



International Symposium on Tracking Careers of Doctoral Graduates

**Revealing the landscape and impact of
researchers' careers**

Janet Metcalfe, Chair and Head, Vitae

www.vitae.ac.uk

Vitae is supported by Research Councils UK (RCUK),
managed by CRAC: The Career Development Organisation
and delivered in partnership with regional Hub host universities

- Vitae
- Why track researcher careers
- Career motivations of researchers
- Career destinations and pathways
- Impact of doctoral training and doctoral graduates
- Prospective researcher career projects

Vitae vision and aims



‘to lead world-class professional and career development of researchers’

- **Build human capital** by influencing the development and implementation of effective policy relating to researcher development
- **Enhance higher education provision** to train and develop researchers
- **Empower researchers** to make an impact in their careers
- **Evidence the impact** of professional and career development support for researchers

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Why track careers?

- **Information**
 - Career paths and trends
 - Inform career choices
 - Attract potential researchers and promote institution
- **Evaluation and enhancement**
 - Inform provision of research degrees
 - Understand career choices and transitions
 - Employability and preparedness for careers
- **Value and impact of doctoral training**
 - Supply and demand
 - Review funding models
 - Role in innovation, knowledge exchange and organisations

UK researcher career data



- Destinations of leavers in higher education (DLHE)
 - Annual census 6 months after graduation
 - UK and EU domiciled
 - Surveyed by HEIs, collated on UK level
- Longitudinal DLHE
 - Annual 3 year follow-up of DLHE respondents
 - Surveyed at UK level
- RCUK cohort study
 - 3 year follow-up of L DLHE to explore impact further (6 years)
 - Gathering career stories
 - Employer and researcher interviews

Understanding researchers' careers



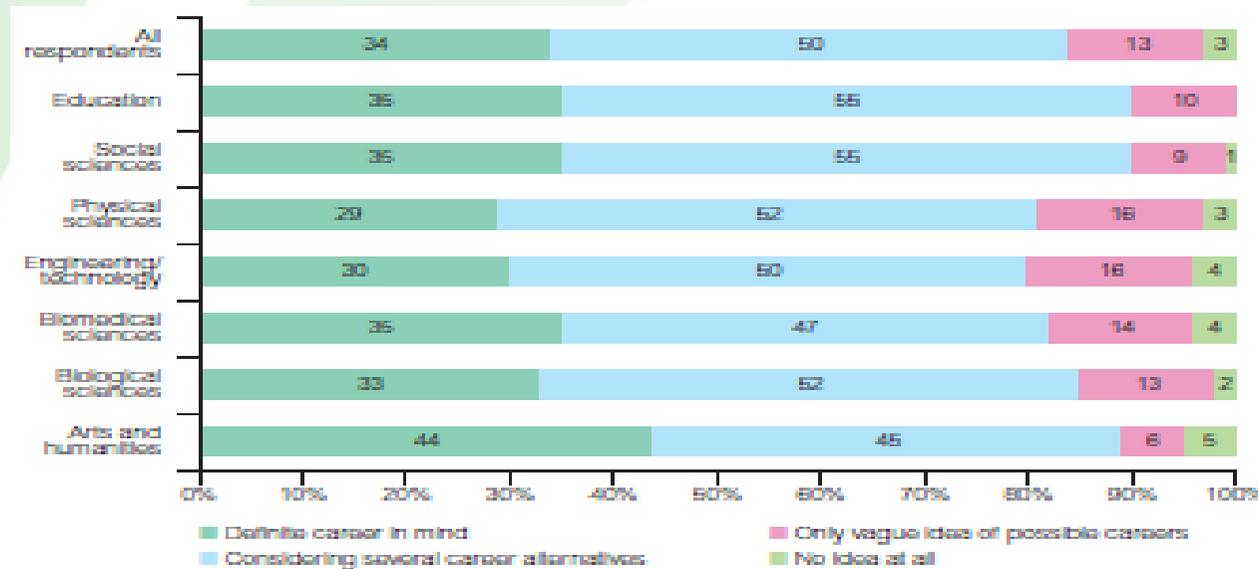
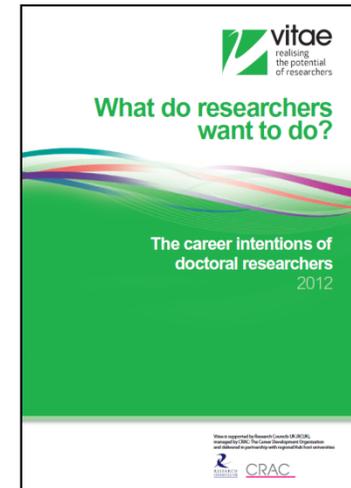
- What do researchers do?
 - What do researchers want to do?
 - First destinations by subject
 - Career profiles and video narratives
 - Destinations and impact three years on
 - Career paths of doctoral graduates
 - Career and salary progression
- Researcher experience
 - Postgraduate Research Experience Survey (PRES)
 - Careers in Research Online Survey (CROS)
- Understanding employers' needs
 - Employers' views of researchers' skills
 - targeting the postgraduate and researcher market
 - researchers' skills and competencies



Career motivations: What do researchers want to do?



- One-off survey of current researchers: 4,500 responses
- Motivation for undertaking doctorate
- Strength of career ideas
- Occupational intentions
- Need for doctoral qualification

