EARLY CAREER RESEARCHERS: THE HARBINGERS OF CHANGE

Harbingers Working Report 4. CIBER, August 2016

Research instruments

Appendix 1: Questions for ECR interviews

1. Background information

Hypotheses to test: They do many jobs for short periods of time; they do many things on a project (multi-taskers). The environment in which they are is precarious. There is a big drop-out rate.

Research job/project currently working on:

Q1. What research project(s) are you involved in at the moment? Are they inter/multi-disciplinary?

Q2. What is your role/status in the project?
Q3. Are you part of a research group/centre? If so, is your group working with other groups on this project, if so, what is the role of your own group and the roles of the other groups in the project?
Q4. If, since receiving your doctorate or before you started your doctorate, you have worked in other groups what was your role in those groups?
Q5. If your current research is not part of a group, do you still work with other researchers? In what ways?
Q6. How would you describe the current and previous groups you have work(ed) in? Could you characterise them as top international groups, groups of international standing, well thought of groups working mainly at a national level? In what ways has your affiliation with these groups influenced your career?

[Mentoring/training]
Q7. How would you describe the quality of your mentoring? [Who do you turn to for advice and how good are they at answering your questions?]
Q8. Do the organisations you have worked for make special provisions for ECRs, for example, in respect to training?

2. Career aims

Hypothesis to test: Getting a good job is the major motivation, not changing the world/science.

Q1. Are you aiming to have a career as a university researcher?
Q2. Where are you in your career development/progression?
Q3. Might you consider researching outside the academy, in industry, for example?
Q4. Do you see your research activity ending with your current post or will you continue researching in another post?
Q5. What is your main motivation for doing your current research? For instance, adding to knowledge, having an interesting career or a well-paid career?

3. General (scholarly) communication behaviour

Hypotheses to test: Early career researchers adopt the practices of their mentors and heads of the groups to which they belong. New behaviours are not really taking hold, while academics are typically recruited, promoted and obtain funding on the basis of their publication record and citation scores based on accumulated reputation.

Q1. What are your scholarly communications practices in respect to dissemination, citing and reading research? [Go into detail about the three individual activities.] Do they differ from those of your research mentors in current and previous jobs?

[Changes]
Q2. As you have progressed through your academic career have your attitudes towards established scholarly communication behaviour changed? If so, what are the main factors that influenced the change (technologies, policies, peer influence/pressure, etc.)?

[Discovery/usage]
Q3. How do you find the scholarly information you need? Google, library catalogues, online networks, etc.?
Q4. Do you search for and read scholarly papers on your smartphone?

4. Influence of social media and online communities

Hypotheses to test: Early career researchers would like to use social media more, but traditional norms that dominate scholarly behaviour prevent them from doing so. ECRs do not see social media as being scholarly 'noise' but useful for research purposes. Social scientists are more favourable to the scholarly use of social media. Early career researchers are detached from institutions and more closely networked/connected with their peers.

[Social media]
Q1. Do you use social media in your scholarly activities? a) To find out information and (if so) from what media? b) Do you cite social (new) media in your dissertations, or articles or in blogs? c) To disseminate your research findings/ideas/data? d) To connect/network/collaborate with your peers?
Q2. Are you encouraged to use the social media in your work? If so, by whom (seniors, administrators) and for what purpose? If not, do you still use them? If you do, why? If not, why not?
Q3. Do you find that, thanks to the social media and online community platforms (e.g., ResearchGate), you are: a) detaching from your institutions; b) getting closer to your peers elsewhere? c) both? If so, what are the practical consequences of this?

[Online communities]
Q4. Is it your experience that online communities, such as ResearchGate, give rise to research collaboration?
Q5. Is it your experience that online communities help in building/enhancing your reputation?
Q6. Are the new virtual groupings, courtesy of online social networks, a different phenomenon from the structured research groups? Has engagement with them enabled you to do more original research?

5. Authorship, publishing and open access

Hypotheses to test: ECRs toe-the line. ECRs not very productive. Not very happy with their lot as research 'apprentices'. Use OA because they are easier to get into (also see Reputation).

