

Life as it is: junior researchers at Flemish universities in 2018

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FOCUS ON HUMAN RESEARCH CAPITAL

The monitoring of human research capital is an important aspect in the consolidation and further development of Flanders as an innovative region. Several questions are pertinent: Why do researchers choose to do research? Why do they make the choices they make? What is driving them, motivating them? What stimulates their innovative capacity and creativity? What are their objectives and aspirations? Which contexts facilitate research activities? Or the opposite: which factors slow down, cause delay, or lead - whether or not after a long process - to premature termination of research projects? And what happens when researchers leave the academic sector, with or without a PhD, with or without post-doctoral research experiences? Where do these researchers go to on the labour market? And to what extent will their acquired competencies still be relevant outside the university? Which sectors and employers succeed, within their production line or offered services, in making optimal use of the research competencies that their employees have to offer?

In order to answer these kinds of questions, ECOOM - the Centre for R&D Monitoring of the Flemish Government - relies on various research methods and techniques, including survey research. One such survey is the *Survey of Junior Researchers*, which is organized periodically and focuses on the human capital of researchers without a PhD. These junior researchers might however be engaged in a PhD trajectory. The *Survey of Junior Researchers* was first organized in 2008, a second time in 2013 (see ECOOM-brief 8) and again in 2018.

SURVEY OF JUNIOR RESEARCHERS 2018: DATA COLLECTION

The *Survey of Junior Researchers* 2018 (SJR2018) is a cross-sectional survey aimed at all junior researchers at the Flemish universities ($N_{\text{population}}=14806$). The survey consists of an online questionnaire. Respondents can choose to fill in a Dutch or an English version. The data

collection took place between February and June 2018. A total of 3759 junior researchers participated in the survey, resulting in an overall response rate of 25%. This response rates hides considerable inter-university variation: the response rate ranges from 22% (KU Leuven) to 40% (VUB).

Answering to the question whether the participating junior researchers accurately reflect the entire population of junior researchers in Flanders in 2018, we can conclude the following based on Table 1: there are disproportionately more women, less elderly and more young people, more Belgians, and more junior researchers from the VUB. Table 1 also shows that the distribution of junior researchers by science cluster is similar in both survey and population. Additionally, Antwerp University and Hasselt University also appear to be proportionally represented in the survey.

Looking at the characteristics of those junior researchers who participated in the 2018-survey, Table 2 shows that 16% of them are employed by the university as academic assistants, while about one-third are employed on a personal grant. Another third are employed on project funding. There is no university-based funding for 7% of the survey participants, while another 7% reports "other funding". This latter percentage is actually an underestimation of the share of junior researchers at Flemish universities without any formal appointment. Additional analyses have pointed out that this underestimation is due to the lower participation rates in the SJR2018 of researchers without formal appointment by a Flemish university compared to researchers with a formal appointment. Analyses based on the *Human Resources in Research Flanders*-database (an administrative database registering all researchers at Flemish universities since 1990-1991) have shown a recent trend towards more PhD trajectories set up while the PhD student is not employed by the university but employed by a research institution, university hospital, or a non-R&D intensive company. Additionally, there is a group of PhD students doing research funded on an external scholarship, on a VLIR-UOS scholarship or similar, or while being self-

employed or temporarily or permanently inactive on the labour market. This increasing diversity in labour market positions of PhD students might be linked to a variety of career aspirations, as well as opportunities and obstacles in research careers.

Table 1. Characteristics of junior researchers in Flanders, 2018: population vs. respondents Survey of Junior Researchers 2018

	Population	SJR 2018
Gender		
Male	53%	46%
Female	47%	54%
Year of birth		
≤ 1985	28%	18%
1986-1989	27%	23%
1990-1992	31%	38%
≥ 1993	14%	21%
Nationality		
Belgian	58%	64%
EU28	18%	13%
Non-EU28	24%	22%
Science cluster		
Exact sciences	15%	15%
Biomedical sciences	27%	27%
Applied sciences	25%	22%
Humanities	10%	9%
Social sciences	23%	27%
University		
KU Leuven	39%	34%
Ghent University	32%	29%
Antwerp University	13%	13%
VUB	12%	20%
Hasselt University	4%	4%

Table 2 also shows that slightly more than half of the survey participants indicated to be involved in educational activities in addition to research. Nine out of ten junior researchers are in a PhD trajectory: 20% of them are in the initiating phase, 57% in the implementation phase and 23% in the phase of completion. Approximately one third of the PhD students in the survey have done one or two years of PhD research, while half of the PhD students are in the third, fourth or fifth year of their PhD trajectory. Two thirds of the PhD students had access to a simplified to fully elaborated proposal when initiating their PhD trajectory.

