an especially salient issue because cases of cheating have increased in recent years compared with past decades (Burke & Sanney, 2018; Malesky, Baley, & Crow, 2016; Williams & Hosek, 2003). Unlike hallucinations, harm from academic fraud would not likely disappear with flexible adaptation to GenAI and critical analysis. Therefore, eliminating academic fraud in GenAI use requires policy and law to create a deterrent that weakens the incentives to misuse the technology.

The next section presents documented evidence of GenAI use by faculty researchers in their academic scholarship. The section after that explores the underlying ethical systems in higher education for decisions to use GenAI broadly and more specifically in the creative process of scholarship. This discussion is followed by an explanation of the incentives to engage in academic fraud, which are influenced by national policies and university systems governing the promotion and tenure of faculty members in the United States and Spain/Europe. This manuscript concludes with the foundations of a legal framework to conceptualize academic fraud in GenAI use. A legal framework will provide policymakers in government and university administration with interrelated concepts to guide the drafting of new policies to govern the use of GenAI.

2. Evidence of GenAI Use in Academic Scholarship

Most of the electronic tools that faculty researchers use to write new scholarly works involve some form of artificial intelligence. Consider the online databases that researchers use to identify the most relevant literature to inform their study and the software that organizes and generates their citations. These tools have been available to researchers for over two decades and are now connected to most word processing programs. As such, it is difficult for faculty researchers not to use these tools. However, as of this publication, it has only been slightly less than three years since OpenAI made GenAI publicly available. Consequently, it is yet unclear how extensively faculty members use GenAI nationally or worldwide. Nevertheless, some early studies are providing preliminary evidence of GenAI use by faculty researchers in the various stages of scholarly research.

One of these early studies involved a survey of faculty at a university in the northeast of the United States. The survey, which took place from the fall of 2023 to the spring of 2024, revealed that 24% of respondents reported using ChatGPT for their academic research (Szelenyi, 2024). Another study surveyed 76 faculty members at a university in the southwest region of the United States, finding that 70% of participants used GenAI at least once weekly and 9% used it daily (Kim et al., 2025). Still, one more study involving a survey of 1,256 faculty members in a Mexican university reported that 17.8% used GenAI frequently, and 77% of participants had used GenAI to produce text at least once (Nevárez Montes & Elizondo-Garcia, 2025). The mere use of GenAI does not imply misuse. However, the use of GenAI in research might indeed involve fraudulent misuse. The problem here is that there is no consensus in the international community of universities on what constitutes a legitimate use of GenAI in scholarly research. Ganguly et al. (2025) illustrate this point with findings from a survey of policies at 20 U.S. universities on the use of GenAI in scholarly research. Survey results indicated that 93% of the sample deferred to faculty researchers to determine what uses of GenAI were ethical and legitimate (Ganguly et al., 2025).

Yet, despite the lack of consensus on what constitutes legitimate use of GenAI in scholarly research, policies at universities worldwide prohibit the use of falsified and fabricated data or content, whether produced by GenAI or otherwise. Currently, most evidence of scholars' use of falsified and fabricated data or content appears in the news media as a part of reports on disputed and retracted scientific journal articles. For instance, a news report went viral on social media after the journal Frontiers in Cell and Developmental Biology retracted an article due to criticism from readers regarding the nonsensical illustrations of mammalian testicles and sperm cells in the manuscript (Franzen, 2024). The illustrations appeared to be outputs from a GenAI program. Another news source reported the results of an analysis of a sample of manuscripts listed on Google Scholar, finding that approximately two-thirds of them were written at least in part by GenAI programs and included questionable data and claims (Haider, J., Söderström, Ekström, & Rödl, 2025). However, a research organization called Retraction Watch is the most notable reporter of potentially falsified or fabricated content from the use of GenAI programs. Retraction Watch maintains a list of published scholarly articles that contain evidence of GenAI use, typically identified by keywords such as "regenerate response" (Retraction Watch, 2024). Keywords like 'regenerate response' are standard parts of outputs in GenAI programs, such as ChatGPT. The reader can often identify the use of GenAI programs when those keywords appear randomly and out of context in published articles, when authors forget to delete the evidence.

