

# HARBINGERS THIRD YEAR INTERIM RESULTS

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EXECUTIVE  
SUMMARY AND  
EARLY THOUGHTS

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## Introduction

What publishers wanted to determine from the Harbinger research is whether the latest wave of ECRs with their millennial beliefs, social media interests and the presence of digital disruptors, such as ResearchGate, are changing the scholarly communications and reputational dynamic. Existing research on this is possibly suspect because of an over reliance on questionnaire surveys, which tend to scratch the surface of the subject and generally point to little change, arguing that ECRs behave even more conservatively than their seniors. But is this really the case because an argument could be put forward that the voices of ECRs have been suppressed by an unforgiving reputational system and misrepresented by a, sometimes, inappropriate research methodology. And if you obtained the trust of ECRs and spent long enough talking to them (over years rather than minutes) things might look quite different. Thus, we conducted deep and annually repeated interviews with an international panel of over ECRs for three years, which enabled us to build trust and rapport with them and fully take account of their thinking and wishes for the future. This way, as we shall see, they clearly provided honest and open answers and a different, more nuanced picture is obtained, and one which projects and heralds change on a much larger scale than others have found.

The third and final year of interviews was completed at the end of May 2018. 103

early career researchers (ECRs) from 7 countries (China, France, Malaysia, Poland, Spain, UK and US) were annually interviewed for a period of 3 years about their scholarly communication attitudes and behaviour and some early findings are provided here.

## Jobs and careers

Around one quarter of our ECRs obtained tenure, reaching a high of a half in Malaysia. In two countries, Spain (few opportunities, too much competition) and Poland (takes a very long time traditionally) none did. Even those tenured are still under pressure because they are on fixed-term contracts and the bar is raised because of the greater expectations put on them. Although in France the pressure to publish does lessen but increases in respect to obtaining funding and building local networks. Whether ECRs remain committed to having a career in academe very much varies from country to country, with those from Malaysia and the US being the most committed and the doctoral students from Poland the least.

## Discovery and access

A distinction in questioning was made regarding platforms that help find content and those platforms that produce the resulting full-text. This appears to have led to: (a) a greater acknowledgement of the library's role in providing resources, (b) a much greater awareness of the easy availability of open access (OA) publications on the web; and (c) the naming of 'dodgy' platforms, such as Sci-Hub. So, something of a sea-change here in discovery and access.

Google and Google Scholar have a growing stranglehold on discovery in all countries and they are becoming ever more dominant, explained in part by an increase in OA publishing. Of the more traditional platforms, Web of Science (WoS) and Scopus have pride of place, principally for obtaining content and filtering it, and PubMed, too, in the medical and biological sciences. Of the online communities, ResearchGate (RG) is the real standout, increasingly popular in all countries bar, possibly the US.

That is not to say that new players are not emerging and in this regard the progress of Sci-Hub has to be noted, used in all countries and increasingly so in some of them, especially in France (all ECRs use it) and China (where it is banned!). There are other 'dodgy' services being used, including [www.91lib.com](http://www.91lib.com), an illegal web platform popular in China, which provides users with access to the offerings of all main commercial publishers for a small charge. There is also Library Genesis which some Spanish ECRs use. Interestingly, very few people now regard RG as being 'dodgy'. It has gone from disruptor to mainstay.

Other, perfectly legal services, are now being mentioned, including GitHub, MedSci, WeChat (provides edited versions of scholarly articles), YouTube (popular in France) and Ecosia (Spain).

### *Smartphones*

The large majority of ECRs now admit to having and using smart-phones for scholarly purposes but few use them regularly and not really when they are in

the lab – they are mainly used when they are away from base for searching and viewing. However, that is not the case everywhere and in China and Malaysia social networking platforms such as WeChat, WhatsApp and Twitter, of course, are driving widespread and constant use of smartphones.

### **Social media and online communities**

On the surface, social media seems to have established its place in scholarly communication with most ECRs exhibiting a positive attitude and fairly widespread usage (for discovery, collaboration, visibility, contacts and communication, for instance). LinkedIn, Twitter and ResearchGate (RG) are the big beasts. There is even institutional encouragement to use them reported in some countries. But dig a little deeper and there is a much more nuanced, complex and interesting story to tell:

- In China, social media is used much more by those ECRs (the majority) who used it frequently for scholarly purpose in the early years of the study. They rely much more on social media, to check, read, and communicate with their peers. For ECRs who did not use social media very often in the past, they use it even less now.
- In France, the difference that opens out is between tenured ECRs who have reduced their use of social media, while those still in an ECR position continue to use social media whenever they can, especially for monitoring purposes and, in the case of LinkedIn, to find a job in industry. The explanation is that they feel less concerned about being

visible everywhere, they are busier with their new job and more relaxed about tomorrow and they focus on other kind of activities.

