

HARBINGERS-2: NATIONAL INTERVIEWERS ON THE PANDEMIC IMPACT

University of Tennessee Knoxville/CIBER Research

Early career
researchers:
scholarly
communication
trends, work life
and impact of
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1.0 Introduction

In order to provide context for the spreadsheet analysis, which is ongoing, national interviewers were asked to sum up their thoughts on what they thought the key pandemic findings of the data obtained in interview 1 were. One hundred and seventy-seven ECRs from eight countries were the source for the data reported here.

The data are gathered under three headings:

- a) **Has the pandemic had a: 1) big; 2) patchy; 3) small; or 4) zero impact on the work lives and communication behaviours of your ECRs?**
- b) **Will ECRs become the much publicised 'lost generation'? [Lost to science] and unable to contribute to the advancement of human knowledge.**
- c) **What have been the big impacts and will they have a lasting impact?**

This is the third of the project's internal working reports. The other two are: 1) Harbingers-2: Early insights (June 2021); 2) Harbingers-2: ECRs in their own words (July 2021). Both can be found at <http://ciber-research.com/harbingers-2/>.

2.0 Main findings

- a. **Has the pandemic had a: 1) big; 2) patchy; 3) small; or 4) zero impact on the work lives and communication behaviours of your ECRs?**
 - **China.** A *big* impact here. Chinese ECRs are already affected by the pandemic-incurred hardships, such as university/research budget cuts, lockdown, social distancing, travel restrictions, etc. Some Chinese ECRs said the pandemic effects could last long and profoundly. For example, international collaboration and scientific research globalization has been seriously affected.
 - **France.** *Patchy* impact: depending their disciplines, some were hugely impacted while others were not impacted at all. Experimental researchers were clearly the most impacted by the pandemic.
 - **Malaysia.** The impact is *patchy*, mainly on the work lives, but not usually on the scholarly communication behaviours. There is "small" evidence of impact, but short-lived, no painful desperation, reflecting that the ECRs are built to handle stress, have coping mechanisms, and are resourceful. Those with caring duties, teaching workload (and shift to remote learning) and administrative obligations have experienced the most pronounced impact. There is very little sign of scientific research being significantly disrupted - only laboratory work is much affected. Most are confident of job security and career development. A few were even hired during the pandemic. For most, working from home makes them

better at some tasks e.g., working on grant applications and writing. They felt this is a time to be extremely productive. Although some have been producing fewer research outputs, they are confident that they can secure a permanent post or confirmed once they fulfil the publication requirement by the end of 2021.

- **Poland.** The pandemic has had a *patchy* impact on Polish ECRs, dependent on the discipline and the individual situation of the researcher (e.g., having small children). Some people enjoyed working from home, while others had to stop or prolong their research.
- **Russia.** The pandemic has had a *moderate* impact on the work lives and communication behaviours of my ECRs. The main changes concern: remote working, less in-person communication with colleagues, an increase in online communications shift work, cancellation of trips, and live conferences.
- **Spain.** The pandemic has had a *patchy* impact on Spanish ECRs. While they had problems conducting their research, they actually took advantage of being at home for writing papers that were due.
- **UK.** *Big* impact here - all ECRs had their research disrupted for a shorter or longer period. The first lock down in the UK hit researchers hard because there was little or no warning. If your laboratory was closed it is obvious that your ongoing experiments are wasted. Animals and plants died and series of investigations were cut short. Moreover, non-laboratory research often could not be conducted because you could not go into the field. A positive to working from home was that it was easier to concentrate on writing up but, as one experienced ECR pointed out, most research in most disciplines is iterative. One experiment led to another and one analysis led to a need for more experiments. If research involved face to face interaction with another group and this could not happen there is always virtual discussions but this was not as good. Home working was much more difficult if you had caring responsibilities.
- **US.** For most, it seemed to be a *patchy* impact. However, for about 3 or 4 (15-20%) there was a big impact. This probably sums it up best for US ECRs 'bruised and battered but not broken'.

In general, then, most (6) countries experienced a small/moderate/patchy impact on research as a result of the pandemic. No countries saw a zero impact and just two saw a big impact (an unusual pairing of China and the UK). China has clearly been hit the hardest and longest. Work lives were more impacted upon than scholarly communication and those with caring responsibilities were disrupted most. Laboratory work was considerably inconvenienced. In terms of scholarly communication, the expansion in online communication had the biggest impact. There were some positive impacts – working from home, writing up papers and greater convenience.

b. Will ECRs become the much publicised ‘lost generation’? [i.e., Lost to science and unable to contribute to the advancement of human knowledge.]

