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Self-plagiarism: reasons and motivations for academic plagiarism or text recycling

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Abstract

Text recycling, sometimes known as "self-plagiarism," is a controversial kind of academic misconduct that has emerged as a new approach to manipulating the scientific incentive system. Many issues about text recycling have only been partially resolved, and there is still a lot of ambiguity. “While the terms of fair text re-use have been clarified as a result of this case, the scope and reasons of improper text recycling are still unknown.” We evaluated the degree of “problematic text recycling in four scientific areas: biochemistry and molecular biology, economics, history, and psychology, to get a better understanding of its prevalence.” We also looked at some of the possible reasons and motivations for writers to recycle their content by putting existing assumptions about the causes of text recycling to the test in the academic literature. To that goal, “950 journal articles were analyzed using the Turnitin plagiarism detection program, and the findings were then manually interpreted.” We saw a lot of “problematic text recycling, especially in economics and psychology, and it became evident that the degree of text recycling varied a lot across study fields.” Furthermore, we discovered that highly prolific writers are more inclined to recycle their work. Furthermore, “the study indicates how the prevalence of problematic text recycling is affected by the number of authors and the accessibility” of editing methods.

Keywords: “Causes Prevalence, Scientific Integrity, Scientific Misconduct, Text Recycling, Self-Plagiarism”

1. Introduction

Scientists and commentators feel that a wide variety of questionable research procedures,

“including falsification, fabrication, and plagiarism (FFP), have a detrimental influence on research (QRP).” A particularly troubling kind of academic fraud is "self-plagiarism, which refers to the practice of using someone else's words without giving credit where credit is due." scientific misconduct has been thoroughly studied, “resulting in a growing body of literature that examines the nature and prevalence of scientific misconduct” (Foltnek et al., 2019).

Text recycling, on the other hand, presents intriguing concerns regarding the “nature and causes” of wrongdoing. “Academic text recycling refers to the usage of one's work in academic journals without attribution, ranging from a single line to multiple pages or even complete essays.” Some “writers object to the term self-plagiarism," claiming that it is a legal oxymoron to steal from oneself (Horbach and Halffman, 2019). As a result, new phrases have been suggested, such as "(unacceptable) text recycling" or "(unacceptable) repetition" (Bowen and Nanni, 2021). We shall use the phrase 'text recycling' in this article. “Text recycling is one of the most creative types of wrongdoing aimed at exploiting science's existing incentive structure.” The expansion of wrongdoing and the advent of these emerging forms has alarmed journal editors and research leaders. They remind out that writers and editors use various techniques to boost their publication or citation records, as well as their journal impact factors. Faking peer review reports (Uzun and Kilis, 2020), forming journal citation cartels, and coercive citation methods are examples of these behaviors (Ng and Yip, 2019).

For years, it looked that he was repurposing substantial portions of his past work, leading to charges of'self-plagiarism (AlSallal et al., 2019). The claims, and perhaps more importantly, the findings of the integrity committees looking into them, sparked a heated discussion regarding writers' fair use of previously published works (Ternes et al., 2019). As things stand, it's clear that many issues about text recycling have only been partially addressed, and there's still a lot of uncertainty. While the standards for reasonable text re-use have been clarified, the scope and reasons for incorrect recycling remain unknown. Some minor studies have been conducted, but the findings are conflicting. Self-plagiarism occurs somewhere between 5% and 65 percent of the time, causing a lot of discussions. According to some studies, “self-plagiarism is more widespread than plagiarism.”“Along with the confusion regarding the degree of inappropriate text recycling, concerns concerning its origins and possible solutions have been raised,” but they have mostly remained unanswered.

The goal of this research is to close that knowledge gap. “As a result, this research adds to our understanding of the problem ofself-plagiarism,” particularly in terms of its prevalence in diverse research fields and probable reasons for inappropriate recycling. “The Turnitin plagiarism detection software and human interpretation of the data” were used to analyze 930 research papers across four scientific areas.

The paper is split into two sections. The first part offers a review of academic literature on "self-plagiarism" and scientific misconduct. The work is broken into two sections. The first half provides an overview of academic literature on "self-plagiarism" and scientific misconduct.An examination of the case's nature and consequences for both people and the research system is presented in this article. The writers' rights to reprint their works have sparked debates on both sides. As a result, we identify some issues and theories regarding why text recycling is (difficult). “Experiments were conducted to determine the quantity of text recycling in four research areas.”“It includes a description of the methodology used, the data obtained, and a discussion of theories on the causes of text recycling.”