[Authorship]
Q1. What contributions have you made to the papers which you have co-authored?
Q2. Does your research team/department/university have an authorship policy?
Q3. Would you do things differently if you had a say in this? [Award of corresponding author is an important issue; also cronyism - partiality to long-standing friends.]

Q4. What influence (if any) have you had on the choice of journal?

[Open Access]
Q5. Does your research team/department/university have a policy in regard to OA publishing? [Probably imposed by their funders.]
Q6. What do you think are the advantages and disadvantages of OA publishing from the point of view of the author?
Q7. Do you think OA publishing advances science and research, or are you worried that it will dilute the quality of publications, or do you agree/disagree with both propositions? If so, how?

[Innovating]
Q8. Do you have a preference for journals with innovative features, such as video articles (e.g., Jove), when placing your research?

[Publishing strategy]
Q9. Is there pressure on you to publish in particular top-ranked journals and, if so, how do you think this affects scholarly communications, in general, and your career?
Q10. Do you have a conscious publication strategy relating to your research and is that to do with obtaining a tenured/established position and, if so, please describe?
Q11. Would you prefer to make public your research findings in less formal ways, such as blogs, which could make them more visible?

[Data etc.]
Q12. If you have produced data or software in the course of your work and this has been your main contribution would you like this aspect of what you have done to be recognised and credited and would you like the data itself to be made more visible?

6. Peer review

Hypotheses to test: ECRs feel alienated/locked out by the existing peer review system, which they think of as a closed gentleman's club. Prefer double blind peer review because it provides fairer appraisal. Early career researchers are worried by too much transparency in peer review because it will make it difficult for them to criticise the submissions of their seniors.

Q1. Do you have experience in responding to comments from peer reviewers on papers you have written and, if so, how did you find the experience?
Q2. Have you yourself been a reviewer and, if so, what did you learn from the experience?
Q3. Do you feel the peer review system in its current form is fair or does it fail you in any way?
Q4. Do you feel that peer review for most journals is in the hands of established researchers who are not always sympathetic to new ideas? [This is a question about whether innovation is being suppressed by the peer review process.]
Q5. Do you feel peer review could be improved, and if so, how? For example, do you think that double blind peer review is preferable or would you like all peer review to be open?
Q6. Most peer review is organised by publishers. Do you think this is a good idea or do you think it should be done by other entities – for example, learned societies?

7. Employment, reputation and career progression

Hypotheses to test: ECRs have little personal freedom and security. They are 'slaves' to a metric-based/journal focussed system, which they have to adhere to in order to climb the

academic ladder. ECRs make use of social networking sites in order to build up their own networks, separate from the networks already established by the research groups they work in or the connections of their mentors (see social media questions).

[Employment]
Q1. In your experience, how are young researchers employed/treated? Is the position of young researchers in your present and previous posts the subject of a policy made clear by the institution or department?
Q2. How are young researchers evaluated? What are the criteria and are they objective? What reforms, if any, would you suggest?

[Career progression]
Q3. Have you sufficient freedom to develop your career along the path you would like? For instance, to what extent are you free to choose the area/topics you would like to study?

Q4. To what degree do you agree with the view that ECRs are 'slaves' to a metric-based/journal focussed system to which they have to adhere to in order to climb the academic ladder? If you agree, at least to some extent, have you any ideas on how things can be improved?

[open science]
Q5. Do the technological innovations Science 2.0/Open Science mean anything to you, and if so, do they have any significance for you?
Q6. Would you say that open access publishing or depositing your material in institutional repositories can fast track your career/build your reputation? Do you habitually utilise then these options?

8. Sharing and collaborating

Hypotheses to test: Early career researchers share and collaborate extensively even at the risk of losing their competitive edge.