3. Ethical Frameworks for Using GenAI

Faculty members and other researchers in higher education follow classical systems of ethics in their decisions about how to use all available tools, such as GenAI, to conduct scholarly research. These interwoven ethical systems include the following: classical utilitarian, virtue, and deontological ethics, in addition to ethics from contemporary philosophies such as pragmatism. Regarding utilitarianism, Jeremy Bentham and John Stewart Mill argued that truly ethical choices maximize positive outcomes and minimize negative ones (Mill, 2009; Parekh, 2013). Aristotle and Immanuel Kant, respectively, argued that ethical choices must be consistently and intentionally prudent, just, fortuitous, and tempered (Aristotle, 2019; Kant, 1991). Ethical choices must also align with a core set of rules and principles based on reason (Aristotle, 2019; Kant, 1991).

University policies and the law more generally compel faculty members and other researchers to follow classical utilitarian, virtue, and deontological systems of ethics. However, faculty members and other researchers often also follow the ethical systems of more contemporary educational philosophies, such as pragmatism. The founder of pragmatism, John Dewey rejected the sole focus on philosophies stemming from metaphysics, as with classical utilitarian, virtue, and deontological ethics (Noddings, 2018). According to Dewey, ethical choices must be informed by the concrete connections between factors creating the problems at hand (Noddings, 2018). Ethical choices must also use practical tools to address problems effectively and account for the stakes and consequences to learners of not using all tools available (Noddings, 2018).

Therefore, in contrast to utilitarianism, Dewey's ethics are not concerned with the need for the benefits of a choice to outweigh the costs (Noddings, 2018). His ethics concern only whether the consequences of a choice solve specific real-world problems (Noddings, 2018). Consequently, Dewey's pragmatic approach to ethics would permit faculty members and other researchers to use tools such as GenAI as long as their use is targeted to solve a specific problem efficiently. As such, it is not difficult to imagine faculty members and other researchers attempting to maximize their use of GenAI to expedite the time-consuming process of research and writing. If faculty members adhere completely to the ethics of pragmatism, then they would not concern themselves with the problems that their use of GenAI creates, regardless of the potentially negative impact on other researchers and their intellectual work.

4. Ethical and Legal Concerns for GenAI in the Creative Process

Cropley (2023) used classical systems of ethics, just over a decade before the writing of this manuscript, in a philosophical piece exploring the broad moral considerations in the design process of various fields of engineering. He argued that virtue and deontological ethics, and what he calls rights ethics, provide useful insights into the morality of truthfulness and accountability of not only the engineers designing and building a product, but also the rule makers overseeing the process (Cropley, 2023). He argued for a certain level of restraint on creativity, advocating for alignment with classical systems of ethics (Cropley, 2023). This manuscript makes similar arguments about the governance of GenAI use. Restraining the use of GenAI in higher education aligns with classical systems of ethics and could help protect the intellectual work of scholars from academic fraud.

However, Cropley (2023) also provided a broad model for understanding the potential intent, i.e., the attitudes, dispositions, and motivations, of scholars and their rule makers in using or sanctioning the use of GenAI (Cropley, 2023). Intent is a significant aspect of virtue, deontological, and rights ethics. Virtues and duties involve an inner compulsion or motivation to do what is right and good. Intent is equally as relevant in the field of law. For instance, legislators write criminal laws that either permit or require judges and juries to consider intent in determining a defendant's crime and sentencing. Therefore, Cropley's (2023) model for ethics of creativity suggests that university and government policies, in alignment with classical ethics, should include intent in their designations of offenses and punishment for misuse of GenAI.

A creator's intent and the intent of their rulemakers can be either benevolent, malevolent, or somewhere in between (Cropley, 2010). More recently, Sun et al. (2024) refer to these types of intent as benevolent misinformation and malevolent disinformation. A scholar's intent for using GenAI could be benevolent if they meant for their intellectual work to be unique and add value to their field of study. A scholar with benevolent intent would not seek to plagiarize the work of others or fabricate data. By contrast, a scholar's intent for using GenAI could be malevolent, for instance, if the scholar knew their work was plagiarized and tried to pass it off as unique, or if they used GenAI to fabricate false truths that invalidated the legitimate works of other researchers. In reality, a scholar's intent in using GenAI is likely far more nuanced. For instance, a scholar under pressure to produce scholarly work might justify the use of GenAI by convincing themselves that previous works were mere rehashes of even older manuscripts anyway.

Cropley's (2023) model for ethics of creativity also suggests that university and government policies should factor in harm from GenAI use in determinations of misuse and punishment. He invokes utilitarian philosophy, which determines the ethics of an action by requiring a net positive outcome (Cropley, 2023). Applied to the use of GenAI in higher education, utilitarian philosophy suggests that using GenAI is ethical if it does not create more harm to past scholars whose work inhabits GenAI databases than the good it creates by generating new scholarship. However, deciding whether GenAI use creates more harm than good is purely subjective. Therefore, Cropley (2023) offers an alternative through rule utilitarianism, which would deem GenAI use as ethical only if it created no harm at all to the scholars whose works were inputted into a GenAI program and no harm to the enterprise of scholarship as a whole.

