

Extending access: priorities and solutions
Barriers to research productivity in the biomedical sciences

Robert Campbell
Blackwell Publishing
Ian Rowlands
City University

Context for the study

Publishers rely on continuing supply of high quality submissions to fill their journals.

As a result, publishers have a natural interest in understanding the context within which researchers operate and the factors that promote or inhibit their work.

This is becoming increasingly important as funding agencies become more closely involved with the publication process ...

Study design

- Literature review
- Scoping interviews
- Pilot online survey
- Online questionnaire to 10,000 senior researchers in immunology and microbiology in Western Europe and North America using ISI Thomson mailing lists
- Very high response rate (9%) for an online survey

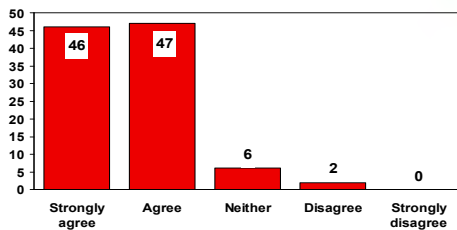
Study sample

	Microbiology	Immunology
Western Europe	150	410
North America	153	170

Total online interviews = 883

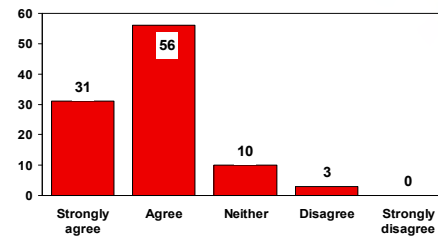
Scientists' attitudes towards research

The overwhelming majority (93%) believe themselves to be **up-to-date with the current literature** in their field.



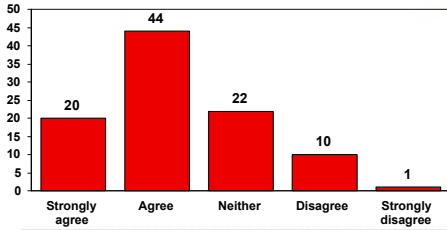
Scientists' attitudes towards research

Similarly, 87% believe themselves to be **up-to-date with the latest research skills and methods**.



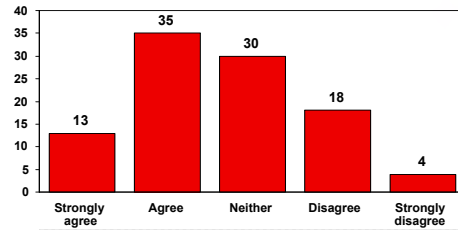
Scientists' attitudes towards research

They are a little less confident in their **grant-getting skills**, but 64% still believe their knowledge is up-to-date.



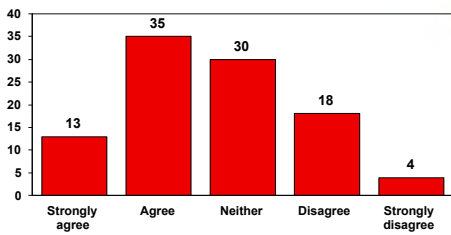
Scientists' attitudes towards research

Of greater concern is the finding that only half (48%) believe that they spend enough time in **professional networking**...



Scientists' attitudes towards research

... or in **actively disseminating** their work (51%)



Scientists' attitudes towards journals

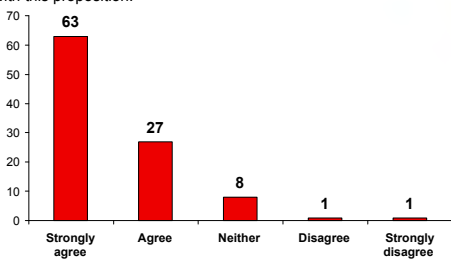
We then offered the statement:

Over the past few years, publishers have made large numbers of journals available in full text from your desktop computer

and asked our scientists to say whether they agreed or disagreed with a series of related statements ...

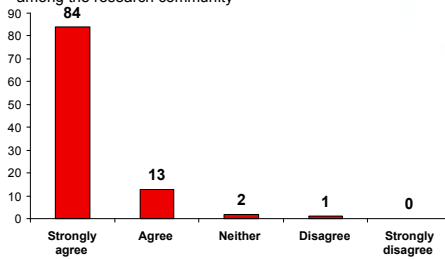
"This has helped me to become a more effective researcher"

An overwhelming majority of researchers, 90%, agree with this proposition.

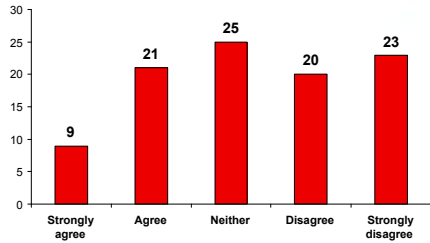


"This has saved me considerable amounts of time in finding and retrieving articles"

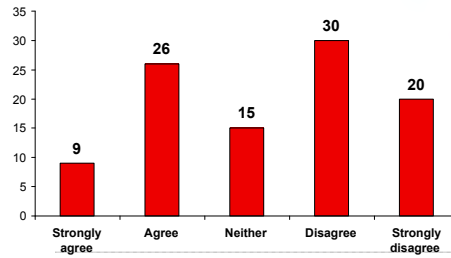
97% agree, highlighting the popularity of full text digital libraries among the research community