2. The text-recycling argument in academia

Concerns about plagiarism and misbehavior have sparked a debate among scientists regarding text recycling (Benesch 2018). Although “inappropriate text recycling was first recognized in academic literature,” significant contributions to the issue have only recently been made. To a large extent, the contemporary text recycling argument revolves around how readers are harmed by "false claims of originality. “There is little consideration given to the ramifications of text recycling for the scientific enterprise as a whole, including the

effects for co-authors, other scientists, and society, such as skewed incentives or the misuse of publishing resources and reviewer's efforts" (Bujaki et al., 2019). The majority of discussion in the argument over "self-plagiarism" is focused on its legality. There has been no agreement in this area of the argument. Several scholars have stated that "self-plagiarism" is "a serious offense" and "academic misconduct," "while others have stated that (it does not exist) and that it is (unavoidable)" (Fiedorowicz et al., 2021).

Re-using text for many purposes is considered unethical for a variety of reasons. To some, this republishing of previously published materials may be regarded as a waste of an already overburdened scientific publication system. This is especially true when depending on reviewers who give their time to examine previously reviewed work. These factors affect only large chunks of manuscripts; smaller text fragments do not affect the publishing system. According to scientists, the scientific incentive structure is being exploited by re-using text re-using already written material. They are more productive than they are. Increasing one's citation count at the expense of others is known as "text recycling," and it's used to advance one's career and even get grants in a research environment that values citation counts as an indicator of "quality." It raises the question of whether or not proxy measures based on the quantity and quality of publications should be considered when allocating grants and jobs.) Finally, at least in biological studies, text recycling may be harmful to society. (Passalacqua et al., 2019) claims that when a drug's efficacy is repeatedly reported in meta-analyses, the results will be inaccurate.

Aside from these objections, several writers have argued in favor of text recycling (Wallach et al., 2018). "Aside from the argument that writers cannot steal from themselves, the repetition of extremely well-formulated language for standard techniques, disclaimers, or even complex theoretical viewpoints may plausibly be justified, though a citation could readily be included even then." Furthermore, "some writers argue that repurposing one's work is inescapable, particularly in limited study fields where each author develops on his research line" (Hussinger and Pellens, 2019). Furthermore, the re-use of previously published content has been justified by publishing comparable findings for different audiences. Economists offered another argument in support of text recycling, who said it was now standard practice in their field. They claim that if text recycling has become commonplace, it can hardly be blamed on a single academic.

Text recycling has a unique place in the debate about scientific integrity and misconduct because of its controversial character. "The contemporary integrity debate has a general inclination to presume a universal concept of integrity, with demarcations ranging from" "responsible research procedures" to "questionable research practices" to "scientific misconduct" within the spectrum (Halpern 2021). Considerable efforts have been made to measure the occurrence and causes of integrity breaches based on this imagined public knowledge (Moulton and Falcone, 2018). "Despite the challenges in collecting reliable data, owing to the limitations of self-reporting, multiple estimates of the prevalence of dubious research practices (QRP) or misconduct have been provided." These findings show that the incidence of QRP much outnumbers the prevalence of FFP, "which is one of the most common forms of scientific misconduct." Furthermore, some academics have proposed possible explanations for scientific misconduct. Among them are:

- When it comes to committing academic dishonesty, "younger scientists are often viewed as more vulnerable than their older counterparts because of their lack of experience with accepted practices, their reliance on the internet, and the fact that they lack established names in the field and thus have 'more to gain' than older researchers" (Mebane et al., 2019). Since young or prospective scientists are frequently the subject of anti-misconduct or pro-integrity legislation,

- Many people believe that the academic atmosphere encourages scientific misconduct because of the "pressure to publish and the priority placed on quantity over quality."

- - Number of authors: "an increase in the average number of co-authors on a single manuscript is thought to enhance the risk of misconduct." This is because when the number of co-authors on a document grows, the responsibility of each author diminishes.

Consequently, writers may be more prone to scrimp their work.

- "Unambiguous laws and policies, it is widely assumed that the availability of codes of conduct, explicit prohibitions on misconduct, and methods for dealing with suspected instances deters wrongdoing." Furthermore, the absence of such standards, particularly a lack of agreement on definitions of questionable behaviors, is seen as a factor of their occurrence.

- - A (perceived) absence of social control is thought to enhance the scope of unethical research activities. Peer review, editorial assessment, mentorship, and a societal appraisal are just some of the ways that social control may manifest.

