## What do researchers think about paying to publish open access – Findings from a global survey

Through different mechanisms pay to publish models have been established globally as one of the key routes to the open access publication of academic research. This model has introduced new kinds of inequalities into scholarly communication, but to what extent to researchers perceive the problematic nature of these business models? Drawing on findings from an international survey, Francisco Segado-Boj, Juan-Jose Prieto-Gutierrez and Juan Martín-Quevedo explore attitudes towards the pay to publish model across different demographics.

**Researcher A**: 'Do you know that for years some scientific journals have been asking authors to pay up to thousands of US Dollars to publish research papers?'

Researcher B: 'Yes, I am aware.'

Researcher A: 'And what do you think of this pay-to-publish model?'

Researcher B: 'I strongly believe that it is unfair and that it damages the advancement of science.'

Researcher A: 'But do you feel that the pay to publish model personally mistreats or threatens your own career?'

Researcher A: 'Well, not so much...'

According to the results of our international <u>survey on attitudes towards the pay-to-publish model</u>, this would be a fairly common conversation amongst academic researchers on the subject of article processing charges (APCs), the pay to publish mode of academic publishing. Authors have warned about the <u>potentially detrimental consequences of this new business model</u>. And, as we have explored, most scholars worldwide share such concern. At least, in relation to the global, general consequences of this system, rather than the particular ones.

Globally speaking, participants stated that they at least partially agree with the idea that paying to publish 'damages or slows scientific advancement'. Yet, when we asked them if they felt that this model 'has slowed or damaged my scientific career', their opinion was less emphatic, and most of them did not feel particularly affected by the APC model: they neither agreed nor disagreed with the statement. Thus, it would seem most scholars seem to think that other people are suffering the worst consequences of this publication system, while they are among the lucky ones.

		<b>Global Perception Particular Perception</b>	
	Global	4.17	3.30
Age	25 or younger	4.24	3.06
	Between 26-35	4.07	2.87
	Between 36-50	4.06	2.89
	51 or older	4.09	2.87
Country Income Level	Low and Lower-Middle	3.94	2.74
	Upper-Middle	4.05	3.57
	High Income	4.04	2.55
Discipline	Arts and Humanities	4.29	2.91
	Life Sciences	4.08	2.98
	Social Sciences	4.19	2.67
	STEM	3.98	2.89

Legend. Global perception: Agreement to the sentence 'Globally speaking, the "pay-to-publish" model (requiring Article Processing Charges to authors to publish the accepted papers) damages or slows scientific advancement' Particular perception. Agreement to the sentence 'Personally, speaking from my point of view and personal experience, "pay-to-publish" model (requiring Article Processing Charges to authors to publish the accepted papers) has slowed or damaged my scientific career') 1=Totally disagree 5=Totally agree

## Funding as a key issue

We also explored how different groups of researchers perceived the pay-to-publish model. As for disciplines, we found more hostility in the Arts & Humanities and the Social Sciences than in the Life Sciences and Science, Technology, Engineering, and Mathematics. We understand that as traditionally the Humanities and the Social Sciences are underfunded compared to other fields (for example), they feel that the additional expenses implied by the pay-to-publish model damage them more than other, better funded, knowledge areas.

Social scientific and humanistic researchers also tended to more often refuse to publish in journals requiring some fee to their authors. This may come from funding problems, but in some disciplines, such as Law and Arts might be related to the more prevalent acceptance of other ways of communicating their research, such as books.

The perception of the pay to publish model is also conditioned by the income level of the country where the researchers work. Those from nations from the lower ranks in the World Bank Income Yearly Report state hold lower opinions towards pay to publish. Once again, we interpret that lacking access to external funding leads to expressing a worse opinion of the pay-to-publish model, as 60% of researchers from low-income countries have to pay these publication fees with their own money as they lack external funding.

Younger scholars also tended to be more critical. Early career researchers tend to have less access to financial aid, they therefore distrust this system, as they are less inclined to buy into and accept this model. Beyond the economic frame, we also found that the reluctance between younger scholars is deeper among those aged 26-35. We hypothesize that this demographic has acquired some experience in the scientific environment, enough that they are aware of the structural consequences of the pay-to publish model, while most of them are not tenured nor have regular access to external funding, thereby sharpening their initial criticism.

We also measured respondents' commitment to open access publishing, that is, how often they uploaded their published manuscripts to some repository so that anyone can freely read and access their work. We expected that higher commitment (that is, for instance, uploading their work even when the journal that publishes the manuscript explicitly forbids doing so) would predict criticism of the pay-to-publish model. Instead, we found no differences according to this criterion.

## Consequences of the divide between particular and global perception

As we already mentioned we understand that hostility towards paying to publish is more consequence of a practical problem –the extra burden that implies having to cover publishing fees- than of an 'ideological' or 'moral' subject, as we found no link between commitment to open access and hostility towards APCs. Yet, most scientists agree to the fact that, globally, paying to publish is detrimental to the advancement of science even though it does not personally affect them.

From a positive perspective, researchers seem to be aware of the inherent unfairness in the APC system. Even though most scholars feel that they can overcome the financial requirements it implies, they also realise that this is an unsustainable model. More privileged researchers do not ignore that those who lack access to these institutional resources are hugely penalised, thereby leaving the most precarious members of the scientific community to take the worse effects.

In a negative light, the perception that paying to publish does not threaten the scholars' particular careers or professional promotion, might deter researchers from taking more radical attitudes against this system, such as boycotting publishing houses or refusing to submit their manuscripts to such journals.

Regardless, the reasons for the prevalent attitude of matter-of-factly, practical acceptance seem to be other structural factors of the scholar's career, such as the evaluation for professional promotion. Thus, researchers in the tenure-track process might acknowledge that APCs are unavoidable if they want to keep progressing in their careers. This raises an important question as to whether once the younger, more critical, generation of scholars are tenured, they translate their criticism to practical measures, or if their easier access to funding dulls their concerns against the pay to publish model?

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