https://doi.org/10.51408/issi2025_034

Green or Gold: Exploring How Open Access Models Shape Global Research Integrity

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Abstract

Open Access (OA) was conceived to democratize scientific knowledge, yet concerns have arisen about how different OA models affect research integrity. This study examines the relationship between two major publishing pathways – Gold OA and Green OA – and academic integrity across 60 countries and multiple disciplines from 2014 to 2023, drawing on Scopus-indexed journal publications. Gold OA, often operating under a pay-to-publish model, has been criticized for creating incentives that potentially erode the quality of peer review, fostering predatory journals, and disadvantaging authors lacking financial resources. Green OA, on the other hand, allows researchers to self-archive their work, thereby reducing financial barriers and potentially promoting transparency and reproducibility. To gauge research integrity, we use a composite score based on the share of publications in journals that Scopus has discontinued for quality concerns, and the share of retracted articles, giving heavier weight to retractions. Regression analyses reveal a statistically significant negative association between Gold OA share and the transformed integrity score, whereas a higher Green OA share correlates positively with research integrity. However, the explanatory power of these variables is moderate (Adj. $R^2 \approx 0.288$), indicating that other factors also play pivotal roles. Further stratified analyses by discipline show that both Gold and Green OA practices vary by field, but the link between OA model and integrity indicators remains consistent overall: Gold OA tends to correlate with lower integrity, while Green OA is generally associated with higher integrity. National research culture appears to be especially influential, possibly due to varying systems of performance evaluation, career advancement, and ethical oversight. These findings underscore the need for careful policy considerations in promoting OA. While OA can expand accessibility and foster more equitable knowledge dissemination, the manner in which OA is implemented can have unintended consequences for scholarly standards.

Introduction

The Open Access (OA) movement was initially conceived as a mechanism to democratize access to scholarly research. By making publicly funded studies freely accessible, OA aimed to foster greater equity and collaboration within the scientific community. However, in practice, its evolution has raised new questions about research quality and integrity, especially in the context of the pay-to-publish Gold OA model, which some argue has led to the co-option of the movement by commercial interests (Arthur et al., 2023).

Richard Poynder, a noted commentator on scholarly communication (Anderson, 2023; Poynder, 2020) has expressed disappointment that the OA movement has failed to deliver on its promises of accessibility, affordability, and equity. Poynder believes that insufficient advocacy and oversight enabled organizations with different priorities to steer the movement away from its original mission. He further criticizes the pay-to-publish model, contending that it exacerbates affordability problems, marginalizes unfunded researchers and scholars in lower-income regions,

and generally intensifies bureaucratic processes without ensuring meaningful reform.

A key concern regarding the Gold OA model is the proliferation of predatory journals (Beall, 2012). By exploiting author-paid fees, such journals prioritize profit over editorial quality, leading to poor peer review and deceptive practices. This environment can facilitate the publication of low-quality or fraudulent research, eroding trust in scientific publishing. High article processing charges (APCs) in Gold OA also disproportionately affect scholars from under-resourced institutions or countries, independent researchers and pilot studies not supported by research grants, thereby reinforcing global inequities in research dissemination and visibility (Klebel & Ross-Hellauer, 2023).

The pay-to-publish structure of Gold OA creates potential conflicts of interest, where publishers have financial incentives to accept more papers, potentially compromising the peer-review process. Authors, under pressure to publish for career advancement, may be more inclined to submit low-quality or even unethical work. Funders, eager to demonstrate their support for transparency and dissemination, may fail to adequately monitor the integrity of the publications they sponsor. This confluence of interests has led to concerns that Gold OA may inadvertently facilitate research misconduct, including plagiarism, fabrication and falsification, salami slicing of publications, and even an authorship commerce (Chirico & Bramstedt, 2023).

Hanson et al. (Hanson et al., 2024) describe the Gold OA model as "the love triangle of scientific publishing" , in which publishers, authors, and funders are interconnected by financial motivations rather than a unified commitment to scholarly rigor. Publishers benefit from additional article fees, funders rely on publication volume to distribute grants and positions, and researchers need frequent publications to maintain or advance their careers. These interactions drive the growth in scientific publications, often leading to a trade-off between quantity and quality.