- Those who have obtained tenure instead have started using new collaborative tools, like Overleaf, and more faithfully upload their articles to RG to update and showcase their publications.
- There is a mixed and fluid picture emerging from the US where some ECRs are using social media more, some less and there is no change in the case of others. LinkedIn seems to have a special place in the US and UK where ECRs believe it gives them a professional platform which is useful for visibility when applying for jobs.
- New disruptors are very much at work changing the social media scholarly landscape. Thus, in China the rise and rise of WeChat in popularity is leading to significantly reduced levels of Facebook, LinkedIn and Twitter use. In Malaysia it is WhatsApp and Telegram that are changing things.
- RG, the original disruptor, which is now very much part of the scholarly communication landscape and while still popular is being received quite differently. Thus, in China it is popular as a source of scholarly readings; in Malaysia as a collaborative platform; in Spain as a discovery and dissemination platform and in the US largely for the visibility it affords. Generally speaking, levels of social engagement are still relatively low on RG. While going up in use elsewhere RG seems to have peaked in the UK and US.
- Of the other reputational platforms Kudos, Academia.edu and Mendeley are largely absent from most ECRs' thoughts, RG seems to be the only reputational platform standing, although, of course, only a minority of ECRs use it for this purpose.
- The gap between ECRs use of social media and that of their senior colleagues has closed in some countries, most notably so in Spain. Both groups are now making good use of social media for scholarly communication purposes

### **Publishing, authorship, open access and open science/data**

#### *Publishing and authorship policies and practices*

In regard to publishing policies and strategies, in general, they seem to be tightening up and focussing more on publishing in the very best (WoS/Scopus) journals. Policies are particularly prescriptive in China (where each journal obtains a price incentive), Malaysia and Spain. Within this general statement small trends can be discerned: in Spain and the UK, for instance, where audience is becoming an important factor; in France, where ECRs who have obtained tenure are focussing more on writing research proposals; again in the UK, where a publishing strategy is emerging which would see fewer but better papers published; again in Spain, where ECRs are increasingly conscious about the need to disseminate science results widely and the usefulness of social media in achieving this end; and in Malaysia and the US where there is less talk about publishing

conference proceedings, journals seeming to be everything.

ECRs have become more experienced as both first and corresponding authors and, as a result of this, their views on authorship are more listened to. Possibly, as a consequence, there have been some changes, although not so much in France where they are non-existent. In the UK there is stronger condemnation of any author policy that does not reward work actually undertaken. In Malaysia they are becoming more cautious of the authorship line-up and in both Malaysia and China the light is shining brightly on the corresponding author, which brings with it tenure as well as reputational and, sometimes, financial rewards. The fact that a few journals now allow more than one corresponding author is proving of great interest. In Spain ECRs show greater flexibility on authorship policy, with both eyes always on tenure potential. In the UK and the US where there were once concerns there are none now with ECRs happy with the policies of their mentors.

#### *Open access publishing*

A big change here, with open access (gold) publishing gaining favour amongst ECRs. This can be put down to the fact that ECRs are: (a) much more knowledgeable about OA and its attendant policies; (b) more conscious of the outreach advantages and increased citations alleged to be obtained; (c) keen on the open-door approach, which provides easy access to papers; (d) placing trust on OA journals more, thanks to the fact that Nature publishes them and some of their top colleagues also publish in OA journals. However, positive sentiments do

not necessarily translate into changes in practice, and it is only in China (despite some reputational worries) and Spain where we see real increases in OA publishing. The cost of Article Processing Charges (APCs), which hits ECRs particularly hard and thought unfair (they do not control the purse strings) remain. Interestingly, despite the best efforts of the EU, OA has failed to become part of the publication strategies of researchers in France and Poland.

As to green OA i.e. depositing in repositories (not always regarded as open access publishing) this remains at low levels, except in the UK where the Research Excellence Framework (REF) requirements for deposit are making a difference and China where it is now becoming the norm.

#### *Open science and data*

In terms of open science, more ECRs are saying they know about the concept and favour it and even those who do not know about it, when it is explained to them also show favour. But this is not so much the case in France where there is a paradox: on the one hand scepticism prevails while ECRs are more engaged in publishing their data in supplementary materials and keen to reproducibility and on the other they believe that open science is a concept that needs to be contextualised. As to open data there is more publishing data as supplementary material (encouraged by journals) going on, but there is hardly any publishing in data journals. There are still some reservations of open data aired with the main one being that it makes no sense

to open data unless it has been interpreted in scientific papers first.