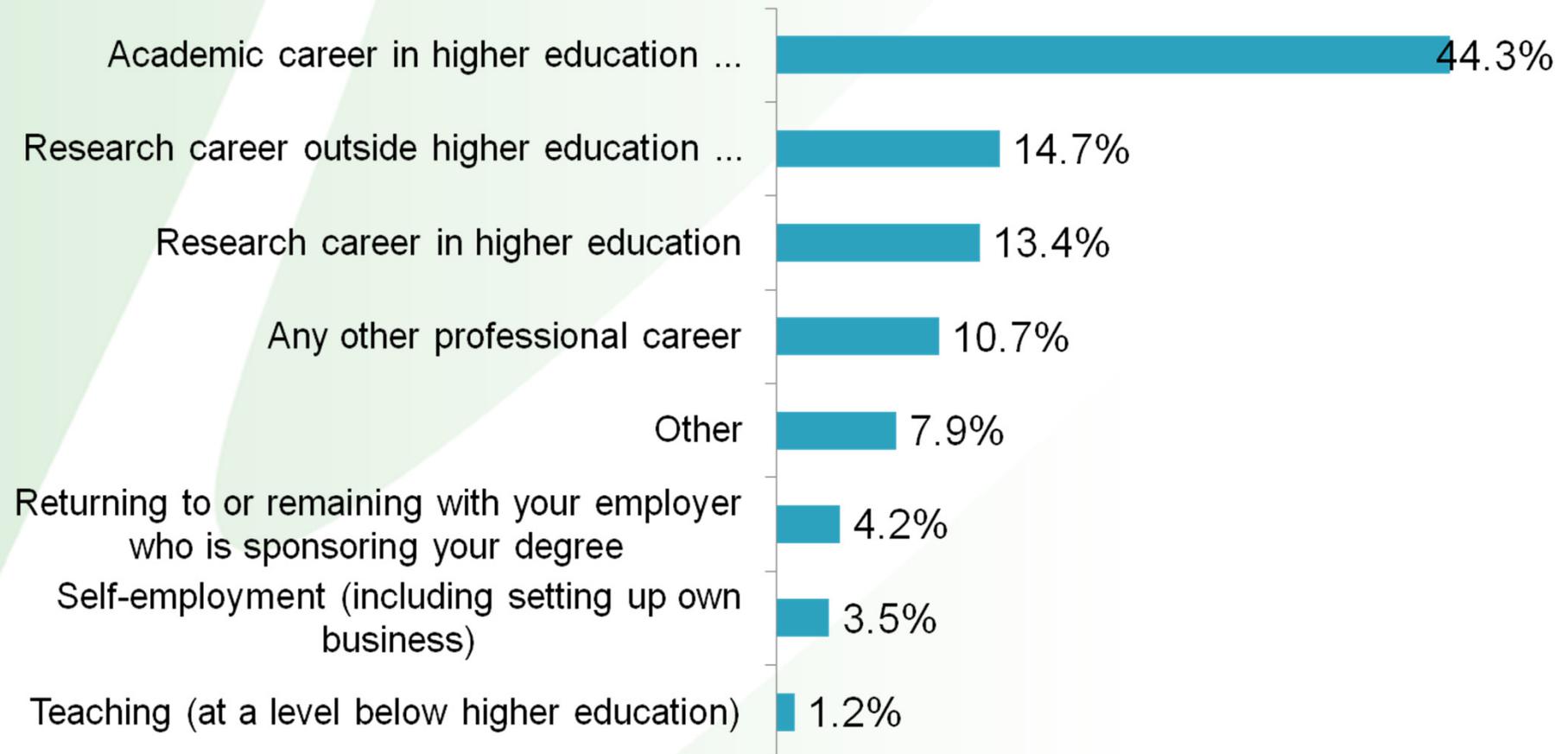


- Definite idea
- Considering several options
- Only vague idea
- No idea

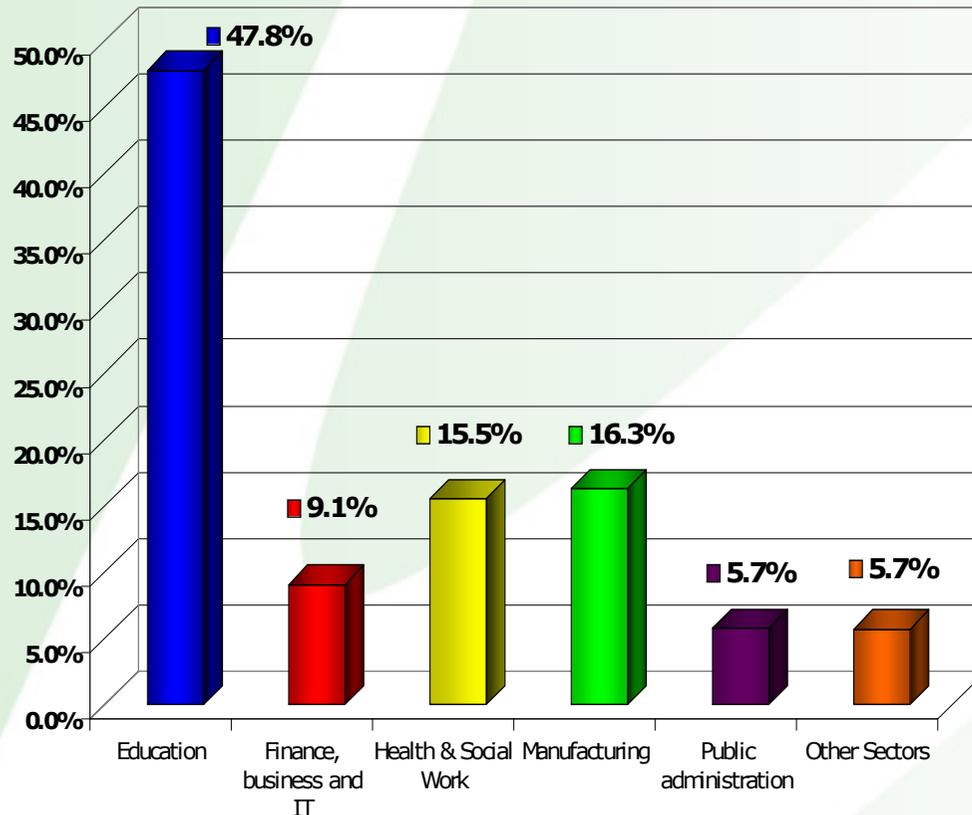
Main motivation for research degree



Anticipated career



What do researchers do? First destinations by subject



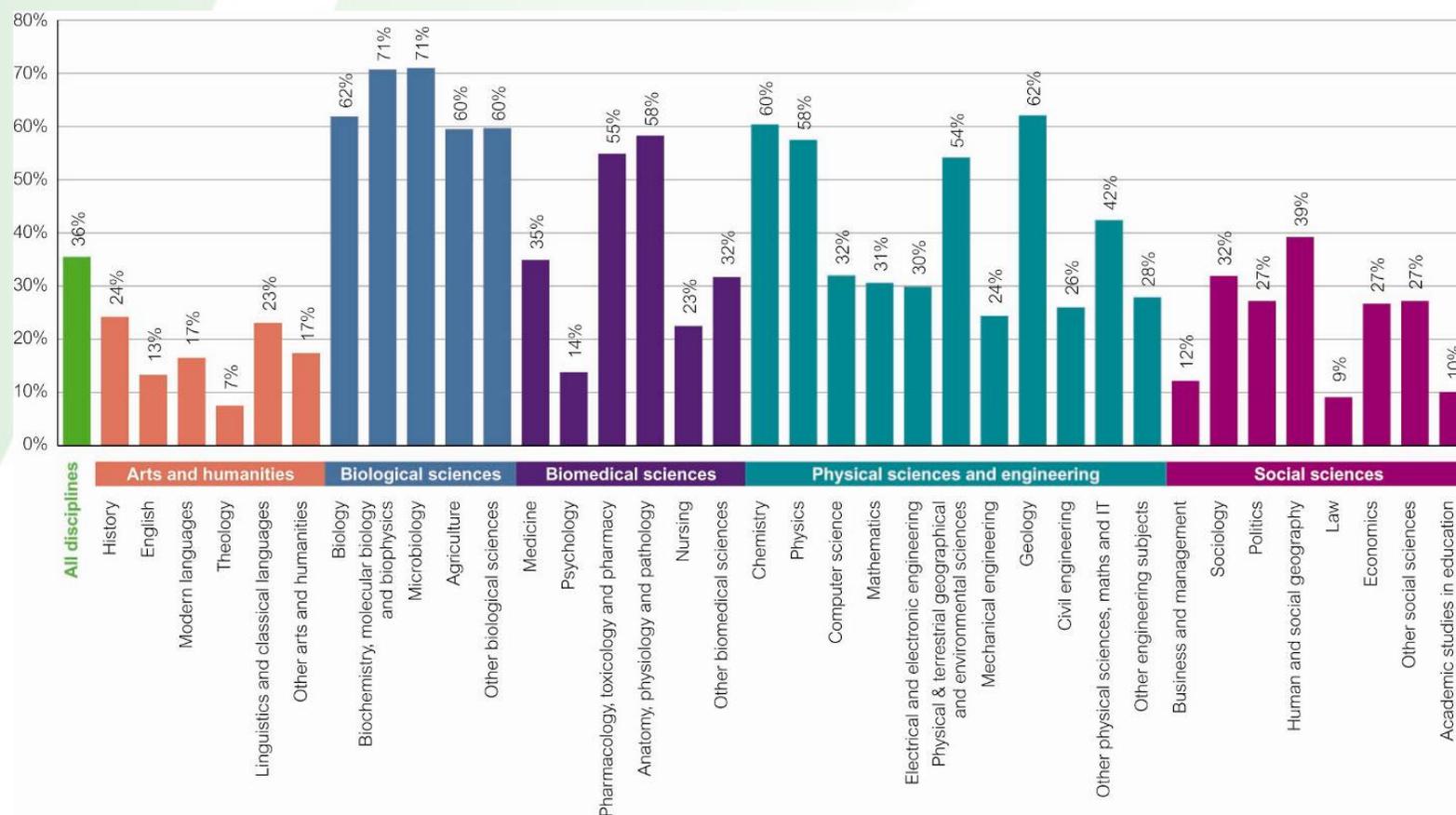
- 2003 - 2007 doctoral graduates
- 24,780 respondents
- 65-70% response rate
- 30 subjects and 6 combined 'others'