5. Incentives for GenAI Use to Advance Academic Careers

Decisions by faculty members and other researchers in higher education to commit academic fraud do not occur in a vacuum. Policies for tenure and promotion can create permission and incentive structures for them to do so. For this reason, the authors detail the national, state, and university-level policies that govern the processes of tenure and promotion for academic careers in higher education. Understanding these policies can provide context and rationale for the permission and incentive structures that encourage academic fraud. Context and rationale can then provide insights to help create the legal framework for preventing and penalizing academic fraud through misuse of GenAI, especially when it is used to produce new scholarship.

A legal framework for preventing and penalizing academic fraud through misuse of GenAI must apply to both the U.S. and European university models. Access to GenAI is global, and therefore, misuse of GenAI in one country can create ripples of harm, particularly to scholarship in other countries where Western European languages are the lingua franca. Furthermore, there has been reciprocal influence between European Union countries, especially when political, economic, and cultural ties are stronger. These legal flows must be considered when conducting comparative law studies (Muñiz, 2024) and balanced with the respective national traditions. Add to this normative context the influence of each European country's (i.e., non-Spanish) administrative tradition when addressing reforms and changes in its functioning. Consequently, a comparative analysis is essential to understanding the differences between the higher education promotion and tenure systems in the United States and Europe, or better, the European Higher Education Area.

The European situation is particularly complex. For this reason, the authors use the Spanish model as a proxy for the whole of Western Europe. The Spanish model is its own highly complex system, but there are many substantive similarities to most other Western European countries. This analysis will enable the application of the legal framework proposed in this manuscript to both the United States and Western European countries' university promotion models, adapting it as necessary to each respective context.

5.1 University Promotion and Tenure in the United States

Standardized systems of tenure and promotion emerged in the United States by 1915, when the American Association of University Professors (AAUP) was formed. The AAUP released its General Declaration of Principles, which justified a formal system of presumed permanence (tenure) (Wilson, 2016). The AAUP later advocated for universities to offer professors tenure and promotion based on the recommendations from committees of fellow faculty members, a step that AAUP founders argued would prevent university boards from infringing on faculty members' academic freedom (Amacher & Meiners, 2004).

The AAUP later recommended that universities write clear contracts for their faculty members that specify the process for earning tenure, which individual state legislatures and courts are responsible for enforcing (Amacher & Meiners, 2004; Poskanzer, 2003). For instance, universities should specify in their contracts how long assistant professors should teach and research before earning tenure, not exceeding 10 years (Amacher & Meiners, 2004). By 1940, the AAUP later changed its tenure recommendation of 10 years to 7 years (Amacher & Meiners, 2004). Furthermore, the AAUP argued that universities should spell out clearly in their contracts the grounds for terminating a faculty member and that the exercise of academic freedom should not be grounds for dismissal (Amacher & Meiners, 2004). The association codified these recommendations on grounds for terminating a faculty member in its "1940 Statement of Principles on Academic Freedom and Tenure" (AAUP, 2024).

The contracts promoted by the AAUP benefit faculty members by giving them some level of certainty that their 7-year investments in achieving specific milestones will result in tenure and promotion. These contracts also benefit universities because the lengthy road to tenure tends to attract faculty members with an intrinsic value of research production that persists even after tenure is earned (MacLeod & Urquiola, 2021). But contracts often involve costly and burdensome reprimand procedures involving due process that dissuade universities from holding faculty members

accountable for wrongdoing except in the most egregious of cases (Saltzman, 2008; Rabban, 2015). Moreover, reprimand procedures involving due process place the burden of proof on the university, and proving the use of GenAI is currently difficult (Saltzman, 2008). As a result, university administrators have a disincentive to hold faculty members accountable for most wrongdoing, and GenAI abusers can engage in academic fraud without concern over consequences.