"Self-reported incidences of scientific misconduct are often linked with contextual background information to reveal probable origins of scientific misconduct." Because of the limits of self-reporting, the findings are often ambiguous. Text recycling has a unique place in the spectrum of scientific misconduct since it is pretty simple to detect with contemporary plagiarism technologies. We were able to explicitly examine the literature's assertions regarding misbehavior, at least for this specific problematic research method, by using plagiarism detectors. Our research sheds light on some unanswered topics about text recycling, including its perceived acceptability and prevalence. "It also provides insight into the origins of text recycling and scientific misconduct in general."

3. Claims regarding text recycling that are true

Several statements were made in the literature and the context concerning the scope and reasons of dubious research techniques in general, "and problematic text recycling in particular.""Given the little information available, some statements were made casually, some with more significant evidence, and yet others as defense or accusation.""The statements in this argument that we could examine using our method, producing research hypotheses."

3.1 Text recycling is the result of a (complex) process

Text recycling has been linked to some factors. We'll talk about these factors, "dividing them into 'individual causes' and'systemic causes,' which refer to characteristics of the research system.""Considering these possible factors leads to numerous theories" about why improper text recycling occurs.

3.1.1 Causes specific to individuals

Several reasons for text recycling have been hypothesized, all connected to the author's position and identity. For starters, some academics believe that the number of writers on an essay affects its likelihood of including copied content. "It is believed that increasing the number of authors dilutes each author's responsibility, raising the risk of (self-) plagiarism" (Thompson and Clark, 2019).

3.1.2 "Systemic Causes"

"Two explanations for the incidence of problematic text recycling are identified, both of which are connected to the planned research system and policy."

For starters, some researchers believe there is a link between the clarity of journal/publisher standards and requirements and the level of text recycling across disciplines. It is advised that a clear policy be implemented to inform writers on what behavior is and is not acceptable. As a result, the lack of a defined policy might exacerbate the issue of text recycling (Craig et al., 2020). Several journals already have editorial standards banning content recycling, "although restrictions by academies and other science-governing bodies are relatively new." In a similar vein, the debate implies that a lack of defined standards may allow for text recycling.

Second, there may be differences in study fields. These differences may be seen on many levels. For starters, "some academics have argued that text recycling in the humanities is a more severe offense than in the scientific sciences," since "the phrasing is the substance of the innovation" in the arts. According to this logic, the humanities should have stricter text recycling rules and, as a result, lower occurrence rates than other scientific disciplines. Similarly, in the scientific sciences, recycling (very technical) research procedures are typically seen as less of a concern, partially due to the highly standardized language used in these portions.

This shows that natural science may have a high rate of recycling.

In addition, “the willingness of journal editors to act against (claimed) occurrences of (self-)plagiarism, in addition to having an official policy addressing (self-)plagiarism, may have an impact on the frequency with which repeated papers are published.” Furthermore, writers' writing styles may be influenced by the (perceived) amount of social control through editorial judgment (Robishaw et al., 2020). The importance of editors in supporting research integrity and maintaining the scientific literature's goodness is often emphasized (Hall and Martin, 2019). “Although editors cannot (and should not) operate as the policing force of the scientific community, they may (and should) be proactive in promoting research integrity.” They demonstrate that, in contrast to (Burdine et al., 2019), who suggest that journal editors are typically quite focused on combating improper text recycling, “editors of (top) economic journals are not especially tough with situations of text recycling.” This is supported by a study of journal editors, which found that redundant publishing and plagiarism are the two most severe issues in terms of scientific integrity (Sandin and Peters, 2018). It is recommended that if editors do not demonstrate a willingness to intervene in inappropriate activity, such as unacceptably recycled language, writers may only anticipate small negative consequences. “According to this ' rational actor ' viewpoint, authors could be enticed to recycle content if they don't expect punishments.” Our final theory is based on the combination of these factors: Hypothesis: “In research fields where phrases are more standardized, and editors are less ready to intervene against recycling,” problematic text recycling is more widespread.

4. Methods

4.1 Data collection and analysis

We chose four research topics to assess the “level of problematic text recycling and investigate the disciplinary differences between them.”“Biochemistry and molecular biology, economics, history, and psychology are among the areas chosen.” These fields span a broad range of studies and may provide insight into the research community's variety. We opted to concentrate our analysis on a single nation since various researchers have discovered that “publishing cultures, competitive pressures, and policy formulations are significantly varied among countries” (Gilli et al., 2018). Because of the public outcry over'self-plagiarism,' we decided to limit our research to writers affiliated with institutions.

The writers' research publications in the specified study topics were gathered. “We divided the sampled articles into groups of 'productive' and 'less productive' writers to investigate the impact of author productivity on the prevalence of text recycling.” Turnitin plagiarism detection software was used to scan the sample articles. The findings were then submitted to full-text examination to remove any overlap that was deemed acceptable. The data collecting and analysis procedures are described in full further down.