[SURVEY OF JUNIOR RESEARCHERS 2018: CAREER AND LIFE ASPECTS](#)

The *Survey of Junior Researchers 2018* includes a number of questions from the *Survey of Junior Researchers 2013*, enabling comparisons over time. The SJR2018 however includes a set of additional questions delving into specific aspects of the careers of junior researchers.

In addition to conventional questions on socio-demographic characteristics, both the 2013 and the 2018 surveys provide insights on the position of the junior researchers in the academic field (see Table 2), of the research environment (supervisor[s], leadership style of the main

supervisor, number of supervisors, working relationship with supervisors, team climate, decision making in the team) and of the job (workload, job control, conflicting role expectations with respect to the family and the job).

Table 2. Position of the respondents of the Survey of Junior Researchers in the academic field, 2018

Type of assignment	
Academic assistantship	16%
Belgian scholarship (FWO, BOF, ...)	30%
Foreign scholarship	5%
Project funding	35%
No university funding	7%
Other funding	7%
Involved in educational activities	
Yes	57%
No	43%
Situation in relation to a PhD	
Doing a PhD	89%
PhD recently submitted/defended	5%
Dropped out of PhD studies	1%
No/never PhD-activities	5%
PhD phase	
Initiating	20%
Executing	57%
Finishing	23%
Year of PhD-initiation	
2018	7%
2017	27%
2016	20%
2015	18%
2014	14%
≥ 2013	14%
Preliminary research proposal at PhD-initiation	
Elaborated proposal	31%
Simplified proposal	34%
Only a topic	27%
No topic	8%

As in 2013, much attention is paid to both performance and wellbeing of junior researchers in 2018, two aspects of one's functioning which are closely related. In terms of performance, the *Survey of Junior Researchers 2018* questions both publication record and educational activities. As far as wellbeing is concerned, attention is paid to both job outcomes and health outcomes. Job outcomes include job satisfaction, turnover intentions, reasons for turnover, dedication and commitment. Health outcomes include negative outcomes such as mental health problems, musculoskeletal complaints, headache/migraines, loneliness/isolation and alcohol problems, as well as positive outcomes such as vitality and self-confidence. Contrary to what is often (implicitly) assumed, the correlation between various aspects of wellbeing is not always that strong. For example, meta-analyses show that the correlation between job satisfaction and health rarely exceeds $r=0.3$ (see Faragher, Cass & Cooper, 2005). This will be discussed in more detail in ECOOM-briefs 18 and 22, briefs in which the main focus is general job

satisfaction and mental health of PhD students respectively. Clear communication in the discourse on wellbeing is sorely needed. We have stressed this need before in a contribution on wellbeing and mental health in academics, written for *The Doctoral Debate* (European Universities Association, December 2018).

In addition to socio-demographic profile, research environment, job, performance and wellbeing, the *Survey of Junior Researchers 2018* also includes questions on social contacts and formal and informal support both from actors within and outside of the university. The survey also examines possible barriers to help-seeking behaviours such as shame, taboo or stigma.

Other aspects of the careers of junior researchers, screened in both the SJR2013 and SJR2018, are career perspectives and aspirations, as well as the perceived value of a PhD for employment outside the university. In 2018, additional questions are targeting interest in entrepreneurship, as well as the development of various competencies such as management or communication skills.

Finally, but not in the least, the *Survey of Junior Researchers 2018* also queries specific aspects of the lives and careers of international junior researchers. The number of international junior researchers has grown considerably in recent years: in 2018, their share in the junior researcher population is no less than 42%. To date, little information is available to refine the general picture of life and careers of junior researchers at Flemish universities according to country or region of origin. The survey in 2018 asked international junior researchers about issues such as level of acculturation (towards the host country and towards the home country), language skills, social contacts within and outside the university, as well as career aspirations regarding a job on the Flemish labour market and on the labour market outside of Flanders.

Analyses of the SJR2018-data will be conducted in the upcoming period. Interested readers will be able to follow our findings on the ECOOM website (<http://www.ecoom.be>) and in scientific journals.

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