AAUP guidance has never been legally binding. However, U.S. court decisions have made some AAUP guidance on faculty tenure and promotion binding, albeit with the AAUP as plaintiffs (Benson, 1984; Gray, 2015; Rabban, 1983). The vast majority of these court rulings came from cases where professors were dismissed while on track for tenure. In the Board of Regents of State Colleges v. Roth 1972, justices ruled that public universities must provide professors with due process to prevent a loss of property interest to a continuing public benefit. However, in Harel v. Rutgers State University 1998, justices ruled that to have a property interest, faculty must have a tangible need and legitimate entitlement to the granting of tenure. In addition, in Johnson v. Board of Regents of the University of Wisconsin System 1974, justices ruled that public universities may not discharge a faculty member for exercising their constitutional rights, such as freedom of speech and expression. In Adamian v. Jacobsen 1975, justices even ruled that public universities must state plainly what conduct could lead to termination of faculty employment.

The mere existence of these cases and the constraints they created on universities' ability to deny faculty tenure can contribute to administrators' reluctance to reprimand faculty members for wrongdoing except in the most extreme of cases, e.g., sexual misconduct (Saltzman, 2008). Like the reprimand processes written into faculty contracts, legal precedent protecting tenure, and the potential of faculty lawsuits logically creates a disincentive for administrators to assign consequences for even extreme cases of academic fraud through the use of GenAI.

U.S. universities' policies on granting tenure and promotion are also rooted in federal laws such as the Civil Rights Act of 1964 and the Equal Pay Act of 1963. The Civil Rights Act of 1964 prohibits discrimination in hiring, firing, and promotion based on race, color, religion, sex, and national origin (Civil Rights Act, 1964). The Equal Pay Act of 1963 outlaws discrimination in pay between the sexes for the same work (Equal Pay Act, 1963). When passing these acts, the U.S. Congress created the Equal Employment Opportunity Commission for oversight and enforcement (Civil Rights Act, 1964; Equal Pay Act, 1963). These federal laws can also logically create a disincentive for administrators to assign consequences for even extreme cases of academic fraud through the use of GenAI. Imagine a scenario in which a faculty member's research involves some form of critical theory related to race, ethnicity, or sexual orientation, and there is evidence of fraud in their work. Suppose also that the faculty member is a person of color or a member of the lesbian, gay, bisexual, and transgender community. If any individual evidence of their academic fraud is at all ambiguous, the university might be reluctant to even investigate, fearing a civil rights lawsuit from the faculty member. The faculty member's research could, after all, arguably be connected to their racial, ethnic, or sexual identity. Any attack on the integrity of their research could be framed as racial, ethnic, or sexual discrimination.

As demonstrated here, the courts and federal law all have a broad influence on university tenure and promotion systems in the United States. However, governance over specific details of these promotion and tenure systems is largely decentralized, with rules and procedures written at the university level. In general, provosts, college deans, department chairs, faculty, and labor unions work collaboratively on committees to create rules and procedures for promotion and tenure (Wiley et al., 2016). This multi-stakeholder process of writing rules and procedures creates an equally complex promotion and tenure process, with ambiguity that can make it difficult to predict precisely whether a faculty member will be promoted or receive tenure (Youn & Price, 2009).

Most colleges and universities in the United States make decisions for tenure and promotion based on an evaluation of a faculty member's contributions to service, teaching practice, and, most importantly, research and publications (Schimanski & Alperin, 2018). Still, the ambiguity in those decisions comes from the discretion that tenure and promotion committees have in weighing contributions from service and teaching practice (Wiley et al., 2016; Youn & Price, 2009). For instance, some committees might give more weight to a faculty member's service if it led to the award of a multi-million-dollar grant. Others might default to a heavier weight for innovative teaching practices if these practices could be marketed to increase enrollment in a department.

More importantly, ambiguity in decisions results from the ability that committees have at many universities to give more weight to certain types of publications over others (Wiley et al., 2016). For instance, some committees may favor publications in national journals that influence U.S. policymaking, while others prioritize international publications that have a broader readership. Other committees might reward faculty members with tenure and promotion if they have more publications overall, which could increase the likelihood that some of those works are accepted by top-tier

journals. As a result, this ambiguity creates incentives for faculty members seeking tenure and promotion to write and publish as many works as possible, thereby increasing the probability of satisfying their committees' expectations.

5.2 University Promotion and Tenure in Spain: The Spanish/European Case

5.2.1 Public Employment Models

The Spanish and continental European tradition is based on the Napoleonic model, and as such, faculty members and other researchers in higher education public institutions are public employees with a statutory legal relationship with the state (Carpentier, 2019). This contrasts with countries that have a managerial tradition, such as the United States (Kickert, 2007). Each model protects different and distinct interests. The managerial tradition focuses on goals such as efficiency and commercial application. Generally speaking, the Napoleonic statutory and legal model emphasizes the professional values of public employees, who are protected and subject to greater legal control (Carpentier, 2019; Kickert, 2007). However, they enjoy greater job security and tenure (Carpentier, 2019). The statutory model is more rigid and guarantees more rights, paying less attention to system efficiency and focusing more on procedural compliance (Carpentier, 2019).