4.2 Per research field, a collection of research publications

4.2.1. Biochemistry

Web of Science was used to compile a list of the university's most prolific scientists (search on study topic = biochemistry and molecular biology, nations, and period up to the present). “The papers of the authors at the top of the list were then obtained (top 5).”“For the less prolific writers, we looked for affiliation with universities (biochemistry and molecular biology).” Then we chose publications with no “authors in the top 20 of Web of Science's productivity rankings.” Entries that merely included notices of upcoming papers or summaries of publications were deleted.

4.2.2. Psychology

Biochemistry, as seen by the shift in search phrases from 'biochemistry and molecular biology to 'psychological.' We selected between 130 and 140 papers across all fields, “but we were only able to choose 60 articles from productive writers due to the absence of a big database and the limited number of research publications that are historical.” In all situations when the article titles “in the productivity list of the ESB (for economics) or the Web of Science match the spelling in the other cases.”

Table 1. Per study topic and category, the number of publications scanned.

"Research Area"	"Category"					
	"Productive"		"Less Productive"		Total	
	"Number of articles"	"Number of first authors"	"Number of articles"	"Number of first authors"	"Number of articles"	"Number of first authors"
Biochemistry	129	105	113	108	241	212
Economics	134	79	126	107	259	185
History	49	26	143	128	191	153
Psychology	126	92	110	104	235	195
Total	438	302	492	447	926	745

4.3. Guidelines for policy formation

We gathered editorial policy guidelines from academic publications to study hypothesis 3. We divided journals into "three categories: top journals with the greatest impact factor in their field ('top journal'), most frequent journals ('most frequent'), and journals that published one of the papers in our sample with problematic text recycling ('having problematic recycling')." If a journal includes comments on the "inclusion of previously published material or specifically utilizes the term" "plagiarism," it is considered to have plagiarism statements. The magazine is classified as containing reports on 'self-plagiarism,' specifically stating that writers are not permitted to reproduce "content from their own previously published work."“Because these are the sites to which writers are directed when submitting their paper, and that give directions for preparing submissions, these rules were gathered from the journal's and publisher's webpages."

4.4 Analysis

Turnitin, a plagiarism detecting tool, was used to upload all papers. This program allows you to scan documents in three different degrees of strictness: "compliant, standard, and strict. For all studies, we employed the standard-level." The papers were compared to a Turnitin database with over 65 billion websites and 170 million scientific publications to see any textual overlap. As a result, "the sampled articles were compared to a broad range of journal articles and other sources, including books and book chapters, in addition to other articles in our sample." Then, "for each paper, we double-checked all portions flagged by Turnitin as overlapping by looking at the article's content." We wanted to avoid the mechanical analysis criticism with this. This also sets our study apart from past text recycling studies (Wang et al., 2019). The following overlap was found acceptable following COPE and VSNU's new policy statements:

Full-text or abstract matches to the "same article in the original journal or an electronic database:"

- - "Information about the author (name, address, affiliations, etc.)."
- - "References - Overlap properly cited with a link to the original"
- - "Collision with one of the writers' masters or doctoral thesis."
- - "Cross-reference to unpublished working papers."
- - "Collision with publications released after the study article's publication date (a.o. to make sure no overlap was counted twice)."
- - "In the methodological portions of the work that include a reference to a prior paper, there are overlap in (technical) descriptions."

Clearly, “determining whether or not textual overlap was suitable was not always simple.” The fourth criteria, which states that overlap is acceptable if appropriately cited, might spark considerable debate. It was agreed to classify overlap as suitable in such circumstances of discussion, so making all disputed cases 'unproblematic.' As a consequence, “the research comes up with a cautious estimate of the amount of text recycling.”

After removing all permissible overlap, “papers were deemed problematic if they included at least 10% similar portions to previously published articles.” The ten percent criterion was determined based on past text recycling studies (Polyanin and Shingareva et al.,2021). The graphical abstract depicts data gathering and processing in schematic form.

In several circumstances, the Turnitin program was unable to scan an article that had been uploaded, for example, due to issues with specific text formats. Consequently, as shown in Table 1, we kept track of how many articles were published. Research subject, classification (productive/ineffective), “journal publication date, the number of authors, and amount of text recycling were all tracked for each article in our database (problematic if above 10 percent after close study, unproblematic otherwise).” The number of initial authors that participated in our research is also shown in Table 1.