Supporters of the traditional subscription model emphasize that university research libraries and their patrons historically served as de facto quality gatekeepers. Librarians, guided by budget constraints and reader feedback, carefully selected reputable journals, thereby curbing the proliferation of low-quality or predatory outlets (Ojennus, 2019). However, this model has been gradually undermined by bundled "big deal" subscriptions offered by major publishers. When libraries must purchase large journal packages rather than selecting titles individually, they lose the granular control essential for maintaining high scholarly standards (Shu et al., 2018).

The Green OA model supports knowledge equity by allowing researchers from diverse backgrounds to access and contribute to scientific knowledge without financial barriers. By enabling self-archiving, Green OA reduces reliance on multinational publishing companies, which often dominate the academic publishing landscape and create inequities in knowledge distribution. The model aligns with the principles of open science, which advocate transparent and accessible research processes. Open science practices, such as preprints and open peer reviews, further support the goals of Green OA by making research outputs available to a wider audience and increasing the accountability of the research process. Green OA encourages the sharing of supplementary materials and data, which enhances the

transparency of research findings. This openness allows other researchers to verify results, conduct replication studies, and build upon existing work, thereby promoting reproducibility and scientific integrity (Winker et al., 2023).

Research misconduct is a pervasive issue in the scientific community, with its prevalence varying significantly across countries and subject areas. In Developing and Emerging Economies, the pressure to publish can lead to unethical practices, such as the sale of authorships and the proliferation of "paper mills" (Vasconez-Gonzalez et al., 2024). The lack of stringent regulatory measures and training in research ethics further exacerbates the issue. In South and East Asia, plagiarism is a common form of misconduct, driven by a lack of training in scientific writing and research ethics, as well as permissive attitudes towards such practices (Rodrigues et al., 2023). But this situation is also prevalent in high-income countries, as evidenced by the increasing rates of retractions due to misconduct in Europe (Freijedo-Farinas et al., 2024; Marco-Cuenca et al., 2021). The prevalence of misconduct varies across disciplines, with fields that are more globalized and research-oriented showing lower instances of plagiarism (Guba & Tsivinskaya, 2024). This suggests that national science culture norms and discipline peculiarities can influence the level of academic integrity (Brooker & Allum, 2024; Fanelli et al., 2015).

Given these complexities, this article investigates the impacts of Gold and Green OA models on research integrity. Through an analysis of publishing structures and disciplinary contexts across multiple countries, the study seeks to clarify how different OA pathways can influence researcher behaviour, quality standards, and the global accessibility of scientific knowledge.

Data and Methods

This research utilizes data from the Scopus database for the period 2014–2023 to analyze the effects of Open Access (OA) publishing models on academic integrity across different countries and subject areas. The study focuses on journal research publications, with the following restrictions: we consider documents of source type "journal" and document types "article", "review", "conference paper", "data paper", and "short survey". Data is aggregated for the top 60 countries by publication output and further divided into second-level subject areas as defined by Scopus All Science Journal Classification (ASJC).

Metrics calculated:

- *Total Number of Documents*: The overall count of journal publications in the selected categories.
- *Number of Gold OA Documents*: The count of documents published under the Gold Open Access model.
- *Number of Green OA Documents*: The count of documents available through Green Open Access.
- *Retracted Articles*: The number of articles marked as retracted in Scopus.
- *Discontinued Journal Publications*: The number of articles published in journals that have been discontinued due to publication concerns or listed on the Scopus Radar for potential issues (as per the Scopus Sources List of December 2024).

We also use the Gross National Income per capita (GNIpc) of countries obtained from World Bank Open Data repository.