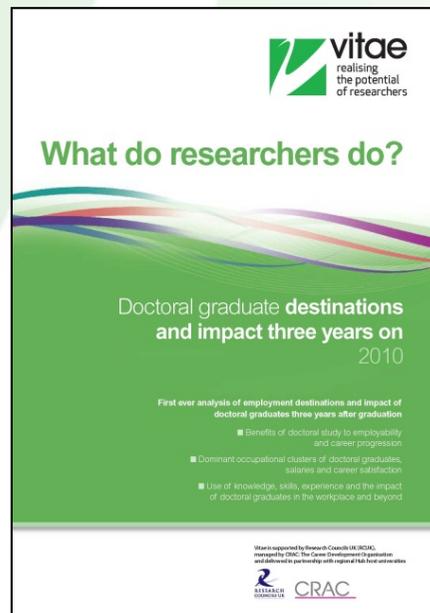
Employed in research roles: 35% overall



Varies from 7% (theology) to 71% (some biological subjects)



WDRD? Destinations and impact three years on



- 2004/05 doctoral graduates
- Surveyed Nov 2008
- UK and EU domiciled
- 51% female
- 45% response rate (L DLHE)
- 5 disciplinary groups

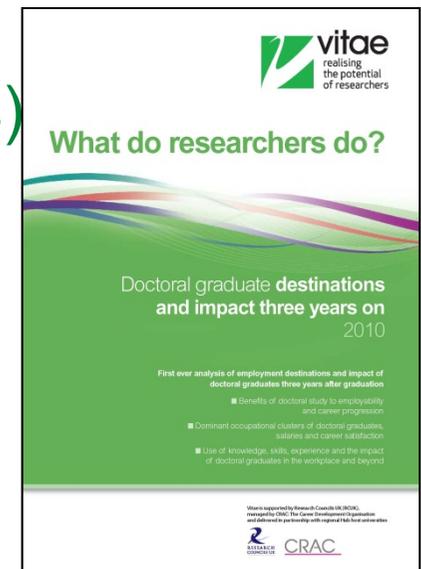
- Experience of research degree programme
- Employability
- Career satisfaction
- Value and impact of the doctorate

WDRD? Destinations and impact three years on

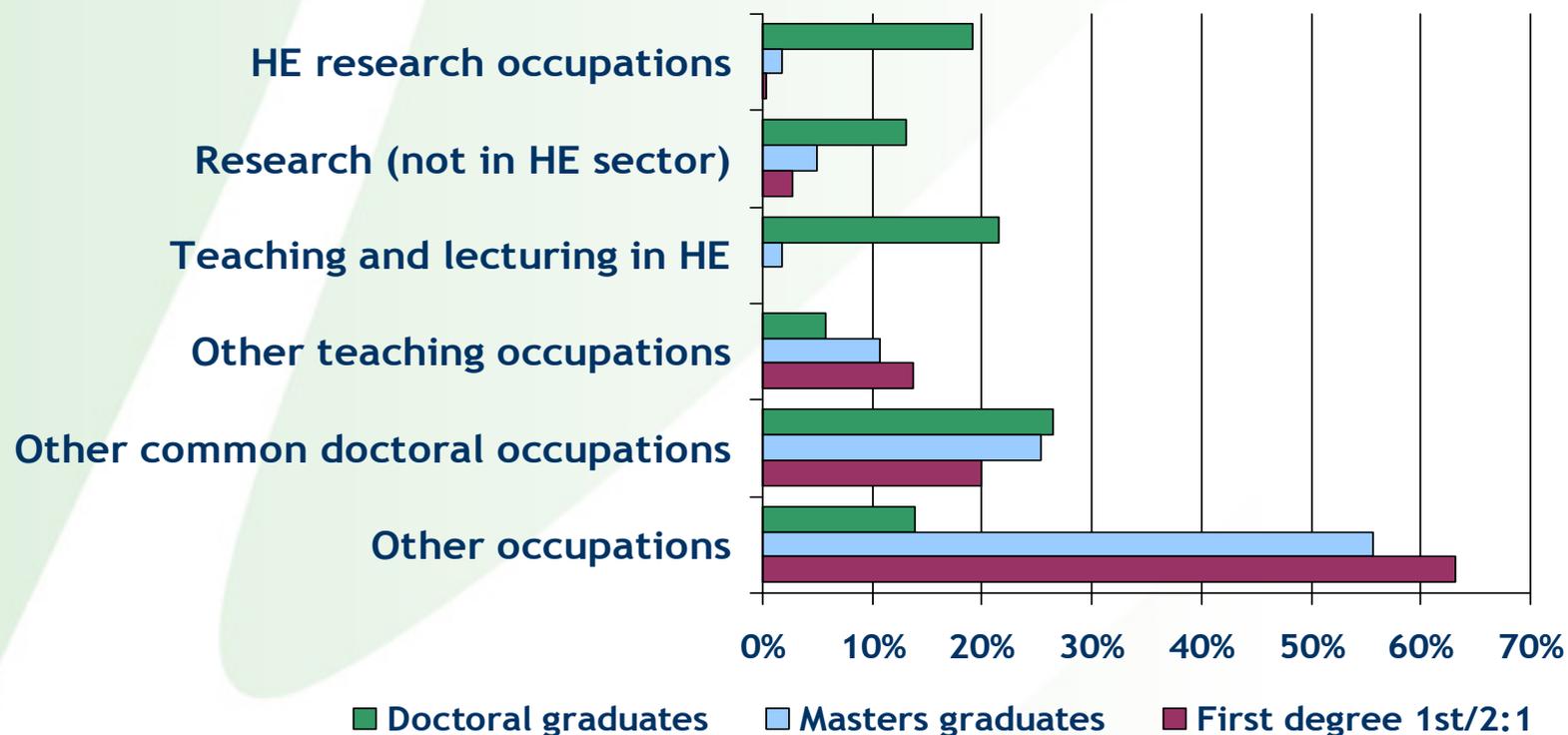


Employability

- Employment circumstances (2% unemployed)
- Value of the doctorate (82% requirement or important)
- Contract/mode of work (54% have changed jobs)
- Median annual salary (£34,000 cf £25,000 B)
- Satisfaction with career to date (93%)
- Unique doctoral occupations (86% in 5 clusters)
 - HE research
 - Research not in HE sector
 - Teaching and lecturing in HE
 - Other teaching occupations
 - Other common doctoral occupations
 - Other occupations



