

## Mobility and information behavior of international young researchers

### Results of a global survey

#### *Summary*

**Background:** Internationality is an important element for the innovative capacity of research institutions. To address and recruit international researchers, it is of special interest to universities and research institutes to understand the motives behind a research visit abroad and the support services they desire from their target institutions.

Against this background, the objective of the survey was to obtain a comprehensive picture of the mobility motives, decision factors, as well as the information sourcing behavior and needs of international researchers, specifically (potential) young international researchers.

A special feature of the study is the timing of the survey. While previous insights into the decision-making behavior of internationally mobile researchers are largely based on surveys that were conducted when a mobility decision had already been made and/or a successful visit had already taken place, this survey approached (potential) young researchers before realizing a visit abroad. This approach has the advantage that distortions, such as from recollection problems, can be reduced. The approach also allows to account for the different research mobility situations of the respondents. Researchers were surveyed who were specifically planning a research visit abroad, who could generally imagine a research visit abroad and whose research visit abroad had failed. In addition, the survey paid particular attention to the information sourcing behavior during the planning process of the research visit abroad.

The survey was conducted on behalf of the German Academic Exchange Service (DAAD) within the framework of the "Research in Germany" initiative. The results are intended to enable universities and other research institutions to successfully recruit (potential) young researchers abroad for a research visit at their institution by addressing specific target groups.

**Methodology:** A standardized online survey was the main research instrument. The survey was disseminated worldwide but focused on eight countries that are important research partners of Germany: Great Britain, India, Israel, Mexico, Poland, Republic of Korea (South Korea), South Africa, and the United States.

The target group were (potential) young researchers and students planning an academic career. These included master's degree students, bachelor's degree students in the "Fast Track", doctoral candidates and postdoctoral researchers.

Survey participants were approached through universities, research institutions and other science and research networks in the study countries. These were asked to disseminate the survey via their channels, such as mailing lists, websites or social media. Across the eight focus countries, around 120 institutions supported the dissemination of the survey.

The survey was structured into three research areas: Motivation, decision-relevant factors and information needs and -behavior. Specificities of the individual planning phases of a research visit

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abroad were accounted for by filtering the respondents of the career stages according to their planning phase and accordingly asking them only certain content-related questions. The online survey was accessible between mid-May and mid-July 2018 in English, German and Spanish.

Interviews with (potential) young researchers complemented the results of the quantitative survey.

**Sample:** The final sample size of the survey is 8,422 people. Doctoral candidates form the largest group, making up 43 percent. They are followed by master's degree students (36 %), postdoctoral researchers (18%) and, making up only a small percentage, bachelor students in the "Fast Track" (4 %). The gender distribution of the respondents is almost equal. Natural sciences, engineering and social sciences are the most frequently represented science subjects.

In terms of country representation, the sample is very differently composed: The highest responses were achieved in Mexico with 3,538 participants. This is followed by Great Britain with 551 and the United States with 443 participants. The fewest respondents were from the Republic of Korea (South Korea) with 101 and from Israel with 82 respondents. In addition to the focus countries of the survey, the participation was also relatively high in some other countries such as Germany (914), Australia (258) and Brazil (154). Due to the different geographical distribution of the survey participants, the survey results can be dominated by the responses from the countries that are stronger represented in the sample (e.g. Mexico, Germany).

**Results:** Mobility decisions and the interest in a target country/institution are particularly determined by professional motives. Accordingly, professional factors such as the good reputation of the faculty, great research freedom or career perspectives have a comparatively large influence on the decision for a destination. Furthermore, financial security plays a major role in the decision-making. From a marketing perspective, the targeted application of or emphasis on these aspects is, therefore, central.

Hereby, researchers who are currently planning a research visit abroad rate both professional and private motives higher than those who in general can imagine such a visit abroad or whose visit abroad could not be realized.

Answers of the respondents also differ according to the career stage. While private motives are overall less important, family/personal ties abroad expectedly play for postdoctoral researchers a greater role. The target group-oriented approach should, consequently, emphasize different offerings and aspects, such as support with child care or job opportunities for the partner when recruiting postdoctoral researchers.

For researchers at earlier stages of their careers, language and cultural aspects play a greater role in the mobility decision. For them the interest in foreign cultures and countries are more important than individual professional aspects. Also, for bachelor's and master's degree students, as well as doctoral candidates, although to a lesser extent, information about a target country and appropriate support in the organization of the research visit abroad are more important than for established researchers.

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A friendly climate towards foreigners in the destination country is an important attractiveness criterion for all career stages. Internationality and open mindedness of a location should, therefore, be communicated comprehensively and purposefully.

Furthermore, differences in the ratings of the individual motives also show up according to the location of the respondents. For example, researchers, across all career stages, in India and Mexico give more weight to the motive of having better access to the research infrastructure in the destination country for a research visit abroad.

In terms of private motives, the political and/or economic situation in the current country of residence is of varying importance and depends on the focus country and the career stage. Across all career stages, this motive is rated as important by a relatively large number of (potential) young researchers in Mexico, South Africa, the USA and Great Britain. Among the postdoctoral researchers, the political or economic situation is particularly important for those in Mexico. In India, this motive is comparably of little importance, irrespective of the career stage.

Financing challenges are at all career stages the most common cause why a planned research visit abroad could not be realized. At second place follow organizational and logistical barriers, which is stated more often especially by researchers at the early career stage, above all in form of missing information and lacking support in the organization. Targeted support addressing these aspects can contribute to ensuring that a research visit abroad is realized.

Accordingly, financing and funding opportunities as well as organizational aspects are the most needed information when planning a visit abroad. Academics who are at the beginning of their careers desire especially information on topics such as housing, visa and residence issues or social insurance. At later career stages more information about organizational issues within a professional context are needed, for example on employment contracts, as well as on private issues. Support surrounding questions about financing and funding opportunities is needed at all career stages.

When considering the relationships between the individual factors, three characteristic dimensions of the mobility behavior emerge: "Financing and (organizational) framework conditions", "career" and "family and quality of life". Within these dimensions, the surveyed (potential) young researchers rate the included items similarly high. From a marketing perspective, the different aspects of each dimension should be addressed together. While the "career" dimension stands out across all career stages, the dimension "financing and (organization) framework" plays an important role for researchers at early career stages and "family and life quality" especially for postdoctoral researchers and bachelor's degree students.

When searching for a target country, at the initial obtaining information phase, (potential) young researchers use a larger mix of information sources. It is, therefore, highly promising to disseminate information about the destination country or target institution across several channels.

To clarify specific questions, (potential) young researchers focus more strongly on specific sources. Websites and online publications followed by personal/professional contacts and individual consultation/coaching are the most widely used sources of information.

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Social media channels are also a popular source of information for family/private and organizational-logistical issues. For the preparation of application documents, print publications are still frequently used. Regarding work-organizational questions, face-to-face and online events play a comparatively more important role.

Some aspects, such as the question of funding, show no regional differences. Researchers from all focus countries rated this factor as very relevant. Other topics showed varying results according to the focus country. For example, greater research freedom tended to be rated more often as very or rather important by researchers from new, emerging research systems such as India, Mexico or South Africa. Research marketing should, therefore, be regionally differentiated and tailored according to certain aspects. Nevertheless, a differentiation by career stage is overall most important.

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