In the Spanish case, the foundations of its Napoleonic model lie in the constitutional and legal regulations governing the public service. The constitutional principles enshrined in Article 23.2 of the Spanish Constitution ensure the right to access public office under conditions of equality, merit, and capacity. Article 103.3 stipulates that access to public office must be governed by the principles of merit and capacity. One historical reason for this model lies in the "professionalization" of the public service, aimed at preventing personnel changes due to political shifts (Chapman, 2024). Consequently, civil servants are protected from political changes by their professional status (Rouban, 2012). In other words, although they may be demoted or promoted within their respective fields for political reasons, they cannot be dismissed from service.

Herein lies the structure within the Spanish and European Napoleonic system that incentivizes the use of GenAI to improve opportunities for promotion. Greater job security and tenure, along with stronger worker protections, can alleviate some concerns about the potential loss of employment due to the misuse of GenAI. Furthermore, the excessive focus on procedural compliance can result in inattention to the inefficiencies introduced to merit-based promotion by the use of GenAI. In other words, if there is no specific rule against one specific unfair use of GenAI, then the Spanish and European Napoleonic systems could ultimately permit the promotion of a faculty member who did not create most of their scholarly work.

The lack of concern over the potential loss of employment due to the misuse of GenAI persists in Spain's Napoleonic model even after the Constitutional Court ruling 27/1991 of February 14, which ensures equality. Because of this ruling, along with a few others, an internal candidate risks losing a promotion to an external candidate in a competition. If an external candidate is offered the higher position, the internal candidate will retain their current lower-level position, unless it is a temporary role. Therefore, a faculty member in Spain has the incentive to use GenAI to improve their competitiveness by creating more publications. At the same time, their risk of losing employment at the university is almost nonexistent, even after losing a competition to an external candidate who may not have utilized GenAI. This means that there is virtually no deterrent for the misuse of GenAI.

5.2.2 Accreditation in Higher Education

Accreditation agencies play a major role in Spain's system (and the entire EU) of promotion and tenure. Accreditation agencies evaluate the quality of institutions of higher education and have emerged in European countries since the 1980s (Guaglione, 2013). These accreditation agencies were a response to widespread criticism that the traditional autonomy of European universities had fostered insular practices with a lack of accountability (Guaglione, 2013). Guaglione (2013) argues that in Europe, the adoption of these agencies was driven by the proliferation of universities and limited resources, as well as increasing participation by the private sector in higher education (Guaglione, 2013). Some of the first evaluation agencies in Europe emerged in France in 1986 and the Netherlands in 1985 (Schwarz & Westerheijden, 2004). These agencies signaled new policies regarding state oversight of universities closely linked to the processes of European integration (Schwarz & Westerheijden, 2004). The Bologna Declaration later established the framework for a European Higher Education Area built upon the EU principles of quality, mobility, and diversity (Van der Wende, 2000).

The framework for the European Higher Education Area led to the creation of a European Quality Assurance Register. Spain is one of those EU countries with a registered agency. Spain established its agency through Article 31 of the Spanish Law 6/2001, which states: "The promotion and guarantee of the quality of Spanish universities, both nationally and internationally, is an essential goal of university policy." Furthermore, article 32 assigns to its oversight

agency for higher education "the functions of accreditation and evaluation of university teaching staff, evaluation of university degrees, and any other function assigned to it by law." It should be noted that this includes the "evaluation of university teaching staff," along with the evaluation of the quality of each university degree. Consequently, Article 32 established an external evaluation process that ensures minimum common standards in the promotion of university faculty members.

Spain's oversight agency for higher education, with minimum common standards, should, in theory, create fairness through transparency and predictability in the promotion of university faculty members. However, the oversight agency also adds a layer of bureaucracy that can make the process of promotion more difficult to navigate. A faculty member seeking promotion must not only meet the agency's minimum common standards but also any standards added by the university itself. Because these additional university standards for promotion could vary from one institution to another, a faculty member has the logical incentive to use any tools available to increase the volume and diversity of their scholarship. Increasing the volume and diversity of their scholarly work could enhance their chances of meeting the additional standards for promotion at other universities if they are denied promotion at one institution. Thus, it is reasonable to assume that at least some faculty members turn to GenAI for help, since the technology can be used to produce scholarly work more quickly.