WDRD? Destinations and impact three years on

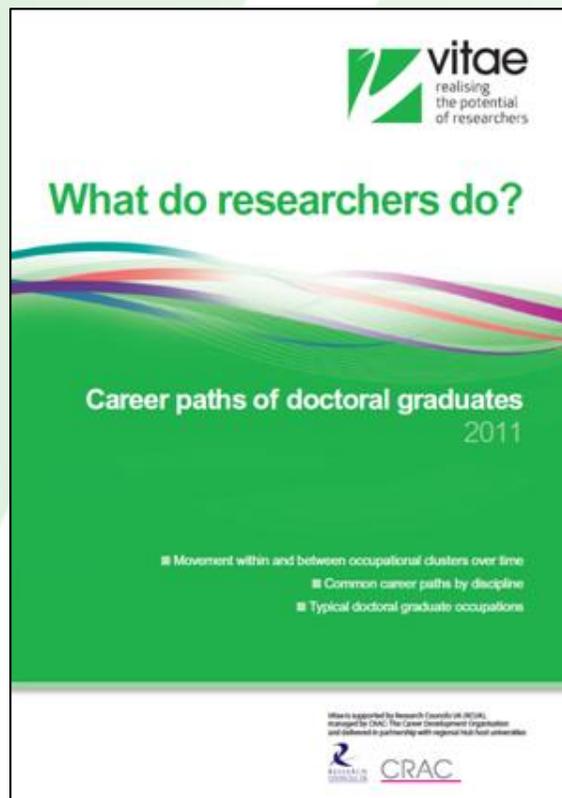


'My doctorate changed my life. It opened doors, and it also opened my mind. I take on challenges now, in my life and my career, because I have faith in my own abilities.'

Cora Beth Knowles (Latin literature), Open University

What do researchers do?

Career pathways of doctoral graduates



- 2008 L DLHE data
- Career progression over 3 years
- Mobility within and between occupational clusters
- Common career paths by discipline
- Typical occupations

Overall cluster movement

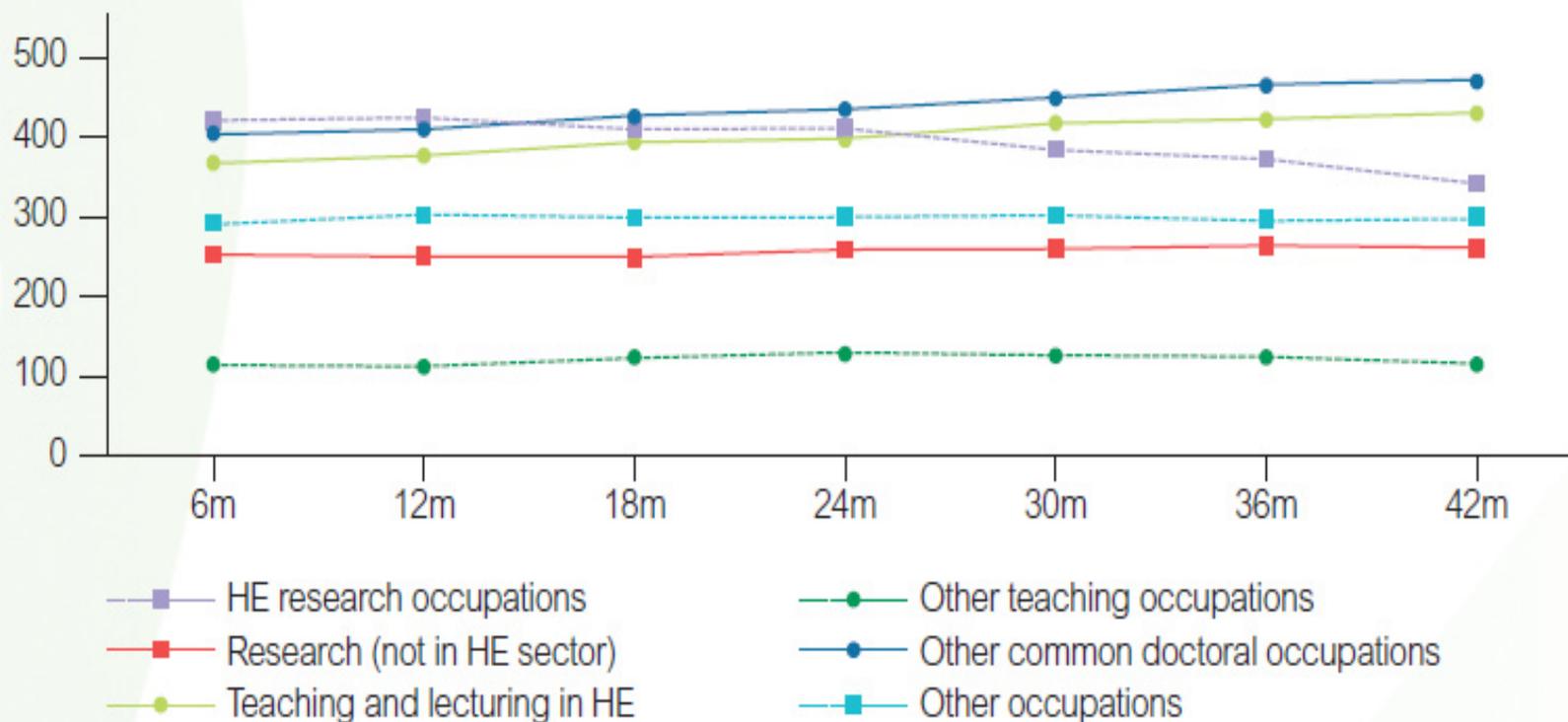


Figure 2.1 Occupational clusters over time for all employed respondents (N=1855)

Doctoral graduate career pathways



Mobility of researchers in higher education

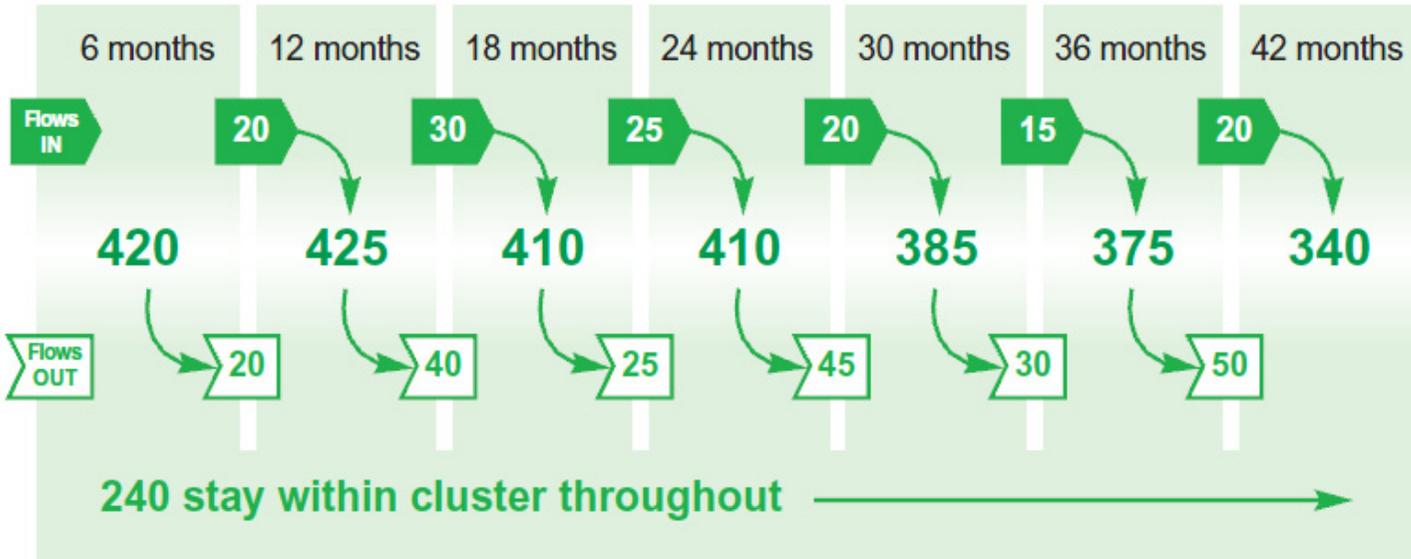
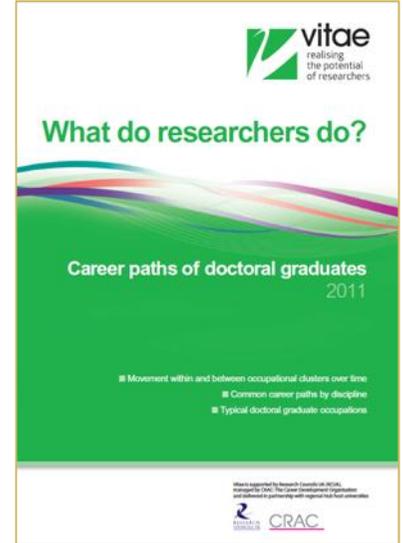