5. Results

This summarizes “the results of the empirical study indicated in Tables 2–4 and Figure 1 will be used to explain the results, which contain information on the occurrence of text recycling (Table 2), its link with policy statements (Table 3), and its association with the number of authors (Table 4).”“Table 4 shows the results of this experiment.” As a follow-up to section 4, we will discuss the ramifications of these results and reflect on the concepts offered therein.

Many researchers, both prolific and those who aren't, recycle their work, as seen in Table 2 and Figure 1. If an article is included in the table as having 'difficult text recycling,' it means it has been designated as "problematic."

In Table 2, you'll discover a variety of exciting results. A first finding is that problematic text recycling is widespread, with a recurrence rate of somewhat over 5% in the sample. Second, the final column of the chart reveals considerable disparities in the degree of text recycling across different study topics. In economics, text recycling is ubiquitous, although it is rare among historians. Over a tenth of the text in every six books has previously been published somewhere else. According to current standards, some economists have a more than 45 percent content recycling rate. Data demonstrates that successful authors use more recycled material than less active writers. “In comparison to less creative authors, individuals who are prolific recycle their previous work significantly more often (10.2 percent vs. 2.6 percent, p 0.0001).” In addition, this fundamental trend may be seen in all other research fields. Use the approach described in Table 3 to see how often particular statements about plagiarism are made within the policy guidelines of academic journals.

As seen in Table 3, “a large majority of publications in our sample do not explicitly prohibit text recycling, which is consistent with our findings.” A growing number of high-profile newspapers are using “recycled comments in their articles (those with high impact factors).”“The majority of journals in our sample exclude text recycling disclosures,” even those that use recycled content. On the other hand, almost all other publications prohibit plagiarism by stating that it is illegal.

It is reasonable to assume that biochemistry and psychology are the two most concerned about plagiarism, based on the journal impact factor.

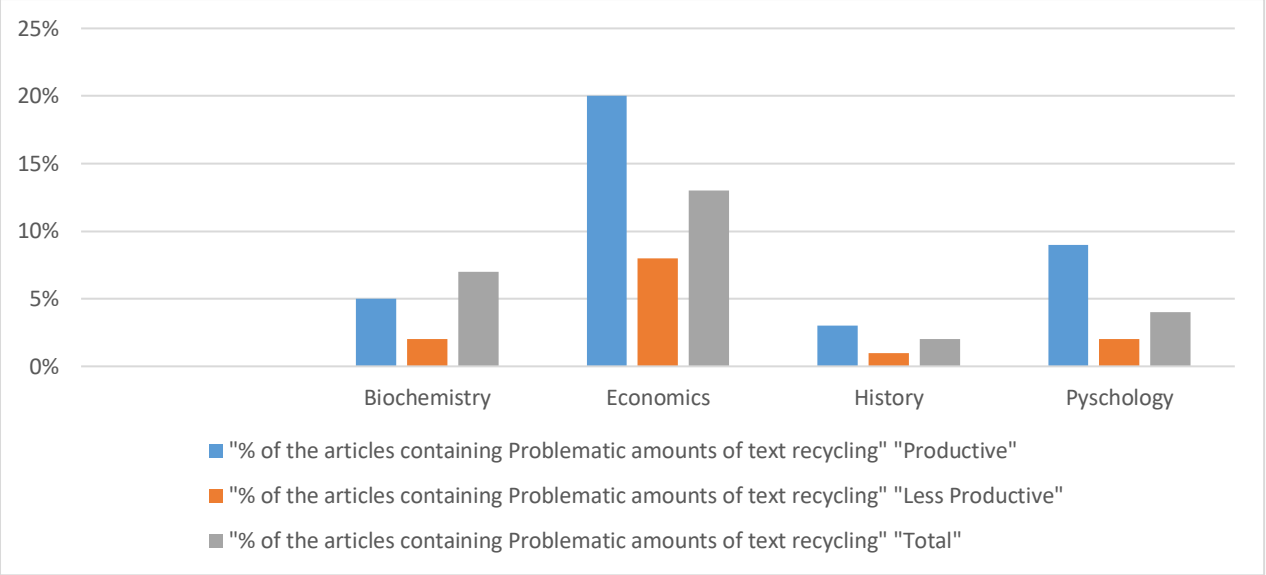

Fig.1 “The degree of text recycling: The extent of problematic text recycling among prolific and less productive writers as determined by numerous studies.”