### **Peer review**

ECRs have become more experienced as reviewers and this has resulted in a number of changes, meaning they are: a) happier with the system, especially double-blind peer review, which obtains widescale favour; b) more selective of the papers that they are invited to review; and c) more proactive in approaching editors and expressing their interest in reviewing articles. In China, there are still big reservations about open peer review, which ECRs think does not work because only anonymity can guarantee fairness. Elsewhere ECRs are more informed about open peer review and the problems of undertaking it are as much mentioned as the positives and there has been a small rise in papers being subjected to open peer review. Questions concerning incentives and recognition for peer reviewing continue to be raised and a few ECRs mentioned this in regard PUBLONS, but by most only lukewarmly and in fact the French are very suspicious of it because it now belongs to Clarivate, a private equity company.

### **Sharing and collaborating**

Sharing is now being taken as read; it is thought to be a fundamental part of science, and its increasing. There are many fewer remarks about hanging on to your data (not losing control), so that you could exploit it further/squeeze more papers out of it. Sharing is undertaken by many means: ResearchGate, emails, meetings, seminars, collaborative tools, Dropbox etc.

Probably, the biggest changes are happening in regard to collaboration. It is now held widely to be very important for scientific innovation, careers and reputation, especially so international collaboration. As a consequence, many ECRs are becoming more familiar with collaborative platforms, such as ResearchGate, to establish contacts more than anything else and interested, also, in how social media can help collaboration. In the case of France, ECRs who obtained a job stated that the collaborations they developed played an important role in their recruitment

### **Metrics and altmetrics**

Traditional citation measures are very much holding their own because of their assessment and reputational importance. And we are mainly talking here about the journal impact factor and not personal citation scores as, for instance, expressed in the H-index. Downloads do not even get near citations in importance. In fact, ECRs seem generally uninterested in all forms of altmetrics and have remained so over the full three-year period. Given the amount of promotion they have had this must come as a surprise, but there are recent signals of rising interest in a few countries. Thus, in Spain where altmetrics are beginning to be used for identifying leaders in research and assessing the visibility of their own work; in France, where they are used by assessment committees to establish research impact; in China where they are used to help select papers for downloading and reading; and in Malaysia, ECRs used altmetrics scores to identify pieces of research that have received a lot of

attention and determining which journal (with altmetrics scores) to publish in. ResearchGate scores are also attracting interest among a minority of ECRs admittedly.

### **Unethical behaviours**

Interestingly, ECRs in the UK and US evidence no interest at all in the topic, having not come across it themselves. In Asia (China and Malaysia) on the other hand, ECRs are much more aware of unethical behaviours believing it to be quite widespread and providing plenty of stories about it, especially in regard to scientists. They put this down to the stresses that arise from the pressure to publish and play catch up with Western countries. The French and Spanish are of a somewhat similar opinion believing that the whole system is in a mess that is why we have so many cases of misconduct and malpractices. The Poles just know it goes on. Two new types of publication violation have emerged: fake reviews and fake acceptance letters.

### **Research impact**

Peers are still regarded to be the most important audience for ECRs in regard to research impact and this is largely seen as being achieved by publishing in high impact factor journals. However, engagement with policy makers and the public are increasingly being mentioned in most countries and, sometimes, the use of social media to achieve this.

### **Transformations**

After 3 years the large majority of ECRs are still of the strong opinion that the impact factor and journal centered academic

system will not change in the next 5 years and some even venture, not for a couple of decades. French ECRs are most pessimistic for the future and the only country where there is some optimism that ECRs might be the harbingers of change is Spain, where they endure the worst conditions and have the poorest job prospects. Nevertheless, ECRs views on openness, sharing, outreach and transparency have not changed and remain strong, although actual changes to the system to accommodate this wish list remain vague and the closest we get is a suggestion to give less importance to publishing in high impact factor journals. There are mixed messages regarding the future of libraries, with those ECRs in the UK and US believing they will continue to have a role (possibly, a greater one), those in Poland being most doubtful about that and the French seeing a reduced role for them as undergraduate resources. However, the vast majority of ECRs still see publishers featuring strongly in scholarly communication.

### **Country diversity**

The really significant changes are occurring in the Asian countries, not so much playing catch-up with the more mature countries as leading the way in the adoption of social media and platforms. Very interestingly, there are also fluctuations, where attitudes and practices seesaw, and this mainly occurs in the mature scholarly communication countries (UK, USA). France provides a new insight into change where there are significant differences in behaviour between ECRs recently tenured (although possibly still on probation or fixed contract), whose behaviour becomes

more conservative and those still untenured and in a more precarious position. The UK and US seem to be out of step with the other countries and it's not clear whether that is because they are just different (better library access, perhaps), in front or behind the curve.