Figure 2.3 HE research occupations: movements in and out of cluster

40% move out; 26% move in

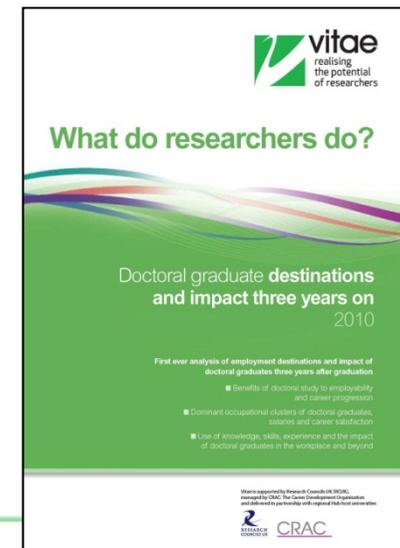


Value and impact of the doctorate

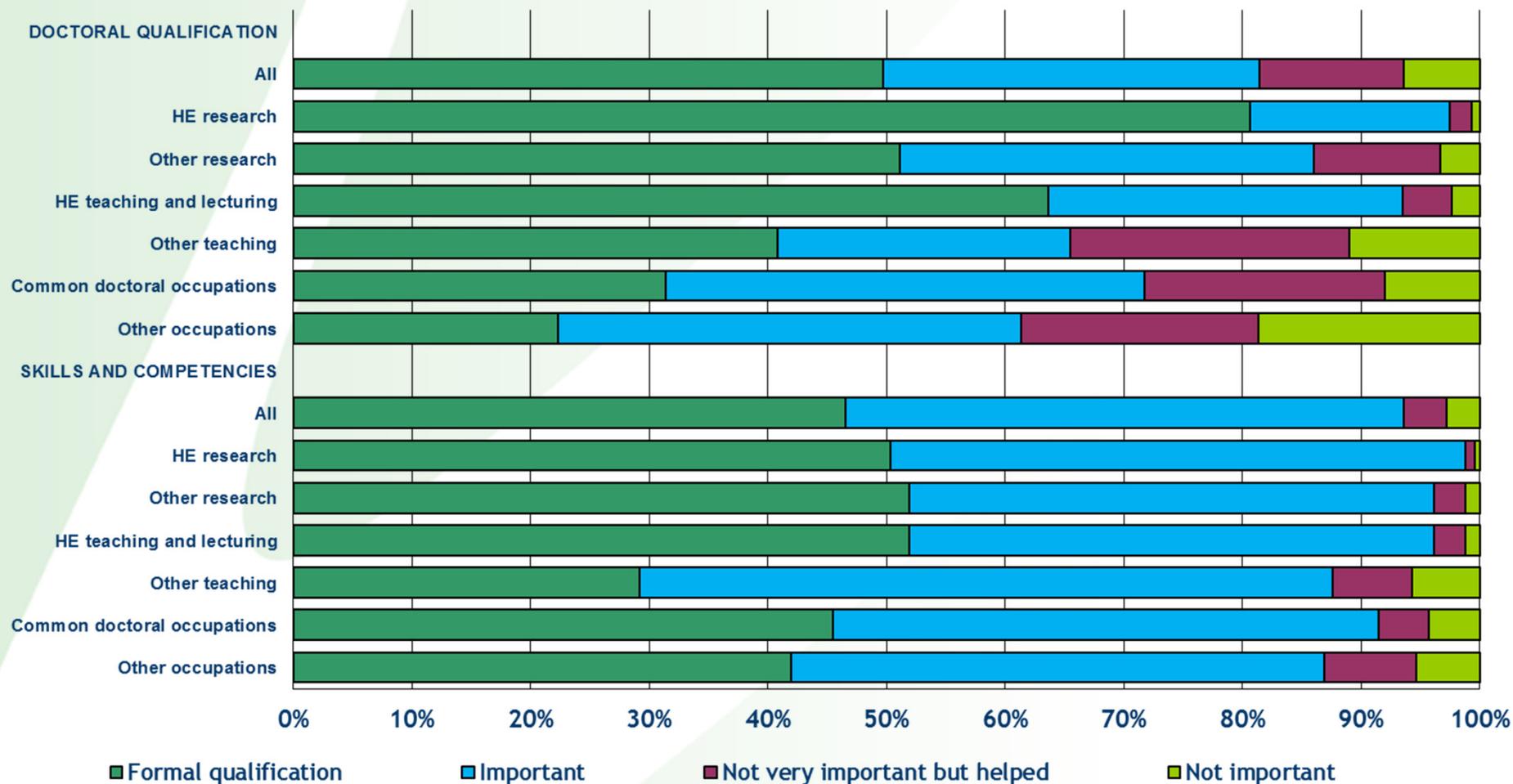


- Impact of the doctorate
 - Use of knowledge, skills and experience (research skills 82%; generic skills (91%)
 - Make a difference in the workplace / innovation (94%)
 - Access to, and progress, towards long term career aspirations (87%)
 - Enhance social and intellectual capabilities and quality of life (89%)