- **China.** In terms of ECRs there are two different groups. Some people were pessimistic and gloomy during the pandemic. Their research productivity was low, and it increased anxiety. They cannot conduct any lab-related research for many months. The long-lasting effects of pandemic-related disruption and the lack of supports from the academic system will make ECRs the lost generation. However, some ECRs seemed very optimistic and full of confidence. They saw new opportunities that pandemic-related research will offer. They believe that they are the new generation who have to take the responsibilities to do research that really can help people/country/world (research that can make a difference). These people will not accept being called "the lost generation ".
- **France.** Many ECRs are convinced their research will be impacted in the long term because of the constant uncertainty that comes with the pandemic. They are concerned about changing methodologies, way of working etc. Many of them are not planning to stay in Academia and the hypothesis of a lost generation may hold here, but needs confirmation with the upcoming interviews (Int 2 and 3).
- **Malaysia.** No evidence for believing that ECRs will be the lost generation found. For Malaysian ECRs, the past one year has not been a period of lost time and slow progress. They are still able to devote time for research (even with the caring duties, remote teaching demands and administrative obligations) with limited resources while in a career phase of uncertainty, and constant pressure. Academic tenure is still what they are aiming for, even the post-doc and doctoral students are not thinking of other career paths. They even felt that it is very necessary for them to continue to foster ongoing research collaborations and a few have started to reach out to the wider community (through virtual platforms). Despite the challenges and setbacks, it seems that the pandemic has given them more purpose and a greater determination to pursue a career in science / academia.
- **Poland.** There is no evidence from Poland of a lost generation. Although some experienced alienation and decreased motivation, the vast majority tried to make the most of the pandemic time for conducting scientific work.
- **Russia.** No evidence from Russia regarding a lost generation either from the interviews or in published research. Indeed, the concept of a lost generation is an alien one.
- **Spain.** The situation of ECRs in Spain was already very critical before the pandemic as there were few positions for them and the competition for getting the next contract was harder than ever. Therefore, the pandemic is just another obstacle to overcome) another brick in the wall), but they do not think the situation will last. They are resilient people and, in some ways, better able to deal with what the pandemic threw out them.

- **UK.** Few UK interviewees have suggested that their problems are going to be long-lasting. They did, though, see how there could be flexibility built into their work schedules in the future, so that they could work at home when it suited them. They also mastered software, which will have given them new skills to exhibit in future job applications. Though they missed face to face conferences, many appreciated the advantages of virtual conferences, seminars and meetings, which enabled a wider range of participants, lower costs and disruption. Conferences are trying to provide the elusive "hybrid" format. Only one of the ECRs in the cohort showed even small signs of being part of a lost generation: *I lost 4 months of experimental time so is 4 months behind similar in Europe where labs not shut down.* However, they have landed a post-doc position outside the UK.
- **US.** No evidence for believing this in the US. Most seemed to be adapting and coming through the pandemic well. (Again the: 'bruised and battered but not broken' description is apt)

In general, most national interviewees answered the question in respect to whether ECRs were alienated, missed out on opportunities or disadvantaged in some way. A mixed picture is painted with winners or losers, some advantaged and other disadvantaged. But, generally, no real signs of a lost generation here. Indeed, there is some evidence to point to the rise of a more empowered generation. Again, China seems to have suffered particularly. The anxiety of French ECRs and their loss to industry also stands out. Otherwise, the picture is of a resilient group who will bounce back from adversity, especially in Malaysia.

c. What have been the big impacts and will they have a lasting impact?

- **China.** There are two significant changes. One is the shrinking of international cooperation (especially between the US and China). We have seen a lot of this happening already. Some Chinese ECRs have given up altogether studying abroad. One bio-scientist said he could not deliver their experimental sample to the US. The pandemic has destroyed international collaboration on experimenting. The other significant change is that which has occurred in the ECRs' own minds. Many of them mentioned the term "uncertainties" during the conduct of the interview. They have learned from the pandemic that everything is variable, and there are many uncertainties in their lives today. They would like to have Plan B for all their work activities. For example, they will prepare for both online and offline courses to be given to students. However, they did not say they want to quit and join industry. They just saw the uncertainties everywhere in their research and academic work and that they had to live with this.