5.2.3 Common Standards for Promotion in Spain

A comprehensive comparison of academic promotion criteria proves to be quite complex. The European accreditation system, characterized by its frequent subjective nature, introduces an element of arbitrariness into the evaluation process for scholarships. Scholarly works are evaluated against criteria that include the prestige of the publishing outlet, the length of the publication, and citation metrics, blending both formal and substantive elements. This situation creates significant legal uncertainty for applicants for promotion, who are subject to a broad margin of technical discretion. It also creates an incentive similar to that in the United States, where subjectivity in evaluation encourages faculty members seeking tenure and promotion to write and publish as many works as possible, thereby increasing the probability of satisfying their committees' expectations.

Due to the subjectivity and arbitrary nature of many other European models for promotion, the Spanish Accreditation Agency introduced new criteria in 2024, which involve a return to a points-based system (ANECA, 2024). In this system, each of the three sections of a scholar's CV must receive a minimum of 50 points out of 100 to obtain a positive evaluation. The three sections are as follows: 1st, Research, Transfer, and Knowledge Exchange Activity (including publications, but also projects, contracts, transfer, dissemination activities, stays at other universities and research centers); 2nd, Teaching Activity (teaching experience, Quality of teaching activity, innovation, teaching, and tutoring); 3rd, Leadership (management of teaching and research teams; supervision of doctoral theses and Master's Theses; leadership in university and scientific management and administration; Recognition and responsibility in scientific organizations and scientific-technical committees). Additionally, each section includes an "other merits" section for miscellaneous cases (ANECA 2024).

The results of these evaluations then open up academic career paths (or cursus honorum) in higher education. A cursus honorum can be broadly categorized into two primary groups: contractual staff and statutory civil servants. Statutory civil servants include university faculty members with tenure protections (Ortega-Colomer et al., 2024). However, the current university law establishes multiple categories, which become even more complex with equivalent but differently labeled academic career paths according to regional regulations (Ortega-Colomer et al., 2024). Nevertheless, the more basic distinction between the two categories enables identification of the specific designation in each case. The statutory civil servant category includes Catedráticos (the highest administrative category) and Profesor titular (Ortega-Colomer et al., 2024). The role of a professor titular is analogous to a tenured professor in the United States. This latter category, due to its permanent nature, is equivalent to labor positions such as Profesor contratado doctor or Profesor permanente laboral (Ortega-Colomer et al., 2024). To simplify, the figure of catedrático is equivalent to a professor, and that of profesor titular and its labor regime variants is equivalent to associate professor, based on their permanent nature. The figure of assistant professor would be equivalent to profesor ayudante doctor and profesor ayudante (Ortega-Colomer et al., 2024).

Table 1. Cross-National Equivalence of University Faculty Roles

Spain	United States
Catedrático	Professor
Professor titular	Associate Professor
Professor Contratado Doctor, Professor Permanente Laboral	Associate Professor
Ayudante doctor	Assistant Professor

Note. The authors of this manuscript constructed Table 1 using information from (FECYT, 2017).

6. Legal Framework for Academic Fraud Through Use of GenAI

A legal framework for academic fraud related to GenAI first requires a definition of academic fraud. Fraud has been defined as any means a person uses to gain an unfair advantage over another person (Romney & Steinbart, 2003). By unfair advantage, the authors mean benefits received from an illegal action that exceed what would have been received by following the law. Ivanova and Ivanova (2015) consider this unfair advantage in scholarly work, academic fraud, which is also called academic dishonesty or academic misconduct, to be defined as any type of cheating that occurs concerning a formal academic exercise. Universities worldwide publish detailed definitions of fraud so that students can recognize the problem and learn how to avoid it (Ivanova & Ivanova, 2015).

Plagiarism is arguably the most common form of academic fraud. Plagiarism is defined as the use of another's work or ideas and claiming them as one's own. Similar to plagiarism is the multiple submission or the reuse of work previously submitted at the same or another institution to fulfill academic requirements, which is commonly referred to as self-plagiarism (Ivanova & Ivanova, 2015). Another form of fraud is impersonation, assuming another scholar's identity could benefit a fraudster. Bribery, an additional form of fraud, is paying a person for a certain unethical and illegal service, such as writing a thesis or supplying test answers for somebody else (Ivanova & Ivanova, 2015). Even sabotage can constitute fraud in the pursuit of scholarship (Ivanova & Ivanova, 2015). Sabotage means acting to prevent others from completing their work. This could include theft, mutilation, or tampering with library books to prevent access to information or willfully disrupting the experiments of others (Ivanova & Ivanova, 2015). Lastly, fraud can also involve deception, such as neglecting to reveal the results of a study that contradict a researcher's hypotheses (Ivanova & Ivanova, 2015).