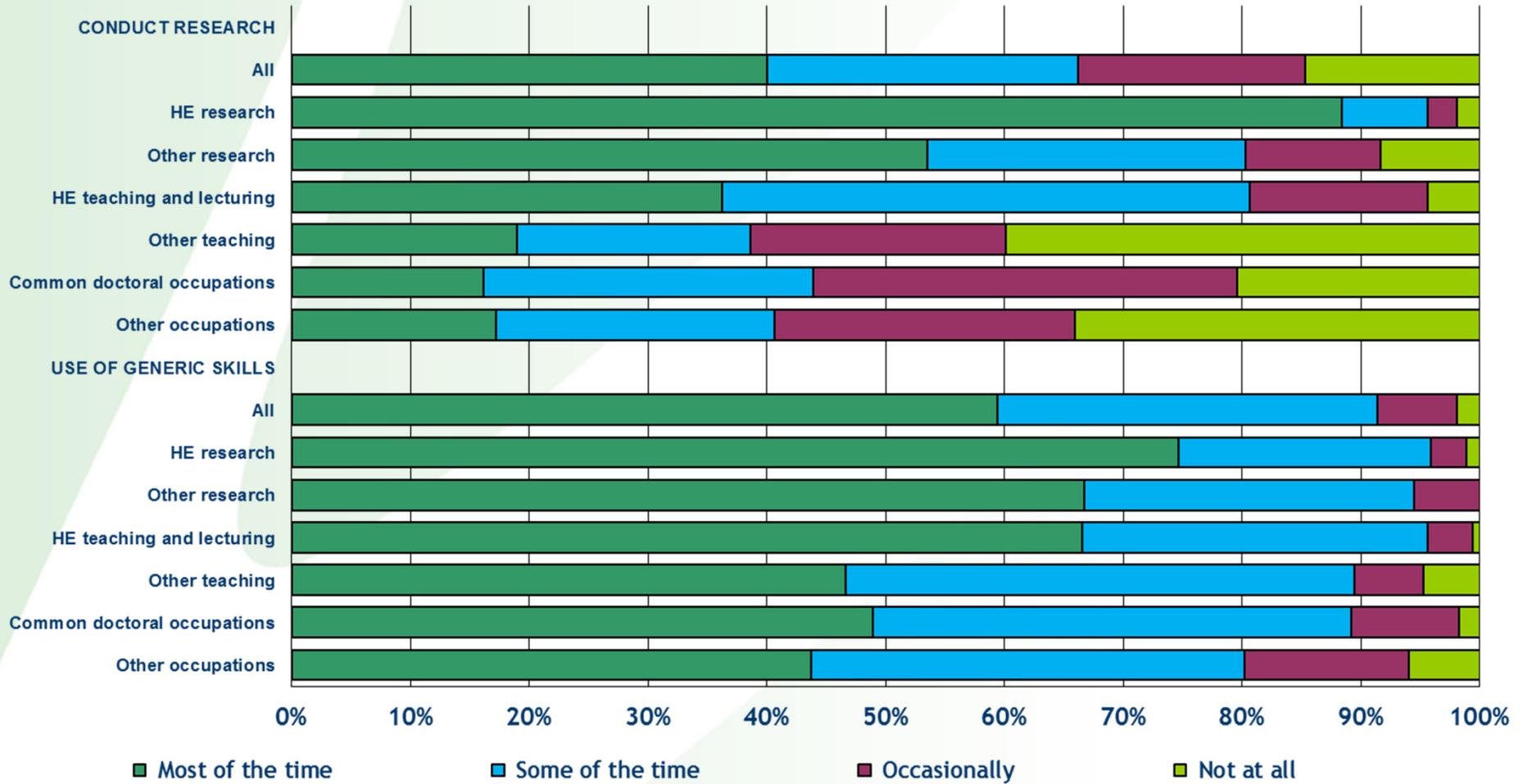
- Undertaking research (40% most of the time)
- Use of research (82%) and generic skills (91%)
- Impact on employment (94%) and beyond (89%)
- Unique doctoral occupations



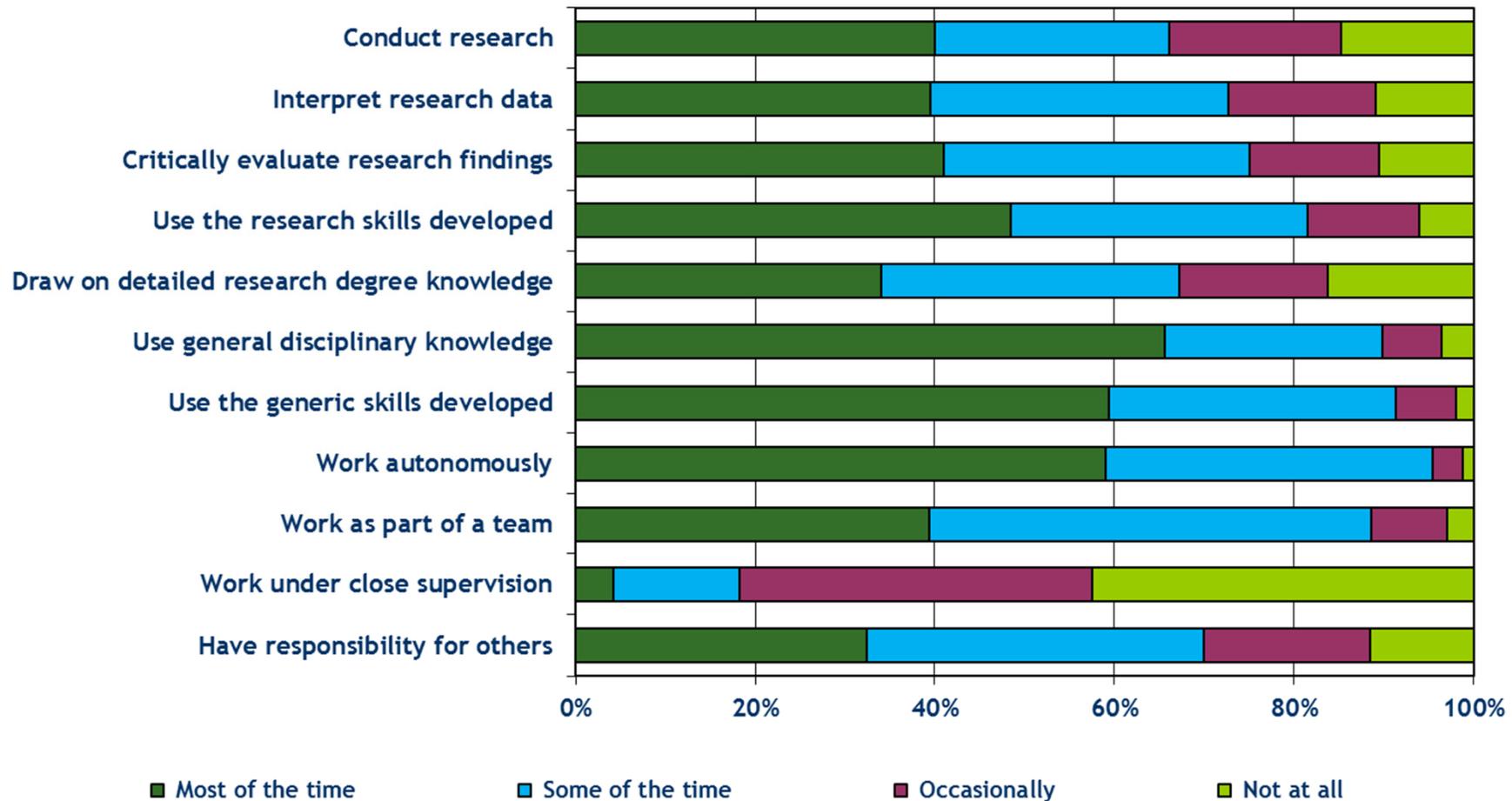
Importance of doctorate, skills and competencies for current employment