It is shown in Table 4 how many authors are in each of our sample's distinct groups. “In addition, it provides information on the number of authors working on recycled or non-recycled articles, and how productive they are.”“We infer from the study that publications with problematic text recycling have more writers than those without inconvenient text recycling.” Except in economics, where the values are roughly similar, this holds for all scientific disciplines. According to an analysis of the complete sample, self-plagiarized publications “had significantly fewer authors than non-plagiarized articles (3.65 vs. 4.20, p 0.04),” according to an analysis of the entire sample. Surprisingly, this tendency is more visible among prolific writers. In this category, papers with problematic recycling had significantly fewer authors (3.69 vs. 5.22, p 0.004) than articles without challenging recycling.

Finally, we'd like to point out that using our analytical approach, we were able to find instances of text recycling not just by the writers but also by other researchers. As a result, “we were able to monitor not only ‘self-plagiarism,' but also true 'plagiarism.” However, “although we discovered 57 instances of inappropriate text recycling by an article's original author, we only discovered one incidence of plagiarism.” In this situation, one of our sample papers was copied by writers who were not affiliated with institutions and hence were not included in our sample.

Table 2. “The amount of text recycling: The extent of problematic text recycling among productive and less productive writers in different academic fields.”

“Research Area”	“Number of articles”			“Number of articles Containing Problematic text Recycling”			“(%) of articles containing problematic text recycling."		
	“Productive”	“Less” “Productive”	Total	“Productive”	“Less” “Productive”	Total	“Productive”	“Less” “Productive”	Total
Biochemistry	129	113	242	7	3	9	4.8%	1.9%	3.4 %

Economics	133	126	259	28	10	38	20.4%	7.3%	15.1 %
History	49	143	192	2	1	3	2.2%	0.1%	1.6 %
Psychology	126	110	236	11	2	13	8.1%	0.10%	5.8 %
Total	438	492	930	45	13	58	10.2%	2.6%	6.2 %

6. Conclusion

This study aimed to see how widespread problematic text recycling is across different types of scientific writers. According to the findings of our investigation, inappropriate text recycling was found in 6.2 percent of publications written by university-affiliated writers. The results, however, reveal significant differences in the level of problematic text recycling across diverse academic fields, "with high rates in economics and meager rates in history. Furthermore, research indicates that prolific writers recycle their content much more than their less productive peers (10.2 percent vs. 2.6 percent, p 0.0001).""The rest of this section will discuss the theories developed from this article's literature on the incidence and causes of problematic text recycling."

6.1 Total of authors

The "first hypothesis is that the likelihood of text recycling increases as there are more authors contributing to a single article." In contrast, our data show the exact reverse. Compared to the 870 articles without difficulty recycling, the 60 articles with recycling issues had an average of 3.67 writers. There is an apparent correlation between biochemistry and economics: 5.64 to 7.17 for biochemistry, 3.13 to 3.05 for economic theory, and 1.01 to 1.21 in history. 4.26 to 4.77 for 3.13 to 3.05 for economic theory, "and 1.01 to 1.21 in history (psychology)."“In addition, this trend is most pronounced among the most prolific authors." These publications had substantially fewer authors (3.69 for problematic recycling and 5.22 for non-problematic recycling) than articles without problematic recycling. Additionally, this gap can be found within the various subject categories, with problematically recycled biochemistry papers having an average of 4.01 authors. In comparison, articles without problematic recycling had an average of 6.19 authors. There are 4.19 to 5.39 ratios in psychology and 3.10 to 3.27 in economics. Thus, we believe that a more significant number of authors will reduce the probability of incorrectly recycled content. "There is more internal control over the content and origin of a text when there are more authors involved." Following these data, we suggest that prolific authors who publish a paper with few co-authors are more prone to repeating their previous work.

Scientific publishing policy rules include mentions of (self)plagiarism, as seen in Table 3. We looked at three different kinds of journals: "top journals (those with the highest impact factor in their area), most frequent journals (those with the largest number of articles in our sample), and journals that published a paper in our sample that included self-plagiarized work (containing self-plagiarism)."

"Research" "Area"	"Top Journal"			"Most Frequent"			"Containing problematic recycling."		
	"TOT"	"Plagiarism"	"Text Recycling"	"TOT"	"Plagiarism"	"Text Recycling"	"TOT"	"Plagiarism"	"Text Recycling"
Biochemistry	11	10	7	6	6	2	4	4	2

Economics	11	5	5	6	6	1	18	16	1
History	11	4	4	6	3	3	2	1	1
Psychology	11	9	4	6	6	1	9	9	1

6.2. The Scientific Era

The second hypothesis suggests that writers with a younger scientific age would have more difficulty text recycling. However, our findings demonstrate that more productive (often senior) researchers exhibit far more indicators of text recycling than less effective (typically younger) researchers. As a result, our findings do not support the hypothesis.

