International movement and science
A survey of researchers by the Together Science Can campaign

Executive summary

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Introduction and methods

The international movement of researchers, broadly understood as researchers travelling to and from other countries for short-term visits or relocation for work or training, is an important part of research in a global environment. It has been linked to better research quality and scientific outcomes, with benefits for individual researchers, their home countries and their destinations. It is thus valuable to understand the factors that influence researchers’ international movement, the benefits and drawbacks of this movement, and how all of these vary in different contexts. The international movement of researchers is a global concern and important to understand in more detail both as part of the global scientific environment and in light of political developments, such as changes in the US political climate, the UK’s decision to leave the European Union and wider changes in the social and political environment internationally.

This work aims to contribute to the evidence base in this area by gathering data from researchers across the world about their experiences. It was commissioned by Together Science Can, a global campaign led by the Wellcome Trust and international partners, and it supports the campaign’s work to celebrate and protect international collaboration in science.

Through an online survey, researchers were asked about their travel patterns, enablers and obstacles they had experienced, and the perceived outcomes of their international movement. Questions covered both relocation and shorter-term travel. This global approach was possible due to the involvement of the Together Science Can partners, a group of high-profile scientific organisations from Africa, Asia, Europe and North America.

The survey covers 2,465 researchers from 109 countries (based on respondents’ first reported nationality) and provides a broad international picture of researchers’ views on movement between countries. However, the survey sample is not representative of the entire international researcher population; certain countries, namely the UK and India, are overrepresented within the sample, as are certain research areas, namely the biomedical and health sciences. There may also be sampling biases that are not readily apparent from analysis of these data. For example, researchers who have experience of or interest in moving abroad may have been more likely to complete the survey. Finally, the

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1 Reasons for short-term travel related to research include attending a conference or meeting, visiting collaborators and taking a course or visiting another research group to learn a new technique.
majority of respondents are from academia, so the data provide primarily a picture of the academic research environment.

**Findings**

1. **Three quarters of survey respondents have moved to live in another country for research purposes**
   Over three quarters of respondents have moved to live in another country for research training or work at some point during their career. Almost half of respondents have lived in another country for a period of more than one year at a time, and one in five respondents have lived in another country but only for a short period, of less than one year. With the majority of respondents moving to live in another country during their research career, the researchers surveyed constitute a mobile workforce.

2. **Career progression and international movement are correlated**
   More-senior researchers travel often to other countries for research purposes. In particular, one in five senior researchers who responded to the survey are high-frequency travellers, visiting other countries five or more times per year. Senior researchers are also more likely to have worked in multiple countries at the same time.

3. **Students or those training to be researchers are the least likely to visit other countries for research purposes**
   Over half of trainee respondents have never or very rarely travelled for research purposes. Trainees are also almost twice as likely to have trained and worked within one country as are early career, mid-career or senior researchers.

4. **Europe is a particularly mobile and connected research community**
   European researchers who responded to the survey were the most likely to report mid- and high-frequency travel for research purposes (59% travelled at least twice per year) and the least likely to report travelling only rarely. In addition to travelling frequently, the majority of European researchers had worked abroad for at least a year at a time. Europe also stands out as being the only region where researchers move to live in other countries within the region more often than they move to live outside of it.

5. **Respondents raised concerns about the effects of political developments, including the UK's decision to leave the EU and changes in the US political climate**
   In the free-text responses, researchers expressed concern about how the current political climate could affect their own international movement for research and the wider research endeavour. Concerns related to attitudes towards international movement to and from the United States under the current administration, the UK’s decision to leave the EU, and political issues that impact international movement in other countries. A quarter of British respondents are currently working in countries outside of the UK while over a quarter of non-UK European respondents are currently working within the UK.

6. **International travel and relocation are costly, and financial support is an important enabler of international movement**
   A key enabler for movement is funding; conversely, lack of funding is a major obstacle. Four out of five respondents
indicated that financial support had enabled their short-term international travel. Sources of this financial support include funding agencies (cited by 70% of respondents), institutions (63% of respondents) and conference organisers and collaborators (45%). Money is also needed both to move – for example, to support relocation and other practical aspects – and to continue research in the destination country. Linked to this, more than a quarter of respondents reported that living costs in the destination country can be an important obstacle to movement.

7. African and Asian researchers are more likely to receive support from a funder than from their institution

Funding is an important enabler for researchers from all regions, but there are significant differences in the sources of those funds. Researchers from Africa and Asia were more likely than those from North America and Europe to report that funds from a research funder had enabled relocation abroad. African researchers also cited invitations from collaborators as an enabler more often than did researchers from other regions. Researchers from North America and Europe more frequently cited support with relocation costs as an enabler.

8. Visa requirements do not prevent most researchers from travelling, but visa applications can be prohibitively time consuming, complex and costly

One in five researchers cited visa challenges to research-related international travel. Commonly reported challenges include the length of time to process an application (cited by 70% of respondents), the length and complexity of application forms (cited by 68%), application costs (47%), and a lack of clarity about processes (44%). The problems encountered are broadly similar across career stages, nationalities and short- and long-term movement.