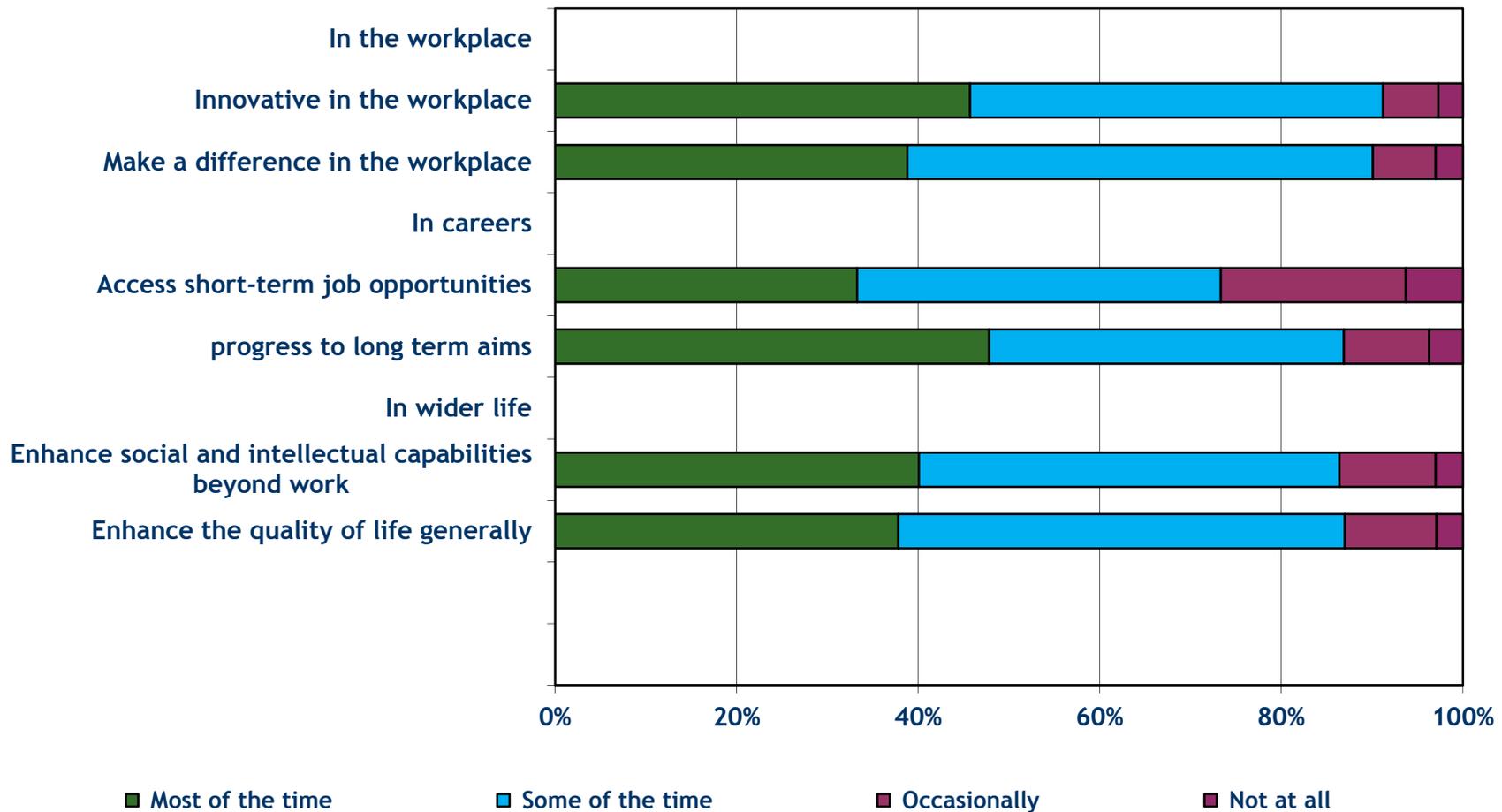
Conducting research and use of generic skills



Use of knowledge, skills and experience



Benefits and wider impact of doctoral experience in work and lives



What do researchers do? 2013

Early career progression and salaries compared to other degree qualifications



- Comparison of 2008 and 2010 L DLHE
- Comparison of doctoral, masters and good first degrees
- Doctoral graduates more recession proof than masters and first degree
- Arts and humanities most affected
- HE research better paid than non-HE research
- Strong consistent evidence of impact of the doctorate

RCUK Cohort study

Doctoral impact and career tracking study

- Objectives
 - Difference doctoral graduates are making to the workplace
 - Extent doctoral graduates drive innovation and growth, particularly outside academia
 - Career information for researchers
- Methodology
 - Three cohorts ~7 years after graduation (2004 - 2006)
 - Link back to Student Record, DLHE and L DLHE
 - Track through institutional alumni offices and supervisors
 - Survey in 2013
 - 200 qualitative interviews with doctoral graduates and employers
 - Develop impact framework
 - Maintain researcher panel for future tracking

EPSRC impact model



86 research-intensive organisations

Improved competitiveness: 83%

Integral to commercial success: 60%

Impact on organisation

- Individuals' skills 87%
- Technical expertise 83%
- innovative/creative thinking 75%
- Problem solving/trouble shooting 68%
-

Most highly rated skills

- Problem solving 75%
- Research skills/methods 63%
- Communication 59%
- Data analysis 56%

	Economic	Environmental	Social
Direct (Absorptive Capacity)	<ul style="list-style-type: none"> •Production Management •Research, Design & Development. etc. 	<ul style="list-style-type: none"> •CO₂ Emissions Reduced •Environmental Procedures/Policy 	<ul style="list-style-type: none"> •Health Benefits •Employee Satisfaction •Staff Retention/Development
Indirect (Spillovers)	<ul style="list-style-type: none"> •Supply Chain Development •Research Partners •Customer Impacts 	<ul style="list-style-type: none"> •Impacts on Suppliers, Customers & Partners 	<ul style="list-style-type: none"> •Health Benefits •Supporting Deprived Communities •Welfare Benefits

Employers' expectation of researchers performance (high and very high)



	Group 1	Group 2	Group 3	Group 4
Data analysis	100%	100%	91%	91%
Problem Solving	100%	88%	89%	83%
Drive and Motivation	100%	84%	59%	74%
Project Management	83%	36%	70%	39%
Interpersonal Skills	67%	56%	39%	26%
Leadership	67%	28%	24%	17%
Commercial awareness	50%	20%	28%	22%
Overall	81%	59%	57%	50%

Employer categories

Group 1: actively target doctorates

Group 2: strong interest

Group 3: some interest, occasionally recruit

Group 4: no interest

Recruiting researchers, Vitae 2009,

104 employers

Labour market information and career stories



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What do researchers do? Labour market information

Occupational information

This section will provide researchers with information about occupations that they may be interested in

Discipline information

Information for doctoral graduates in this section will highlight the career paths and destinations which other researchers from their discipline have followed.

Scientific, technical and manufacturing

- ▶ Scientific research and development
- ▶ Engineering, manufacturing, technology and construction
- ▶ Pharmaceutical industry
- ▶ Chemicals manufacturing

Sector information

These profiles examine the main industries where doctoral graduates work. Each sector profile examines the current of the industry (using the most recent research from the Sector Skills Councils and similar bodies), future projected in particular those that may affect doctoral graduates and areas of development and research. There is also a round the roles that doctoral graduates in recent years have taken up in each sector, and lists of useful resources, including employers within the sector news feeds and job search links.

Using labour market information

"What do researchers do? Labour market information" presents a wide range of information about the career destinations of researcher. However, for most people this information only starts to become truly relevant when they relate it to their own life and career and use it to aid decision making and taking action for career development.

The information in this web section can be used to examine the many options that are available to

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development

technology and

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Home » Careers » Career stories » **Database of career stories**

Database of career stories

The Database of career stories (DoCS) is a resource for postgraduate researchers, research staff and researcher developers to inform career decisions and career planning. The database provides access to the career stories of hundreds of people with a doctorate or research background illustrating the range and variety of careers that people with a research training go on to do and demonstrating the wider impact of research careers on society/the economy.