Q1. In what ways do you share your:
a) ideas and interim research results;
b) research findings, data and publications?
Q2. What kinds of collaboration are you involved with?
Q3. Do you use the social media and online social networks to look for, build and maintain collaboration? Do you go differently about looking for, building and maintaining national, as opposed to international collaboration?
Q4. Is there a risk of losing your competitive edge through sharing and collaborating extensively?
Q5. Is your sharing/collaborating behaviour different from that of your research mentors in current and previous jobs?
Q6. Has your behaviour in respect to sharing/collaborating changed from earlier in your career and in what ways?

9. Metrics

Hypotheses to test: ECRs are interested more in social media and usage metrics because citations take so long to count.

Q1. How, if at all, do you employ citation data, usage data, social media indicators in your daily research work (searching for articles, etc.), in presenting your research, identifying leading researchers, etc. [You might need to break this into three sections, citations, usage, social media indicators]
Q2. How important do you think metric scores are for your reputation? And for your career progress?

10. Unethical behaviours

Hypotheses to test: ECRs are willing to 'bend' the system to progress and get published.

Q1. Do you have a clear understanding of what is generally regarded as ethical and unethical in research and/or publishing practices or are you uncertain about what is meant by these terms?
Q2. Are you aware of any unethical publishing/citing behaviour among your peers or among those higher in academic structure?
Q3. Do you believe there is more scrutiny today which will keep the lid on any problem behaviours?

11. Impact

Hypotheses to test: They see connecting to a wider audience as being an important impact.

Q1. How important is it to you that the research you are involved in should have an impact on your peers, on policy formers, on industry or/and on the general public? Which groups are most important to you?
Q2. What is the best way to influence those groups you think you should be reaching out to?
Q3. If you had the time/opportunity to do more to increase the impact of your research, what would you do?

12.Transformations

Hypotheses to test: The system is unchanging and unbending, but there is little evidence of the desire for change among ECRs.

Q1. Do you agree that a big opportunity for the current generation of researchers is to fundamentally change the way that the scholarly communication system works?
Q2. If so, do you have any overall picture of what form a changed system of scholarly communication might take?
Q3. Do you think that five years from now academics will still be typically recruited, promoted and obtain funding solely on the basis of their publication record and citation scores based onaccumulated reputation?
Q4. Do you think journals and libraries will still have a central role five years down the line?

Appendix 2: Coding template for National Reports

	Interview 1	Interview 2
0. Bio & CV		
Gender (M, F)		
Age: under 30 (Y); 30-34 (M); 35 and over (O)		
Doctoral student (D) or PostDoc (PG)		
University rank top (T), medium (M), low (L)		
Subject specialisation (in bullet list)		
Countries in which worked (in bullet list)		
1. Background		
Research projects (current number)		
of which Inter- or multi-disciplinary (number)		
Role and status (number of projects as PI/leader)		
Research group (RG), centre (RC) or none (N)		
Past research groups worked with (number)		
of which the number as PI/leader		
Status of research groups largely international (I), national (N), university (U)		
Those not in groups collaborating (C) or not		
Mentoring – existence & quality. None (N), poor (P), Good (G)		
Mentor/advisor (typically): PI, colleague (C), other (O), various (V)		
ECR special provision. Yes (Y), no (N)		
2. Career		
Want a career as university researcher Y, N, not sure (NS)		
Career progression: progression OK (P), with difficulty (D), still uncertain (U)		
Consider working elsewhere (Y), (N), unsure (UN)		
Main motivation: promotion (P), curiosity or interest (I), other (O)		
3. Scholarly Communication Behaviour		
Dissemination (chief characteristics, provide bullets – max. 5 strongest first)		
Reading (as above)		
Citation (as above)		
Differ from mentors Y, N, no answer (O)		
List chief sources of information (databases, search engines, bibliographic services etc. – max 5 most important first).		
Changes in scholarly behaviour N, Y (In case of latter what were they? List up to 5 bullets)		
Main causes of change. List as bullets.		
Smartphones & Mobile use. Not used (NU), used (U). In used for what?		
4. Social Media		
Finding scholarly info. Y, N.		
Citing social media. Y, N.		
Dissemination. Y, N.		
Connecting with other scholars (e.g. collaborating)		

