

More than academia: Expanding career support for doctoral researchers

Charlotte Fawcett



About the author

Dr Charlotte Fawcett was awarded her PhD at the University of Leicester in Genomic Epidemiology and Public Health Genomics, funded by the Wellcome Trust, in 2026. Her research interests include the application of genetic epidemiology and statistical methods to better understand the causes of cardiovascular diseases, with particular focus on Mendelian randomisation.

Charlotte holds a BSc in Medical Genetics, an MSc in Molecular Genetics, and an MSc in Medical Statistics, all from the University of Leicester. Her interdisciplinary training combines genetics, epidemiology, and biostatistics, enabling her to investigate the genetic determinants of disease and their implications for public health.

Alongside her research, Charlotte is passionate about science communication and public engagement. She has organised and contributed to outreach and student engagement initiatives, helping to make complex scientific concepts accessible to wider audiences. She has presented her research at national and international conferences, including the American Society of Human Genetics and the Mendelian Randomisation Conference.

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Foreword

Dr Bethan Cornell, STEM Talent Fellow at Global Talent Fund and former Deputy Principal Private Secretary to the Secretary of State for Science, Innovation and Technology

Five years ago, I wrote a short policy note for HEPI drawing on the 2019 Nature PhD survey. The picture it painted was striking: most PhD students wanted academic careers, yet the majority would not end up in them. They felt well-prepared for research but much less so for anything else. And very few – just 13% – had thought to speak to a specialist careers consultant at their own institution. The gap between expectation and reality was wide, and the support available to bridge it was thin. I also wrote about the ‘leaky pipeline’ and how the system might want to strategically embrace it, to prepare students for a positive possibility of exiting the academic pathway and using their skills to benefit the wider economy.

This report asks whether things have changed. In some respects, they have. Fewer students now rank academia as their first choice, and modestly more feel their programme is preparing them for non-academic routes. But the persistence of certain findings is harder to ignore than the progress. Supervisors remain the default port of call for career guidance despite most students acknowledging they have little useful advice beyond academia. One-in-three students remains dissatisfied with the quality of guidance they receive. We are still not adequately preparing students for the reality that many of them will leave academia.

There is something troubling about a system that continues to frame the academic career as the destination, when the data have long told us it is the exception. PhD students are not failing to make it in academia – they are entering a labour market that was never going to absorb them in the way the pipeline implied. We should be helping students understand that earlier, and more honestly.

This need is particularly pressing because the landscape of the highly skilled jobs market is changing. AI tools are already reshaping research roles and academic workflows in ways that will reduce some traditional positions and transform others. This shift requires the kind of high-order analytical, critical and creative thinking that a PhD develops. We should now, more than ever, be looking to reshape the narrative that a PhD exists for students to try and make it as a career academic. The value of postdoctoral training to the wider economy has never been greater, and the sector must shape both its career support and its advocacy for higher training to recognise that.

Charlotte Fawcett's report is rigorous, evidence-led and practically minded. It deserves to be read by everyone with responsibility for doctoral education – and acted on with more urgency than the last five years have shown.

Executive summary

The number of PhD students in the UK has increased, but academic roles are not keeping pace. This is one of the factors driving greater post-PhD career diversity. Yet more support and training are needed to prepare PhD students for a wide range of career paths.

One-third of PhD students are dissatisfied with career guidance from their supervisors. Thirty-five per cent feel their supervisors do not make time for frank conversations about their future careers and only 27% think their supervisors have useful advice for careers outside of academia. But are supervisors are best placed to deliver careers advice or is better signposting to other services required?

While many PhD students continue to seek work in academia, despite increasing competition for academic roles, PhD students also highlight the need for more information about the range of careers available to them and the career trajectories of alumni.

Although a growing number of institutional and public resources have been established, PhD career provision remains an area for improvement, including tracking the career pathways of doctorate holders. Furthermore, perceptions that non-academic career routes equate to failure continue to persist among students. Given that a significant number of PhD students subsequently go on to work in a wide range of different sectors, changing this mentality is of critical importance. This will ensure that PhD students are ready to pursue a range of different careers, benefiting the UK labour market and economy.

1. Introduction

This report uses data from a 2025 *Nature* survey of current UK-based PhD students and interviews with key stakeholders to examine the current career provision for PhD students, to identify gaps that can be addressed. It also draws on the results of previous *Nature* surveys from 2019 and 2017 for comparison. Further details about the methodology are provided below.