- **France.** The big impact is in the fact that many of them decided to leave academia to work in Industry, outreach, etc. The pandemic has made them reorientate themselves. They really want to help Science reach out more widely to society.
- **Malaysia.** Although the impact seems patchy, it does not mean it cannot be ignored. There will be losses in respect to productivity for those ECRs with caring, teaching and administrative demands if working from home continues. The big (positive) impact that will have a lasting impact is the use of online platforms and digital tools that make them feel connected to their research team, working remotely continues and becomes the new norm. On the negative side, it would be quite a challenge to establish new international collaboration due to travel restrictions, as face to face communication and physical visits have an irreplaceable role in building trust in research collaboration.
- **Poland.** The large impact of the pandemic can be seen primarily in the cancellation of foreign trips (conferences and internships) and in the organization of remote meetings, seminars, as well as in teaching students via platforms. It appears that some of these remote meetings will continue to be held even after the pandemic.
- **Russia.** The biggest changes are possible in the area of international cooperation, both positive and negative. On the positive side: new opportunities for distributed international teams and research; working in different cities and countries on one project has become the new norm; the new research methods related to the study of online communications, and new online research methods have arisen. On the negative side: the inability to meet colleagues in other cities and especially countries due to restrictions; the inability to conduct research in the field, in partner laboratories, etc. This will have a long-lasting impact.
- **Spain.** The biggest changes are in regard to the imposition of teaching online, which is very time consuming and team communication because they need to use online platforms in order to achieve this. ECRs are really in two minds in respect to communication online, as there are positive sides to it: it is easier to organize meetings with collaborators abroad or even in other cities inside the same country. Same about conferences: they like to attend conferences abroad, but miss presenting their work and discussing it in face-to-face conferences. For doctoral students not being able to spend time in other universities abroad is a problem as it is a requirement for presenting their dissertation. Probably, the pandemic impact will have a passing effect. As the situation of Spanish ECRs is very precarious it is difficult to see how it could get worse.
- **UK.** Most ECRs were not able to conduct some of the research planned under the terms of their grants, but most were able to change the methodology or replace the content and satisfy their funders. Most were remarkably resilient. In some ways the pandemic had a positive role in giving them a new confidence. It is interesting how few ECRs felt less secure than they had before the pandemic. In this cohort, only one mentioned stress leading to mental health problems.

- **US.** The lasting impact has to be Zoom (or other online conference platforms). There were numerous negative comments about using online conference platforms, but there were also positives and benefits mentioned:
 - A few ECRs who work with human subjects said they moved to Zoom to keep their research moving forward. They also stated or suggested Zoom gave them other opportunities for research that would likely not have happened if not for the pandemic.
 - Most conferences may become hybrids due to the pandemic. ECR comments stated or suggested more people could participate/attend via Zoom (especially if cost for travel is prohibitive). And at least one ECR mentioned more chances for collaboration with online conferences due to larger audience.

There may be something related to a ‘respect /appreciation for time’ that comes out of the pandemic. Several ECRs mentioned having more time for work due to not having to commute. A few others said their time at home was blurred with work/home life (probably those with children mostly), and some said there was too much time spent in meetings as a result of remote work. People will slowly drift back into their pre-pandemic lives, so there may not be much to this ‘time’ thing, but this needs monitoring. Though no one ever said this, and it’s not exactly aligned with comments above, you cannot help but think about one of Churchill’s most famous quotes: “Never let a good crisis go to waste.” Maybe, this is the beneficial, long-term impacts of the pandemic and again needs watching.

What stands out here is: 1) the negative impact of the pandemic upon international collaboration and co-operation (but not everywhere); 2) a strong and prevailing sense of uncertainty; 3) the demanding and time consuming nature of remote teaching; 3) the very mixed messages about the impact and convenience of communication/conferences/meetings online and the lasting influence of Zoom and similar platforms; 4) for doctoral students, the absence of international placements is having a very disruptive impact; 5) the wish to contribute more practically (make a difference), moving to industry, for instance.

3.0 Initial thoughts

It is still early days and there are still two interviews to go, but it has turned out that the impacts are not quite what was anticipated by commentators, who tended to be negative focussing on burnout and the lost generation, and underestimating the resilience of this particular community of researchers to whom insecurity is part of the job. It does seem that the pandemic will result in changes, but not all of them will be negative. Countries are also being impacted in different ways and to greater extents and we shall be investigating why this is the case.