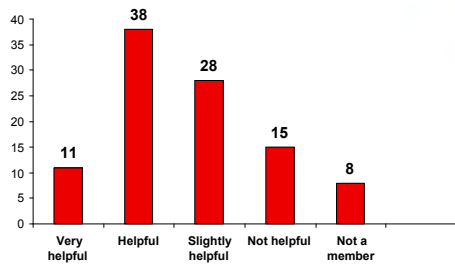
"This has made me feel anxious about how much I don't know"



"I still find it difficult to get hold of many of the articles I need"



Learned societies and research



Interim conclusions

Most researchers feel they are up-to-date with the current literature

But feel they should spend more time networking and disseminating their work

Increased desktop access to journals has made them more productive

Only a minority still find it difficult to get hold of all the articles they need: this group tends to younger, less productive and drawn mainly from smaller European countries

Increasing productivity

Finally, having established all that context, the main aim of our study is to identify *and quantify* the key factors that immunologists and microbiologists believe would help them to become even more productive in their research.

We used a survey technique called **conjoint analysis**.

What researchers think are the real liberators

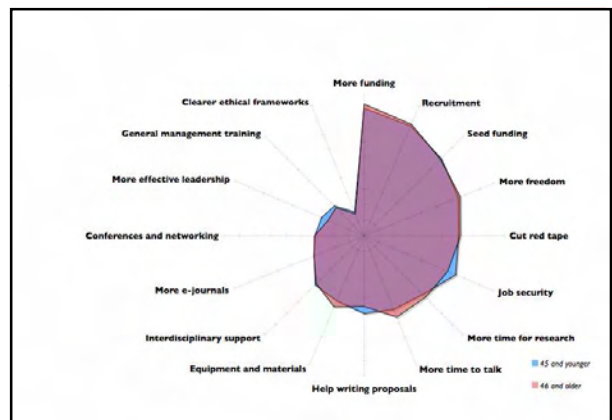
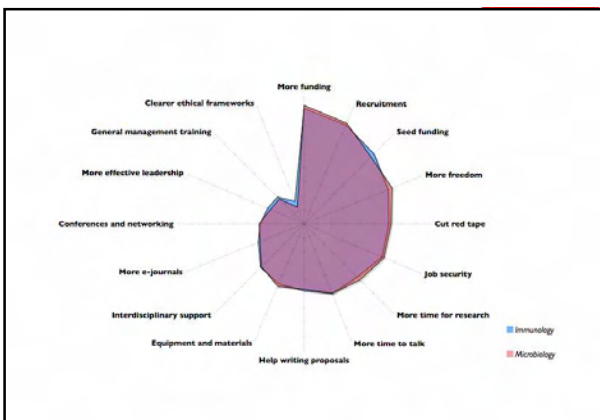
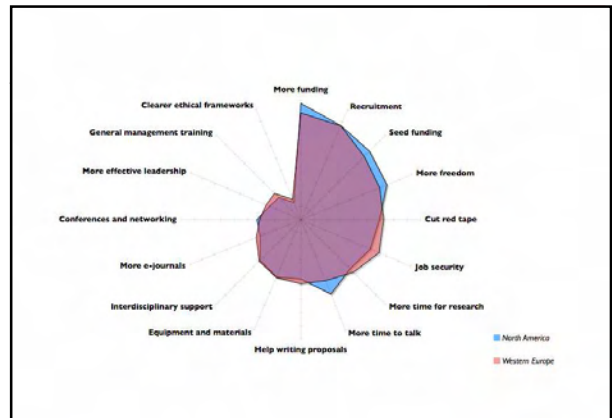
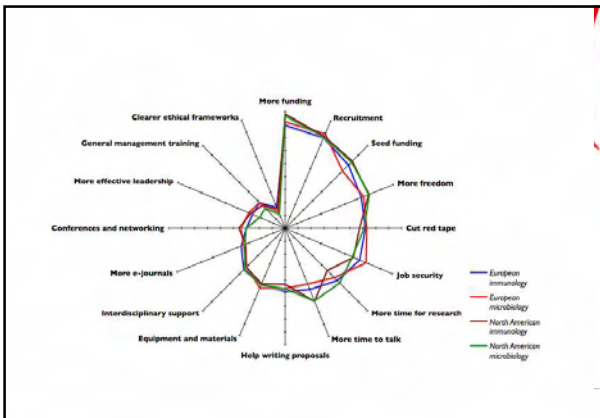
THE BIG FOUR	score
More research funding	100
More suitably qualified and motivated researchers	93
Initial funding to help get ideas off the ground	84
More freedom to pursue one's own research ideas	80

Second division liberators

Less form-filling and bureaucracy	73
Better job security for support staff	73
More time for research	66
More opportunities to talk to colleagues about research	65
More help writing and costing proposals	57
More suitable equipment and materials	57
More help to work across disciplines	53

Third division liberators

Difficulties obtaining journal articles	42
Insufficient opportunities to go to conferences and network	39
Ineffective research management	34
Lack of training in management techniques	31
Unclear legal and ethical frameworks	19





Conclusions

The broad picture which emerges from all this is that there is a lot of agreement among biomedical researchers on the things that would most help them to raise their game.

Resources are important, but many of the things that we could do that would really make a difference at the research coal face appear to be mainly organisational and human resource issues: things like simplifying the bureaucracy, and making it easier to recruit and retain support staff.

The journals system appears to be working reasonably well, with room for improvement, but is no where near the top of most researchers' agendas.