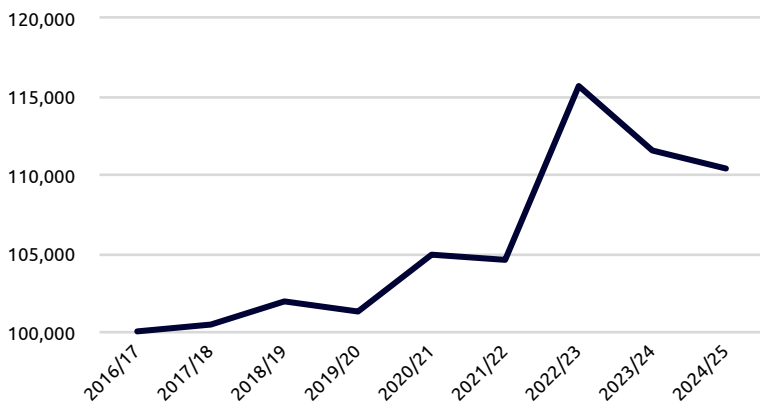
The scale of PhD student enrolment versus the availability of post-doctoral research positions

The number of PhD students, both in the UK and globally, has been steadily increasing. In 2024/25, a total population of 110,455 students were enrolled in a doctoral research degree in the UK, an increase of more than 10,000 since 2016 (Figure 1). After completing their PhD, for many students the next step to an academic job is a role as a post-doctoral researcher. The Higher Education Statistics Agency (HESA) defines an academic job as a teaching role, research role or a combined role at a higher education provider.¹

However, in the 2024/25 HESA Staff Survey, a total of 52,220 staff were reported to be on research-only contracts, an established metric used to proxy the number of post-doctoral researchers.² In contrast to the increasing number of PhD students, the number of post-doctoral researchers (using this proxy) annually has remained between 49,995 and 52,220 between 2020 and 2025.

This demonstrates that despite an increase in PhD enrolments, the annual number of post-doctoral research positions has remained generally stable. So, if doctorate holders are not working as post-doctoral researchers after completing their PhD, where do they end up?

Figure 1: The number of PhD students enrolled in a doctorate research degree



Number of PhD students is the number of 'Doctorate research' students on postgraduate courses from Higher Education Student Statistics. Data from 2016/17 to 2024/25.

The HESA *Graduate Outcomes Survey* follows up with higher education students 15 months post-graduation, including PhD students.³ This survey captures a range of information, including the current employment status and sector of postgraduate research students (as they are referred to in the survey). However, after this timepoint there is no further follow-up, leaving a black hole in our understanding of the long-term career trajectories of PhD students.

Despite demand for academic roles outstripping supply, many individuals begin a PhD interested in pursuing an academic career, with 75% of PhD students surveyed by *Nature* in 2017 reporting they were likely or very likely to pursue research in academia as a career.⁴ Nearly 80% of students also reported that their interest in pursuing an academic career had increased or remained unchanged since starting their PhD.⁵ Although this may be the desired outcome for PhD students, it is not the reality. Understanding the career trajectories of PhD students is important because, despite student interest in academic careers, over the last 25 years the number of PhD students globally

has doubled, while the number of academic jobs has not kept pace. This has meant that more PhD students are pursuing careers outside of academia.

Despite the increase in the number of doctorate holders pursuing non-academic trajectories, questions remain for both PhD students and higher education institutions around careers provision and resources available to students during their PhD and their opportunities to explore non-academic roles.

First, this report analyses the results of the 2025 *Nature* survey which explores a range of PhD experiences, including supervision, research culture and careers. This report focuses on the survey questions relating to careers provision and PhD students' aspirations. After considering these results, the report will examine students' current experiences and the resources available to support students into non-academic careers. Lastly, the report will look to future areas for development which could strengthen careers provision and improve the experiences of PhD students.

Methodology

The science journal *Nature* surveyed 3,785 current PhD students from 107 countries across May and June of 2025. This report analyses the responses of 201 UK-based PhD students, including both domestic and international students. No information on their field of study was captured but, due to the audience of *Nature*, it is more likely that these self-selecting respondents studied science-related disciplines. The data are freely available from *Nature*.⁶ Some survey questions, where indicated, were 'select all' answers and so the total exceeds 100%. Although questions were asked about a variety of topics relating to the lives and experiences of PhD students, this report focuses on questions relating to careers. Data are rounded, so numbers may not sum to 100%.

Results from this survey are compared where possible with HEPI's 2020 Policy Note *PhD students and their careers*, which used data from 526 UK-based PhD students from the equivalent 2019 *Nature* survey.⁷ Data

from the 2022 survey are also available, but to allow for a longer-term comparison and due to the known data distortions caused by COVID-19, this dataset was not used. Data from the *Postgraduate Research Experience Survey* (PRES) was also not included because the most recent version of the survey removed questions about careers.

It is important to note the number of respondents almost halved between the 2019 survey (6,320 respondents) and 2025 survey (3,785 respondents) and this is proportionally observed when focusing on the UK-based PhD students. A potential limitation of this analysis is the small sample size of UK-based PhD students, with only 201 respondents.

To supplement the data from *Nature*, interviews were conducted with current and former PhD students as well as institutional career professionals who have worked with PhD students. These interviews were informal and designed to identify themes of interest, current resources and areas where opinions may differ. Anonymous quotations from these interviews have been included where relevant, with permission.