To enrich and expand the resource we encourage you to upload your own career

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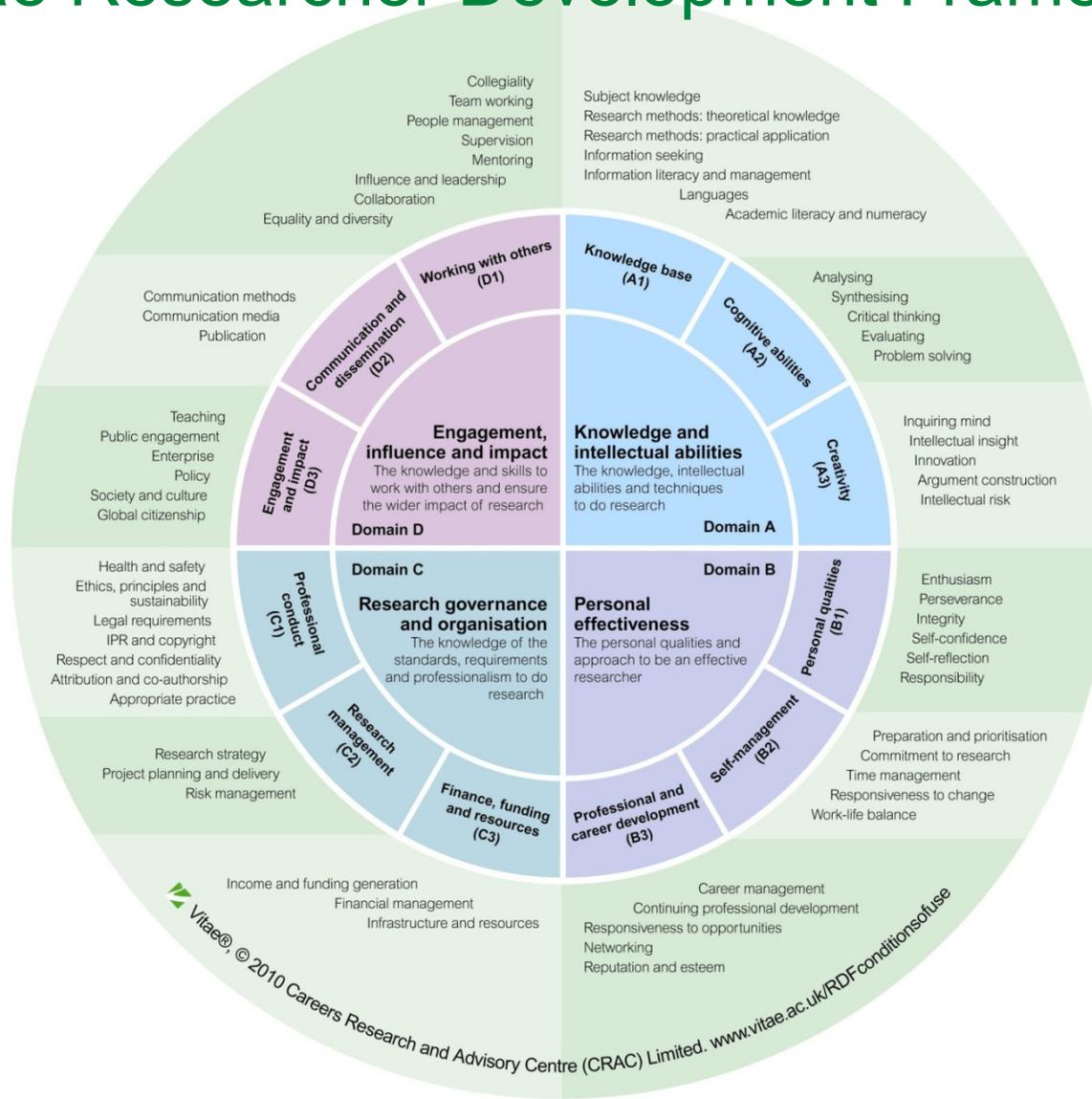
[Career opportunities outside higher education](#)

[Research versus non-research careers](#)

[What do researchers do? Labour](#)

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Vitae Researcher Development Framework



- ✔ Framework of the knowledge, behaviour and attributes of successful researchers
- ✔ Enables self-assessment of strengths and areas for further development
- ✔ Common language for researchers capabilities
- ✔ Endorsed by 33 UK organisations
- ✔ Trialled in US, Europe

Understanding researcher careers



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What do researchers want to do?

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What do researchers do?

The Rugby Team

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Incorporating the UK GRAD Programme and UKHERD

What do researchers do?

Career profiles

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Employers' views of researchers

Comprehensive review of the existing views of the skills of researchers

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Employers' briefing: Targeting the skills of researchers

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What do researchers do?

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Recruiting researchers: survey of employer practice 2009

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A career development perspective of UK researcher-business interactions 2012

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What do researchers do?

First destinations of doctoral graduates by subject

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Employability lens on the Researcher Development Framework

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Researcher Development Framework

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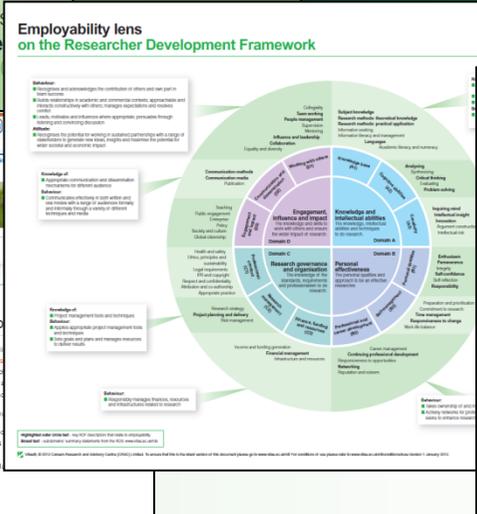
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What do researchers do? Labour market information

Labour market information (LMI) is an important career guidance resource, providing information to inform the career decision making process. The Vitae 'What do researchers do?' series of publications provides and highlights doctoral qualifications, as well as research destinations of doctoral graduates. These publications have expanded the range of available to researchers and also offer insights into the labour market based on the latest available data.

This labour market information resource builds on the 'What do researchers do?' series of publications, providing an in-depth analysis of the main employment sectors for doctoral graduates, including commonly found in these industries, analysis of skills needs and opportunities for researchers studying and holding doctoral qualifications, as well as research destinations of doctoral graduates. These publications have expanded the range of available to researchers and also offer insights into the labour market based on the latest available data.

- In-depth analysis of the main employment sectors for doctoral graduates, including commonly found in these industries, analysis of skills needs and opportunities for researchers studying and holding doctoral qualifications, as well as research destinations of doctoral graduates.
- A summary of the doctoral labour market (August 2011)
- Types of labour market information



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Researchers' skills and competencies At a glance

In a rapidly changing global business environment, research, innovation and highly skilled employees are key to maintaining the competitive advantage of organisations.

Within UK higher education there are around 90,000 people studying for doctoral degrees and around 40,000 people employed as researchers. These people have high level technical skills and are also likely to have experience in effective communication, project management and team working. This experience will have been built up through a mix of training, individual study and practical work experience.

More than 50% of doctoral graduates work outside the education sector on graduating. Many more researchers seek work outside the higher education sector at different points in their careers.

This document is designed to enable employers to see at a glance the skills and competencies doctoral researchers and research staff can bring to an organisation. Against some of the competencies that are most frequently desired by employers, we list some of the relevant skills that researchers typically develop, then some real examples to show the kind of evidence that might be cited by researchers to evidence the development of those skills.

Useful links



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What do researchers do? www.vitae.ac.uk/wdrd

Labour market information www.vitae.ac.uk/lmi

Impact and evaluation www.vitae.ac.uk/impact

Courses for researchers www.vitae.ac.uk/courses

Researcher Development Framework www.vitae.ac.uk/rdf

Vitae employers www.vitae.ac.uk/employers

janet.metcalfe@vitae.ac.uk