Proxy Measure of Academic Misconduct

The main reasons for article retractions in academic journals are often linked to research misconduct. Plagiarism is one of the most common reasons for article retraction, data fabrication (making up data) and falsification (manipulating data or images) also frequently lead to retraction. Duplicate publication, also known as redundant publication, that involves publishing the same or substantially similar work in multiple journals, disputes over authorship, including ghost authorship or inappropriately added/removed authors, can also lead to retractions (Malla & Wani, 2024; Sharma et al., 2023; Valz Gris et al., 2024).

Scopus regularly evaluates and discontinues indexing of journals that no longer meet its quality standards. Two primary reasons for discontinuation are "Publication Concerns" and issues detected by the "Radar" system. Publication Concerns refer to problems related to the quality of editorial practices or other issues that impact a journal's suitability for continued coverage in Scopus (Cortegiani et al., 2020). These concerns may include unfair publication practices, publication of low-quality materials that do not meet scientific criteria, data manipulation, violations of publication ethics, lack of proper peer review, artificial inflation of citations. Publication Concerns can be identified by Scopus itself or flagged by the research community. When legitimate concerns are raised, the journal is added to the re-evaluation program and assessed by the Content Selection & Advisory Board (CSAB) in the year the concern is identified. The Radar system is a data analytics algorithm created by Elsevier Data Scientists to identify journal outlier performance in the Scopus database (*Scopus Content Policy and Selection | Elsevier*, 2024). It runs regularly to check all Scopus journals for unusual patterns and behaviours. Some of the key factors that Radar monitors include rapid and unexplainable changes in the number of articles published, unexplainable shifts in the geographical diversity of authors or affiliations, sudden changes in publication topics compared to the journal's stated aims and scope, abnormal self-citation rates, suspicious editorial policies, consistently low influence metrics. The Radar system is designed to improve continuously by incorporating new examples or signals of potential issues. During the period under review, 2% of research articles in journals indexed in Scopus were published in sources later excluded from indexing and 0.07% were retracted.

To assess the prevalence of academic misconduct, we use a composite indicator based on the share of retracted articles and the share of articles published in discontinued journals. The *Integrity Score* is defined as:

$$Integrity\ Score = 1 - Discontinued\ Share - k \times Retracted\ Share$$

where:

- *Discontinued Share*: The proportion of publications in discontinued journals.
- *Retracted Share*: The proportion of retracted articles.
- *k*: the weighting factor

The weighting factor for retracted articles reflects their higher significance for the indicator and lower frequency compared to articles in discontinued journals.

Statistical Analysis

The study employs regression analysis to explore the relationship between OA models and academic integrity. The dependent variable is the *Integrity Score*, while the independent variables are:

- *Gold OA Share*: The proportion of publications under the Gold OA model.
- *Green OA Share*: The proportion of publications under the Green OA model.

This regression model allows us to assess how different OA approaches correlate with indicators of research integrity, providing insights into the potential influence of publishing models on academic behavior and misconduct.

Results and Discussion

The descriptive statistics show that *Retracted Share* and *Discontinued Share* are both heavily skewed, whereas *Gold OA Share* and *Green OA Share* exhibit near-normal distributions (Table 1). The mean *Discontinued Share* to the mean *Retracted Share* ratio is 43.3 and we can choose this value for the weighting factor *k*.

Table 1. Descriptive statistics.

Retracted Share		*Discontinued Share*		*Gold OA Share*		*Green OA Share*	
Mean	0.000561	Mean	0.024280	Mean	0.314962	Mean	0.383293
Standard Error	2.7E-05	Standard Error	0.001294	Standard Error	0.003813	Standard Error	0.004606
Median	0.000244	Median	0.005473	Median	0.29834	Median	0.366955
Standard Deviation	0.001086	Standard Deviation	0.052088	Standard Deviation	0.153474	Standard Deviation	0.185393
Sample Variance	1.18E-06	Sample Variance	0.002713	Sample Variance	0.023554	Sample Variance	0.034371
Kurtosis	64.91448	Kurtosis	28.42670	Kurtosis	2.256663	Kurtosis	0.110113
Skewness	6.458127	Skewness	4.621121	Skewness	1.169426	Skewness	0.584524
Range	0.017262	Range	0.531361	Range	0.877351	Range	0.914686
Minimum	0	Minimum	0	Minimum	0.04293	Minimum	0.046343
Maximum	0.017262	Maximum	0.531361	Maximum	0.920281	Maximum	0.961029