GenAI offers still more opportunities for academic fraud. Therefore, it is worth considering whether the unethical use of GenAI to generate text and other content should be defined as "plagiarism." Each specific legal framework, referring to both national laws and internal regulations of each university, may pose specific challenges in this regard, which could warrant a dedicated study. Nevertheless, there are some existing general options. In the frequent absence of sanctions for the use of GenAI to create content, if its use is not cited, it could be considered plagiarism. This raises two possible positions regarding the qualification of fraud, derived from the principle of typicality in sanctioning law–the need for each act contrary to the legal order to be expressly provided for. Thus, obtaining any information from a source that is not properly cited one could apply the sanctioning regime established against plagiarism by the respective regulations. In the authors' opinion, this position seems most reasonable concerning academic fraud involving uncited text generation committed by faculty members and other higher education researchers.

However, whether a work with content plagiarized by GenAI is subject to a sanctioning regime depends on evidence of intellectual property. Scholarly works with a copyright or a trademark indicate intellectual property ownership, so plagiarism of these works should activate the regimes imposing sanctions. For instance, copyright laws should impose penalties for the unauthorized use of copyrighted images, audio, and video if these uses do not comply with the principles of fair use or derivative works. Furthermore, trademark laws should impose sanctions for the misuse of GenAI to reverse-engineer trademarked content, such as computer code and engineering designs. In these cases, the misuse of GenAI should be explicitly addressed. Without specific regulations, these other cases are not currently subject to any academic universal sanction. Legally binding regulations are needed to clarify the extent to which the ethical use of GenAI can go, determining which practices are acceptable and which will undermine the basic principles of academia, especially in the case of early researchers. Legally binding regulations must then be followed by statutes concerning who has standing to file a suit for copyright and trademark infringement.

In the era before GenAI, copyright and trademark owners were the only parties with legal standing to file a lawsuit for infringement. GenAI programs, by contrast, are unique in their ability to create outputs based on the patterns within the totality of data that have trained the system. As such, GenAI programs utilize numerous data sources as inputs to

generate their outputs, making it nearly impossible to trace any part of an output to specific copyright and trademark owners. Therefore, the misuse of GenAI could pose a problem for seeking justice for copyright and trademark infringement that exceeds the scope of plagiarism laws, which may impact the legal standing for addressing such issues. For these reasons, one solution could be to modify existing statutes to allow for more flexibility in determining who has standing to file a suit. To illustrate, consider a group of hypothetical faculty researchers working for a private foundation who publish a paper on an emerging norovirus, and the group uses an uncited GenAI program to create much of the paper's text and images. The group cannot claim ownership of the text or images created by the GenAI program, but there are no clear ties within the GenAI outputs to individuals whose work was input into the program. However, it might at least be clear to virology experts who read the paper that the text and images created by GenAI in the paper are based on primary research conducted at a finite number of research universities that might not have specific copyrights but arguably should have standing to file a suit.

The application of existing sanctioning regimes and a more flexible concept of legal standing might appear excessively complex. However, administrators and policymakers cannot forget that universities serve society, both in the training of professionals and in research, and in their transfer to society. This first element compels the consideration of the usefulness of GenAI in the various fields of knowledge so that professionals acquire the necessary skills to use the tools that will be available in their future professional practice and can thus make responsible and critical use of GenAI. The second element raises the need for university research to meet high-quality standards and the professional duties specific to each field. Avoiding malpractice and adhering to research ethics also implies the need to establish norms that guarantee ethics from a legal perspective.

This last aspect leads to the consideration of the importance of conveying the ethical aspects of using GenAI in research, as well as establishing regulations that allow, wherever appropriate, for the sanctioning of malpractice. This aspect constitutes a novel proposal in the doctrinal landscape, as the ethical criteria of research must be considered in relation to the research activities of university staff members. To be clear, fraud can be committed by both students and faculty members. In the latter case, GenAI applied to academic promotion may lead to unethical shortcuts.