Encouragement. Y, N.		
If yes, who encouraged. List.		
Does use of social media and online networks result in: a) detachment from your institutions (1); b) getting closer to your peers elsewhere (2); c) both (3)		
Do online scholarly networks lead to greater collaboration/connectivity. Y, N.		
Do online scholarly networks help towards building reputation? Y, N.		
Are new virtual groups different? Y, N.		
5. Authorship		
Number of publications		
Author contribution/role. Position (first etc.); role (wrote articles, did corrections, literature review etc. – list up to three bullets)		
Authorship Policy Y, N, don't know (DK). List policies as short bullets		
Would you do things differently Y, N. If so list as bullets the different things.		
Influence on choice of journals. Y, N. If Y what was the influence? List as bullets, up to 3.		
Policy towards OA. Y, N. don't know (DK). If yes, list policies as up to 3 bullets.		
OA advantages/disadvantages. List up to 3 bullets each		
OA publishing advances science and research (1) or will it dilute quality (2). 1, 2 or disagree with both (3). List any reasons as bullets (max. 3)		
Like innovative features/Videos journals. Yes (Y), no (N), don't know (DK).		
Pressure to publish in top-ranked journals? Y, N.		
If yes, how does this affect scholarly communications and your career? (list up to 3 affects as bullets)		
Conscious publication strategy. Y. N. What is it? List strategies as up to 3 bullets		
Like to make public my research in less formal ways? Y, N.		
Produced data/software. Y, N. if Y Data like credit for it? Y, N.		
If Y, like it to be more visible. Y, N.		
6. Peer Review		
Responding to comments. Y, N. If Y, how did you find the experience? Good (G), bad (B), mixed (M).		
Experience as a reviewer. Y, N.		
Peer review fair? Y, N. if not why not – list up to 3 reasons as bullets		
Peer Review clique? Y, N.		
Improve it? Y, N. If Y, give up to 3 reasons as bullets		
Should publishers do it? Y, N. If N, who else should do it? List up to 3.		
7. Employment, reputation & career progression		
ECR treatment. Fair (F), unfair (U), mixed (M)		
Have ECR policy (Y, N); Clarity. Clear (C), not clear (NC). List as bullets up to 3 policies mentioned		

Have ECR Evaluation (Y, N). List as bullets up to 3 methods mentioned		
Suggested reforms (Y, N) If Y, give max. 3		
Freedom to develop career. Y, N, partly (P)		
Slaves (Y, N).		
Any reforms mentioned, list 3 max.		
Does open science mean anything (Y, N). If Y what is significance for them. Give up to 3 examples.		
Can OA fast track career. Y, N		
Do you publish in OA jnls (Y. N) or deposit in IRs (Y, N)?		
8. Sharing & collaborating		
Ways of sharing ideas (Give up to three ways)		
Ways of sharing results, data, publication (Give up to three ways)		
Collaborations & social media (give up to three examples)		
Use of social networks for building reputation (Y, N)		
Sharing behaviour different from mentors (Y, N)		
Has collaboration changed with experience (Y, N)		
Risk of losing competitive edge through collaboration (Y, N)		
9. Metrics		
Use of metrics (Y, N). If Y, give up to 3 ways)		
Metrics and reputation (Y, N)		
Metrics and career progression; Important (I), not important (NI)		
10. Unethical behaviours		
Ethical understanding. (Y, N). If Y and provide examples give up to 5		
Are they personally aware (Y, N) If Y and provide examples give up to 5		
Scrutiny. Y, N, not sure (NS)		
11. Impact		
Importance for research to have impact (Y, N). List groups.		
Best ways to influence groups. List		
Strategy for impact. List ideas.		
12. Transformations		
ECRs as « change players Y, N.		
Nature of change. Describe change briefly		
Will reputation system be the same in 5 years' time? Y, N, not sure (NS)		
Central role of journal in 5 years Y, N, not sure (NS)		
Central role of libraries in 5 years Y, N, not sure (NS)		