The resulting *Integrity Score* is high on average (mean: 0.951), with strong negative skewness indicates a long left tail, meaning many scores are near the maximum value (median: 0.980, skewness: -3.508). Extremely high kurtosis indicates a leptokurtic distribution, with a sharp peak and heavy tail. Correlation analysis (Table 2) shows positive correlation between *Gold OA Share* and *Retracted Share*, *Discontinued Share*, negative correlation with *Green OA Share* and *Retracted Share*, *Discontinued Share*. *Integrity Score* negatively correlates to *Gold OA Share* and positively – with *Green OA Share*.

Table 2. Correlation coefficients.

	Retracted Share	*Discontinued Share*	*Gold OA Share*	*Green OA Share*
Discontinued Share	0.094			
Gold OA Share	0.250	0.050		
Green OA Share	-0.024	-0.332	0.419	
Integrity Score	-0.709	-0.769	-0.196	0.245

To address the non-normal distribution of *Integrity Score* we applied Box-Cox transformation with *lambda* value equal to 14.959. The results of regression analysis with *Transformed Integrity Score* as dependent variable and *Gold and Green OA Shares* as independent variables are presented in Table 3.

Table 3. Correlation coefficients.

Dep. Variable:	Tr. Integrity Score	R-squared:	0.289
Model:	OLS	Adj. R-squared:	0.288
Method:	Least Squares	F-statistic:	329.1
No. Observations:	1620	Prob (F-statistic):	1.24e-120
Df Residuals:	1617	Log-Likelihood:	4306.8
Df Model:	2	AIC:	-8608.
Covariance Type:	nonrobust	BIC:	-8591.

	coef	std err	t	P-value	[0.025	0.975]
Intercept	-0.02849	0.001114	-25.5791	1.83E-121	-0.0307	-0.0263
Gold OA Share	-0.05856	0.003026	-19.3518	3.27E-75	-0.0645	-0.0526
Green OA Share	0.05862	0.002505	23.4036	1.46E-104	0.0537	0.0635

Omnibus:	12.745	Durbin-Watson:	1.530
Prob(Omnibus):	0.002	Jarque-Bera (JB):	12.617
Skew:	-0.196	Prob(JB):	0.00182
Kurtosis:	2.817	Cond. No.	8.91

Approximately 28.9% of the variation in the *Transformed Integrity Score* is explained by the independent variables (*Gold and Green OA Shares*). While this is a moderate level of explanatory power, it suggests other unobserved factors are influencing the integrity score. Adjusted R-squared indicates that the model's explanatory power is robust and not overfitted. The overall model is statistically significant, meaning *Gold OA* and *Green OA* collectively explain significant variation in the dependent variable. Results of Omnibus, Jarque-Bera statistical tests indicate that the residuals deviate slightly negatively from normality, Durbin-Watson test indicates no significant autocorrelation in residuals and Condition Number indicates no significant multicollinearity issues among predictors.

There is a statistically significant negative relationship between *Gold OA share* and the *Transformed Integrity Score* and positive relationship between *Green OA share* and the *Transformed Integrity Score*. We can assume that higher *Gold OA share* correlates with lower integrity, potentially reflecting issues such as predatory publishing or compromised peer review while higher *Green OA share* correlates with better academic integrity, aligning with the idea that Green OA promotes transparency and good research practices.

Among the articles in journals excluded from indexing, a slightly larger share is accounted for by Gold OA journals - 24.5%, 17.2% are articles in Green OA. Of the retracted articles, 44.8% are from Gold OA, 36.6% are from Green OA. Overall, Green OA accounted for 31.8% of papers out of 25.7 million scientific journal publications from 2014-2023, Gold OA accounted for 24.8%. The correlation coefficient between *Gold OA Share* and *Retracted Share* is 0.25, between *Gold OA Share* and *Discontinued Share* is 0.05. This may to some extent account for the detected correlation but does not explain it completely.