This is reflective of research fraud being included in white-collar crimes. Criminological theories allow for the consideration of whether the researcher may be tempted to misuse GenAI. Peterson (2011) considers that the fraud triangle is the best criminological theory that researchers have developed to explain why people commit fraud. According to this author, three elements must be present simultaneously for fraud to occur. These elements are pressure (or motive) to commit the fraud, the perceived opportunity to be able to perpetrate the fraud and remain undetected, and the ability to rationalize the action as acceptable behavior (Peterson, 2011). These three elements are often referred to as the fraud triangle, and if the risk of any one of those three elements occurring can be minimized, the risk of fraud is also minimized (Peterson, 2011).

From this perspective, one may wonder whether university faculty and other researchers, especially those at the beginning of their careers, may be tempted by this new type of academic fraud. This manuscript serves as a primer for an empirical study of the pressures and motivations that drive individuals to commit fraud using GenAI. The authors currently assume, based on the evidence of GenAI use and logical argumentation presented earlier, that pressure exists to commit fraud, which is attributed to systems of promotion and tenure. At this point, university staff are both "teaching and research staff" and, in this sense, are obliged, in different ways in each system, to generate scientific production in the form of scientific publications (Blakey, Khachikian, & Lemus, 2017). If they are not obliged to do so, as is the case in Spain, and they decide to do so anyway, they will receive incentives, both economic and promotional (Cruz-Castro & Sanz-Menéndez, 2014). Promotion requires having produced a given volume of research, and different economic supplements to the professor's salary also depend on scientific production (Blakey, Khachikian, & Lemus, 2017). This leads to the consideration that there is indeed pressure and, therefore, a reasonable motive to commit fraud using GenAI.

The second element of this fraud triangle is that there is a perception of the opportunity to be able to perpetrate fraud and remain undetected (Peterson, 2011). Detecting output generated by GenAI is a current technological challenge (Cheng et al., 2024). Although more reliable solutions may emerge in the future, the current situation is uncertain. Moreover, from a legal standpoint, sanctioning such conduct would require specific regulations, which do not yet exist (Wang & Wu, 2024). In a potential sanctioning process, the accused scholar would have the right to a fair trial, which would give rise to a wide variety of cases and make it difficult to establish clear criteria for determining what constitutes academic fraud. The main and perhaps the only current consequence of using GenAI is the potential reputational damage that a researcher could suffer if it is discovered that they have improperly used GenAI in their publications.

The third element, the ability to rationalize fraud in the use of GenAI as acceptable behavior, is again explained, given the novelty of the phenomenon, the absence of a unified and official ethical framework within the scholarly community, and the lack of regulation in the matter (i.e., the absence of sanctions). In this sense, a novice researcher may observe how fellow researchers and competitors advance more rapidly in their research careers through the use (or misuse) of GenAI. This could not only affect the obtaining of teaching positions in universities but also various competitions such as research projects, scholarships, research stays, salary increases, and productivity supplements.

7. Conclusions

Referring to GenAI as an emerging issue mischaracterizes the speed with which it has surged into the current zeitgeist of higher education. GenAI programs are widely available to university faculty members and other researchers, and due to their powerful functionalities, they provide a strong temptation to use shortcuts to generate new scholarship. The authors of this manuscript provided a detailed exploration into the ethics and regulatory structures that permit and even incentivize the use of GenAI in scholarship. They then presented the foundations of a legal framework for addressing the inevitable use of GenAI to commit academic fraud. The use of GenAI to commit academic fraud should be studied empirically. There is much to learn about the prevalence of GenAI used to commit academic fraud and how specifically the technology is misused. However, before researchers can study GenAI use in academic fraud, there must be some ethical and legal understanding of what it is and some logical reasoning to expect why GenAI could be used this way.

This manuscript provides analysis to help push forward efforts to regulate the use of GenAI, especially by addressing the state and university levels' permission and incentive structures for faculty members to misuse the technology. Regulation might be the only protection from harm from misuse of GenAI when ethical systems fail to do so. The work here also provides researchers with the foundations of several working hypotheses that could guide future empirical research. The authors of this manuscript are in the planning stages of an empirical study for 2025 and 2026 to measure the impact of the proposed legal framework on faculty researchers' perceptions of what uses of GenAI programs are acceptable for their research. The purpose of this study is to determine the effectiveness of the legal framework in deterring the fraudulent use of GenAI in research by faculty and other higher education researchers.

8. Abbreviations and Meanings

Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)

American Association of University Professors (AAUP)

European Union (EU)

Generative Artificial Intelligence (GenAI)

Fundación Española para la Ciencia y la Tecnología (FECYT)

United Nations Educational, Scientific, and Cultural Organization (UNESCO)

United States (U.S.)

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