Senior researchers, we believe, recycle text more often for various reasons. For starters, skepticism “about the research and peer review system has been identified as one of the characteristics that increase one's readiness to commit wrongdoing” (Lomness et al., 2021). Senior researchers may have become more skeptical of the system than younger researchers. “As a result, individuals may be more prone to questionable conduct in general, and text recycling in particular.”

“Second, senior scientists may be more confident or aware of the minimal chances of being discovered.”“According to a rational actor viewpoint on misconduct, a researcher will be less inclined to engage in a questionable activity if he believes the penalties would be severe.”“In principle, committing (self-)plagiarism has severe penalties, ranging from job termination to irreversible reputational harm.”“However, these repercussions or punishments are seldom used” (Fernández-Molina et al., 2020). “Given the many different definitions of'self-plagiarism,' it is exceedingly difficult for any agency, journal, editor, or other institution to prosecute a ‘self-plagiarism successfully."

Furthermore, “there is no agreement on who is responsible for taking action against a self-plagiarist.” Again, “even obvious incidents of (self-)plagiarism often go unnoticed or unpunished” (Parks et al., 2018). Senior academics may be more aware of this circumstance when the repercussions of text recycling are minor in reality. This might explain why older academics are more likely to recycle text since it is one of the most "secure" ways to avoid the academic system's demands.

6.3. Statements on editorial policies

The “third argument is that the absence of formal policy statements on text recycling raises the probability of problematic text recycling.” According to our statistics, this claim is only partially supported. “We distinguish between (a) policy pronouncements in high-impact journals, which presumably set the tone for their area, and (b) policy statements in journals where a single article is published.”

In the first instance, “the presence of editorial policy statements does not appear to be associated with the degree of problematic text recycling, whereas journals in the field of economics are not particularly active in publishing policy statements regarding (self-)plagiarism, journals in the field of history are even less so.” However, the later publications nearly never address the issue of plagiarism in submitted papers or how to deal with it. In contrast to the economics literature, which exhibits significantly more troubling instances of text recycling, historians' publications reveal almost little evidence of text recycling. “Although biochemists don't exhibit the least level of problematic text recycling in their works, biochemistry journals are the most likely to include notes about (self-)plagiarism in their editorial policy guidelines.”

On the other hand, we found that although almost all of the journals in our sample published a manuscript that used recycled text, practically none of them made any “special comments on text recycling in their policy guidelines.”“This illustrates that the inclusion of comments in the journal's policy report minimizes the likelihood of authors duplicating their work.” Furthermore, history journals (the discipline with the least problematic text recycling) were the most likely to incorporate

text recycling statements in their editing policies. However, these journals' editors are probably more careful in discovering and rejecting repeated submissions, "a topic that will be discussed in more depth later."

6.4 Editors' availability

Finally, the "fourth hypothesis claims that a greater degree of standardized language in study fields, as well as editors' unwillingness to intervene in (claimed) incidents of problematic text recycling, enhances the possibility of it happening." Our findings somewhat support this notion. As one would assume in the humanities, the degree of problematic recycling among historians is relatively low. This is consistent with the idea, "which is based on the notion that wording is the essence of originality in this field."

This argument predicts a considerable "amount of text recycling in biochemistry because of the high degree of uniformity in the language used for research protocols and methods sections." On the other hand, Biochemistry has a low incidence of incorrect text recycling, contrary to popular opinion.

Journal editors are especially worried about self-plagiarism,' however, as seen by the lack of concern shown by editors of (top) economic journals when it comes to instances of plagiarism. According to a survey of (primarily) medical journal editors, plagiarism and redundant publication are the two most pressing issues they face regarding publishing ethics (Roostaee et al., 2020). "Despite the lack of precise evidence on the attitudes of journal editors in other academic subjects, the hypothesis is reinforced by the high frequency of text recycling and the reported unwillingness of editors in the area of economics to take action against it." According to the preceding paragraph's discussion, it is more prevalent in publications that do not explicitly prohibit the practice of text recycling than in those that do. These publications' editors may be more tolerant of self-plagiarism and less concerned about taking action against it.

This suggests journal editors' perceptions of how "severe text recycling is, and their willingness to interfere in the case of plagiarism, have a considerable influence on the incidence of text recycling in published journal papers." Journal editors' opinions must be examined in depth to solve this problem entirely.

Table 4.Author count: "The average number of authors per article in our sample's different categories."