The analysis by fields of science generally shows no difference in the correlation between Green and Gold OA Shares and Integrity Score. In both cases, a weak negative correlation is observed, i.e. a larger share of documents in any type of OA is more likely to correspond to a higher level of academic integrity. At the same time, disciplinary specificity is present, both in open access practices and, presumably, in the manifestations of questionable research practices leading to retraction of articles and exclusion of journals from indexing. If we look at scientific fields in the context of national segments of science, a negative correlation also prevails in both cases: in 42 out of 60 countries. It is worth noting that in 27 cases the negative correlation of *Research Integrity Score* with *Gold OA Share* is more pronounced than with *Green OA Share*. In three cases, *Research Integrity Score* is negatively correlated with *Gold OA Share*, while positively correlated with *Green OA Share*; in one case, the opposite is true; in 14 cases, the correlation with *Green OA Share* is negative.

For countries in general, the difference in the dependence of *Research Integrity Score* on the share of articles in Gold and Green OA is clearly visible (Fig. 1), demonstrating the significant influence of the specifics of the national research environment.

Figure 1. Correlation between OA Share and Research Integrity Score for different countries.

This value is also observed in individual research areas, a higher share of Green OA in a country corresponds to a higher *Integrity Score*, while a higher share of Gold OA, on the contrary, is associated with lower *Integrity Score* values in 24 out of 27 areas. The exceptions are *Multidisciplinary*, *Physics and Astronomy*, *and Environmental Science*. Fig. 2 shows the research area of *Business, Management and Accounting*.

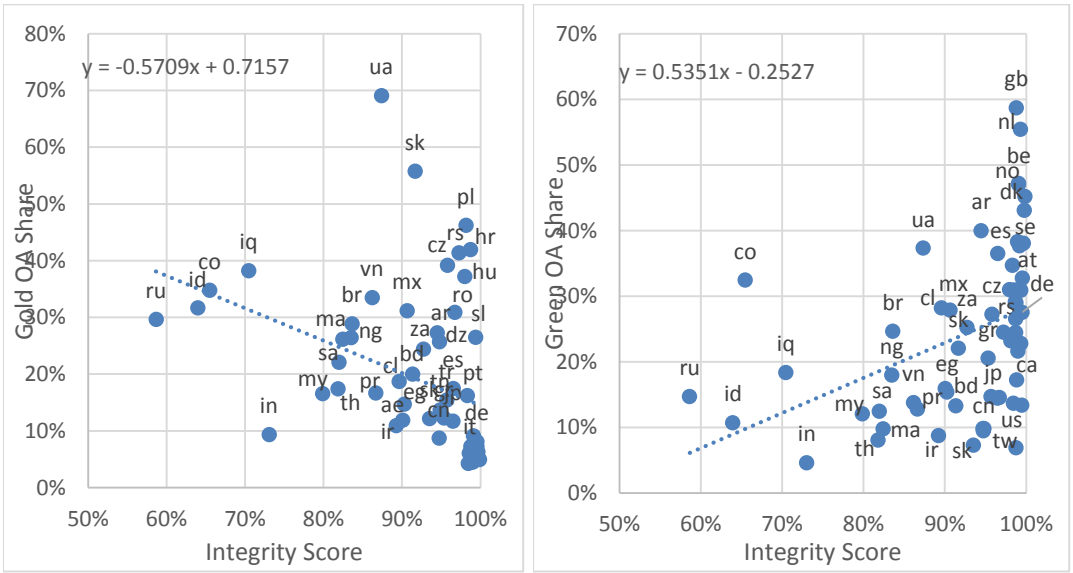

Figure 2. Correlation between OA Share and Research Integrity Score for different countries in the Business, Management and Accounting research area.