9. Researchers from Asia and Africa are much more likely to have visa-related challenges, particularly for short-term visits

Among the survey respondents, Asian researchers were more than four times and African researchers were more than three times more likely than European or North American researchers to report visa-related obstacles to visiting other countries for research. More than one third of researchers from Asia and Africa reported that a visa-related issue had been an obstacle to them visiting another country for a research purpose. A quarter of researchers from these regions had encountered visa issues that affected relocation to another country.

10. Family-related challenges are the most frequently cited obstacle to international relocation

Over a quarter of respondents indicated that family-related challenges had prevented them from relocating abroad for research, citing wishes to maintain stable environments for children and difficulties finding and paying for schooling and childcare in the free-text comments. Additionally, one in five respondents stated that family responsibilities had been an obstacle to undertaking shorter-term international visits, again citing childcare difficulties in free-text comments. Mid-career researchers were the most likely group to report family-related challenges as an obstacle, with more than 30% doing so. While the issue appears to broadly affect
researchers, only 4% reported receiving support with childcare or family member travel expenses that enabled a short-term international visit.

11. African researchers and those who have not moved previously are more likely to cite lack of information about jobs abroad as an obstacle to movement

More than 30% of researchers who had only lived in one country reported that a lack of information about job opportunities abroad was an obstacle to international relocation. By contrast, just 13% of researchers who had prior experience of living abroad reported this issue. Exploring the issue by geographical region, researchers with an African nationality cited this obstacle most often, with more than half of those who did not have prior experience living abroad doing so. Trainees and early career researchers were also more likely to cite lack of information about job abroad as an obstacle than their more senior colleagues (among researchers who had not moved).

12. Many internationally mobile researchers have not faced travel obstacles; European researchers reported the fewest obstacles to travel, while African researchers reported the most

While the majority of respondents had encountered obstacles to travel, one in three had not faced obstacles to international relocation and one in five had not faced obstacles when visiting other countries for research purposes. Researchers with a European nationality were the most likely to report that they had not faced obstacles to international movement, with 48% reporting they had not faced any obstacles to relocation for research, compared to 28% of researchers with an African nationality, who were least likely to report this. Of those respondents who had trained and worked within one country, a third had chosen not to move. Respondents commented that, for personal and family reasons, not all researchers are able to or want to travel or move.

13. International movement can have negative outcomes for individuals

Some respondents mentioned that while international movement leads to positive professional outcomes, it can also present challenges on a personal level, for personal relationships and mental health. Some respondents reported experiencing prejudice when they moved.

14. Nearly all researchers – whether they have experienced international movement or not – believe that international movement is important for research

Nearly all researchers surveyed (96%) stated that research benefits from people visiting or moving to other countries. In the free-text responses, many respondents commented on the importance of travel to the development of researchers and to the research endeavour in general, often commenting that international movement is ‘critical’, ‘essential’ or ‘fundamental’ to research. Although many respondents expressed the opinion that travelling for research is beneficial and should be encouraged, some stated that it should not be a requirement of a successful research career.

15. Researchers of all nationalities stated that international movement boosts
research outcomes by forging new collaborations and developing ideas, skills and expertise

Nearly all survey respondents who had spent time in another country believe that doing so has led to positive research outcomes. The most commonly reported outcomes impacted by international movement were forming new collaborations (reported by 80% of respondents), developing new ideas (80% of respondents), and gaining technical skills and expertise (78%). Publishing papers, performing experiments, and changing research questions were also reported by more than half of respondents.

Reflections

The international movement of researchers enables ideas to spread, collaborations to form and new perspectives to be gained. The benefits of international movement are felt by all, but obstacles to movement are currently felt disproportionately by some. The enablers and obstacles identified in the survey indicate that there is a need for

- funding tailored to the needs of researchers in different regions;
- improved circulation of information about research jobs abroad, particularly to African researchers, trainees and early career researchers;
- support obtaining visas, especially for Asian and African researchers, and particularly for short-term travel;
- support with managing the mental health challenges that can arise with a move to a new country; and
- more assistance to reduce family burdens faced by some researchers.

Some respondents also suggested ways in which they could be supported, including

- provision of childcare services at conferences;
- creation of new visas that are more suited to frequent, short-term movement;
- provision of more information on job opportunities; and
- more help with logistics in the new country, such as finding suitable and affordable short-term housing, opening bank accounts, finding childcare and even knowing where to shop for groceries.

Although there are clear benefits to international movement for researchers and research, it is important not to lose sight of the personal and practical challenges that this movement can present, from the hardship of moving to an unfamiliar place far from family and friends to the day-to-day challenges of dealing with bureaucracy in a new country and a foreign language. Care needs to be taken when factoring movement into decisions around funding or promotion, as this factoring in could disadvantage some researchers based on their nationality, caring responsibilities or other factors which may inhibit their ability to move and travel. While international movement should not be required, we must remove the obstacles that affect researchers wanting to travel. Enabling more researchers to access opportunities to move abroad would help research to flourish and would strengthen research systems.