"Research" "Area"	"All articles"		"Articles with problematic recycling"		"Articles without problematic recycling"		"Total"		
	"Productive"	"Less" "Productive"	"Productive"	"Less" "Productive"	"Productive"	"Less" "Productive"	"all"	"Problem" "Recycling"	"No prod." "Recycling"
"Biochemistry"	8.99	7.13	7.18	6	9.08	7.16	8.12	6.64	8.17
"Economics"	4.23	3.88	4.10	4.23	4.27	3.85	4.06	4.13	4.05
"History"	2.07	2.25	3	2	2.07	2.25	2.20	2.01	2.21
"Psychology"	6.53	4.84	5.19	7	6.69	4.83	5.74	5.26	5.77
"Total"	6.07	4.58	4.69	4.6	6.22	4.36	5.17	4.66	5.20

7. Discussion

In our study, "we found that the misuse of textual material in research is a sort of misconduct that should be given serious attention and consideration."" For the sake of our debate, we suggest that text recycling is a problem for the whole research system, not just

the reader who is fooled by false claims of originality.”“Co-authors, colleagues, reviewers, and editors may all be harmed by the improper re-use of prior research,” which has the potential to disrupt science's current incentive system.

Text recycling is an issue, according to our research. It seems to be more common than plagiarism, falsification, and fabrication, with an incidence rate of above 5%, according to Neumann et al. (2019). Aside from the various causes and risk factors that we discovered, we also learned viable prevention techniques for text recycling. Among these are the following: verifying and successfully enforcing rules, “such as journal policies; increasing social control among writers; and paying attention to the publication habits of prolific authors as well as boosting awareness of research integrity among new researchers.”“To prevent or quickly detect improper recycling of previously published content,” all of these things may be useful.

Besides identifying distinct risk factors, we've found that scientific areas' publication cultures varied significantly (Ullah et al., 2020). “An all-or-nothing approach to preventing unlawful text recycling might be contemptuous of the wide range of research methodologies.” Discipline-specific approaches should be investigated, “as the need for specific procedures and limits of a one-size-fits-all approach are well established, as is the contentious nature of text recycling in academic publication, with even different integrity committees interpreting identical instances of text recycling differently” (Bahrami et al., 2019). Many of the published content's qualities may be questioned, such as the kind of article published, how much-recycled material is used, and the evident intent to deceive. These data credence to previous reports claiming that text recycling is frequent within academic disciplines. Some people are outraged by text recycling, while others allow it or even encourage it may need further discussion and deliberate action.

Some difficulties might hamper the results of this study. To begin with, there may be a wide range of publishing strategies for distinct subjects of study. “On the other hand, books and book chapters are more common in the history discipline than in the biological sciences.”“In our research, we restricted our text sample to academic journal articles, which may have overlooked alternative forms of scholarly publication.” We evaluated our sample text against the Turnitin database, “which includes the majority of these sources (such as books and book chapters)." As a consequence, we found evidence of overlap with these other sources.

Text recycling in "grey" settings, when it was uncertain whether it was beneficial or detrimental, may have been mistakenly characterized as "unproblematic." as a consequence of the qualitative stage of our study, in which we categorize textual overlap as acceptable or improper, our estimates of text recycling are conservative. Additionally, this method may have resulted in inconsistencies throughout research areas (Sun and Soden, 2021). Accordingly, we are convinced that there are no systematic differences across research themes, given the number of publications chosen and the absence of systematic disparities in this regard.

Finally, our research focuses on academic experts' usage of recycled literature. There is some worry that our results may not apply to other countries because we imposed limitations. The countries may have various publication methods and varying levels of competition. Text recycling in publishing techniques is permitted, “one of the first countries to adopt national policy statements.” Considering that formal regulation reduces unfair text recycling, “we might expect that the degree of text recycling in other countries is much higher.” Our data support this assumption. More importantly, many analyses of publication processes and the research culture have shown that academics are not more inclined to participate in misconduct or questionable research methods (Karnalim 2019).

Text recycling is particularly detrimental when university departments divide research funds based on productivity data. Simple output measurements will underestimate the productivity of research groups in sectors where text recycling is widespread. This skews the allocation of resources to their advantage.

A “meta-journal in which all publications are accessible to all scholars is making the process of text recycling even more ludicrous.”“There is no need to re-use language when previously published information is easily accessible, since a reference to the original material may be

simply appended." Repeating "one's text, however, serves no purpose other than to enhance one's publication record." This study confirms that quality should not be judged only based on output since doing so might lead to poor quality games. Any performance measurement, as previously shown, has a limited shelf life: it will lose its usefulness after a certain amount of time, "either because experts have learned to play with it or because the beneficial impacts of performance measurement have been discovered or worked out" (Etgar et al., 2019). For example, the current incentive system in research may have reached its limit when a considerable quantity of text is recycled.

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