A striking contrast emerges when comparing the two countries (Fig. 3). In Indonesia, a developing economy, Green OA initially shows modest gains but soon stagnates and even declines, whereas Gold OA experiences rapid growth, eventually surpassing Green OA by a wide margin. This pattern suggests that authors in Indonesia may be gravitating toward pay-to-publish outlets – possibly due to perceptions of prestige or the lack of robust institutional repositories – leading to a smaller share of self-archived content.

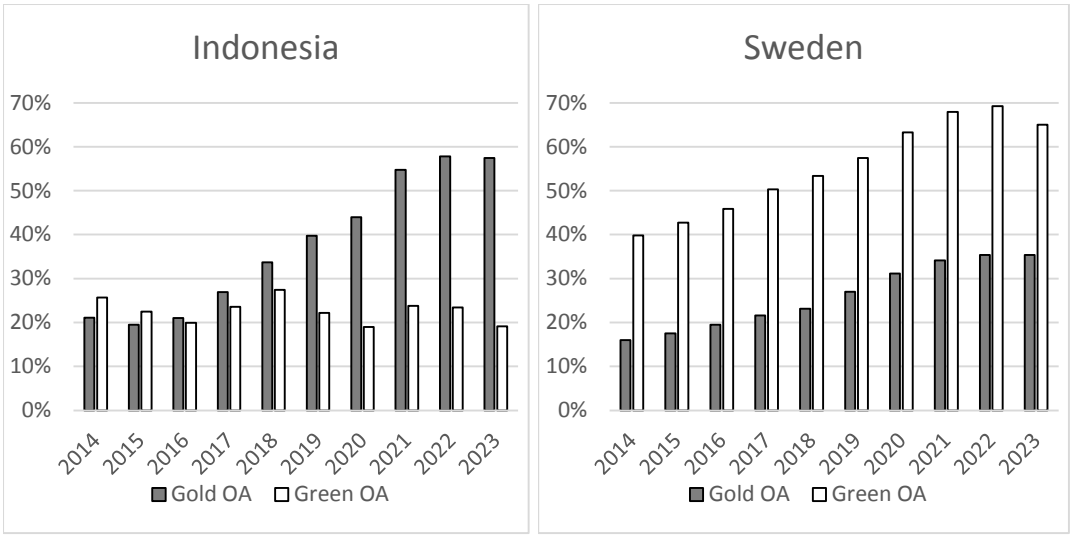

Figure 3. Correlation between OA Share and Research Integrity Score for different countries in the Business, Management and Accounting research area.

By contrast, Sweden's moderate but steady increase in Gold OA coexists with a high and growing proportion of Green OA publications. This can be partly attributed to institutional mandates and research funders' requirements, which encourage or even oblige Swedish researchers to deposit their work in open repositories. Such policies offer a sustainable, non-commercial pathway to openness and thus maintain a strong Green OA presence while still allowing for a measured growth in Gold OA. This is a typical picture reflecting the situation in developed and developing countries.

We propose an indicator characterizing the difference in document shares between Green OA and Gold OA. For several countries, this ratio is negative, indicating that the share of Gold OA publications consistently exceeds that of Green OA. Notably, most of these countries also exhibit relatively low *Research Integrity Scores*. In contrast, countries where Green OA predominates tend to have higher *Research Integrity Scores*, with a correlation coefficient of 0.64 (Fig. 4).

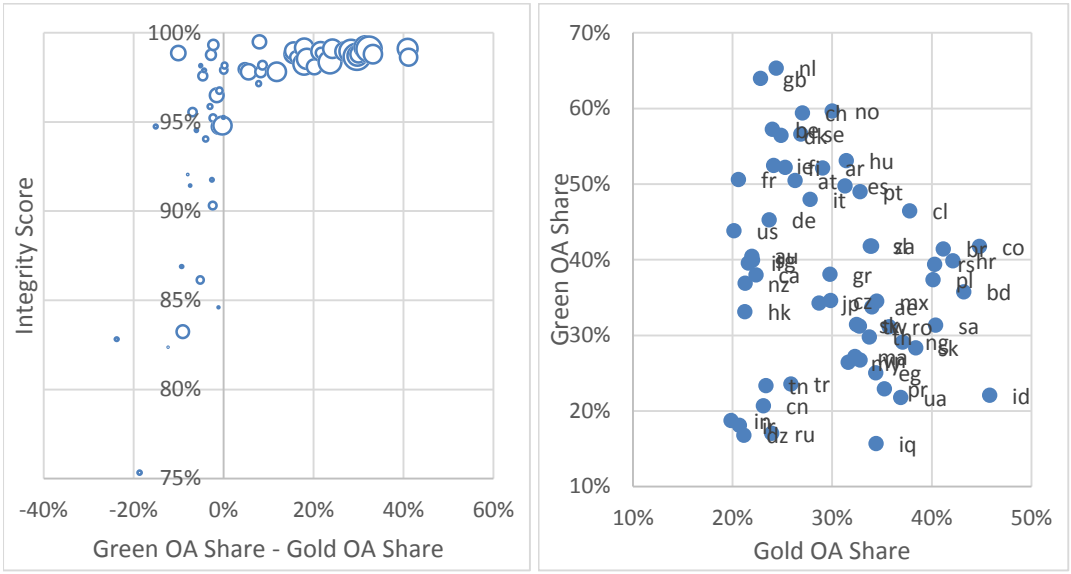

Figure 4. Correlation between *Research Integrity Score* and difference between *Gold OA Share* and *Green OA Share* (left, size of the bubble corresponds to GNIpc); *Gold OA Share* and *Green OA Share* (right) for different countries.

At the disciplinary level, no significant correlation is observed between these indicators, as evidenced by a correlation coefficient of -0.02. When examining the correlation at the country-discipline level, which was used to construct the regression model, the correlation coefficient is slightly lower, at 0.41.

The findings support the hypothesis that a high proportion of publications in Gold OA is associated with a greater prevalence of questionable research practices related to violations of research integrity. This relationship is further exacerbated when the share of Green OA publications is low. Moreover, the prevalence of questionable research practices appears to have a strong national component, likely influenced by variations in national research cultures. These variations are shaped by differing levels of publication pressure, which may result from policies on the certification of scientific personnel, incentives for publication activity, and mechanisms for evaluating scientific performance. It should be noted that the observed dependence is influenced by disciplinary characteristics, which can probably offset the impact of national research culture.

Limitations

While our study provides meaningful insights into the relationship between Open Access (OA) models and research integrity, several limitations should be noted.

First, the Integrity Score used in our analysis is a composite indicator based on the proportions of retracted articles and publications in discontinued journals. Although article retractions typically indicate serious misconduct such as plagiarism, data fabrication, or falsification (Malla & Wani, 2024; Sharma et al., 2023; Valz Gris et al., 2024), not all retractions necessarily reflect intentional misconduct; some result from honest errors or disputes unrelated to ethical breaches. Similarly, journal

discontinuations, as explained previously, can occur due to various quality-related issues identified by Scopus, including editorial misconduct, poor peer review practices, or abnormal citation patterns. Thus, the Integrity Score should be considered indicative rather than definitive.

Second, although our model identified statistically significant relationships, the moderate explanatory power suggests that other relevant factors influencing research integrity were not captured in this study. Variables such as funding mechanisms, institutional policies, individual researcher motivations, or detailed disciplinary cultures could substantially affect research integrity, warranting further exploration.

Third, while we highlighted the role of national research cultures, our study does not operationalize this variable quantitatively. A systematic characterization, possibly incorporating data from worldwide surveys, could provide deeper insights into cultural determinants of research integrity.

Finally, our analysis does not deeply investigate disciplinary differences in OA publishing patterns and integrity. Further field-specific analysis could elucidate why disciplines vary in their engagement with different OA models and the resulting implications for research integrity.

Despite these limitations, our findings contribute valuable insights into the ongoing discourse on OA publishing and offer practical policy implications to promote ethical scholarly communication.

Conclusion

Our findings highlight the complex relationship between Open Access (OA) models and research integrity, revealing both opportunities and challenges associated with different publishing approaches. While OA is fundamental to expanding the accessibility of scientific knowledge, its implementation can have divergent consequences. The Gold OA model, which operates on an author-pays principle, exhibits a moderate but consistent negative correlation with research integrity indicators. This association likely reflects the proliferation of predatory publishing practices and the shortcomings of peer review in certain venues that prioritize financial transactions over rigorous editorial standards. This observed correlation does not imply direct causality, as other factors, including publication pressures and weak regulatory frameworks, could simultaneously influence both OA preferences and integrity outcomes. In contrast, Green OA is positively associated with research integrity, reflecting its ability to enhance transparency and reduce financial barriers, thereby supporting more robust ethical practices.

Beyond the specific impact of OA models, our study highlights the decisive role of national research cultures in mediating these effects. Countries with strong regulatory oversight, well-balanced research evaluation systems, and established ethical frameworks appear better equipped to leverage the advantages of OA while minimizing its risks. Conversely, in regions where publication pressure is intense and regulatory mechanisms remain weak, the structural vulnerabilities of the Gold OA model may intensify unethical research practices, including compromised peer review, citation manipulation, and the emergence of low-quality publications. In many developing scientific systems experiencing rapid expansion, the rise of new

research groups and disciplines has outpaced the establishment of a mature research culture. This misalignment fosters an environment in which publication quantity is prioritized over quality, further reinforcing problematic publishing behaviors.

At the same time, it is important to recognize that the accumulation of research culture within emerging scientific communities may gradually improve research integrity over time. Fields that have historically matured within these national systems appear to have already adopted more rigorous ethical standards, demonstrating that research integrity is not inherently constrained by geography or economic conditions but rather by the broader scientific environment in which scholars operate. However, the Gold OA model, due to its inherent conflict of interest where publishers profit directly from article processing charges introduces additional ethical risks, particularly in environments with underdeveloped research cultures. The financial barriers posed by high APCs in leading OA journals may also push researchers from lower-income countries toward lower-ranked or less scrupulous publishing outlets, further intensifying disparities in research quality (Björk & Solomon, 2015).

In addition to these ethical concerns, the Gold OA model imposes a significant financial burden on national R&D sectors, a challenge that is particularly acute in developing economies (Haustein et al., 2024). The substantial funds allocated to cover APCs could be more effectively invested in fostering a more sustainable and ethically robust model of scholarly publishing, such as Diamond OA. Unlike Gold OA, the Diamond OA model removes financial barriers for both authors and readers, offering a more equitable and transparent approach to disseminating research. Redirecting resources toward such initiatives would not only alleviate financial pressures but also contribute to strengthening the overall integrity of scientific publishing by eliminating economic incentives that may encourage questionable research practices (Fuchs & Sandoval, 2013).

These observations lend further support to Poynder's critique that the OA movement has deviated from its original vision. The Budapest Open Access Initiative (*Budapest Open Access Initiative*, 2002), which set the foundation for OA principles, emphasized two complementary strategies: the development of open repositories for self-archiving and the creation of alternative OA journals supported by non-commercial funding models. The declaration envisioned funding sources primarily from research institutions, government agencies, philanthropic donations, and reallocation of resources from discontinued subscription-based journals. Researcher-funded publication, which defines the contemporary Gold OA model, was considered only as a last resort. The current dominance of the author-pays model represents a fundamental departure from these initial ideals, raising concerns about its unintended consequences for research integrity.

While a transition to Green OA alone may not be sufficient to resolve integrity challenges in research communities where questionable practices are prevalent, it is plausible that reducing reliance on Gold OA could help mitigate some of its more problematic effects. The removal of financial incentives that drive ethically dubious publishing behavior, combined with policies promoting open science practices, could accelerate the development of more robust research cultures. In this context,

strengthening institutional repositories and fostering collaborative models of scholarly communication may represent a more sustainable path toward ensuring both accessibility and integrity in scientific publishing.

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