Definition of a PhD student

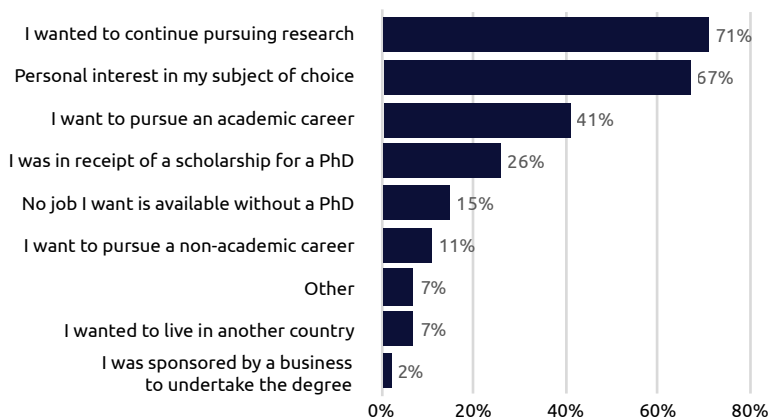
A PhD student is a postgraduate student studying for a doctoral research degree, with PhD meaning 'Doctor of Philosophy'. This is due to the traditional Greek meaning of philosophy being 'love of wisdom' with all fields of research originally being considered philosophies. Although PhD is the usual title across the UK, some universities use alternative conventions for their doctoral research students (the University of Oxford uses DPhil in place of PhD). In addition to the PhD, some individuals undertake professional doctorates, such as a Doctorate of Education (EdD) or Doctorate of Clinical Psychology (DClinPsy) and they are included in references to doctoral research students. Throughout this report 'PhD students' or 'students' refers to those studying for a UK-based doctoral research degree. A doctorate holder is an individual who has obtained their PhD.

2. The current picture of PhD students

What PhD students think of their career prospects

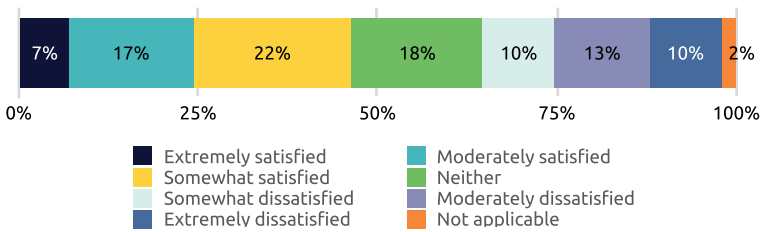
This is the first analysis of the 201 UK-based PhD students from the 2025 *Nature* survey focused on careers provision. Figure 2 shows that the most important reason for respondents wanting to undertake a PhD is to continue pursuing research (71%), with personal interest in the subject of choice being the second most common reason (67%). Wanting to pursue an academic career comes third (41%), while only 11% say they are undertaking a PhD to pursue a non-academic career. Wanting a job that requires a PhD is the motivation for 15% of respondents.

Figure 2: 'Which were the most important reasons you decided to enrol for a PhD?'



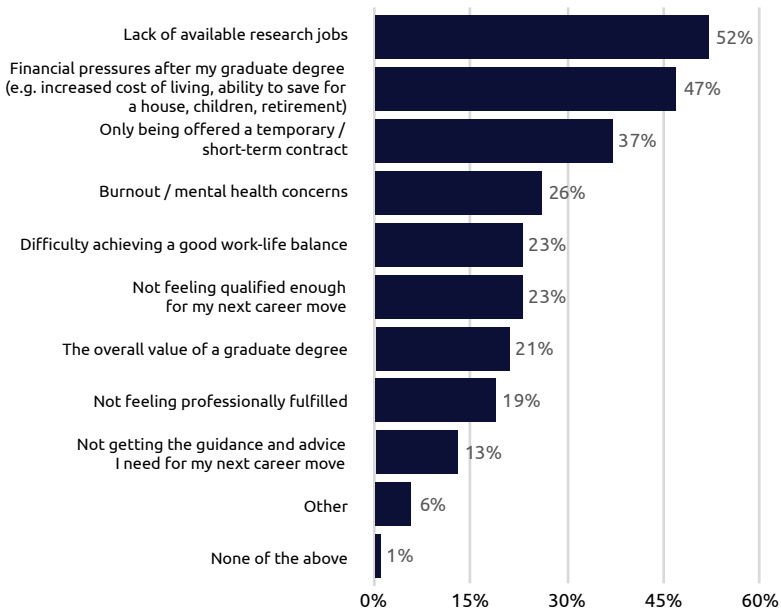
When asked about their satisfaction with the quality of their career guidance (Figure 3), the most selected response among PhD students is that they are somewhat satisfied (22%), with an additional 24% being extremely or moderately satisfied. In contrast, 18% are neither satisfied nor dissatisfied while 33% fell into categories indicating extreme, moderate or somewhat dissatisfied.

Figure 3: 'How satisfied are you about guidance for your career?'



PhD students were surveyed about their biggest concerns following the completion of their PhD (Figure 4), with over half concerned about the potential lack of research jobs. In contrast, only 13% are concerned about not getting the guidance and advice needed for their next career move.

Figure 4: 'Thinking about life after your PhD, what concerns you the most?'

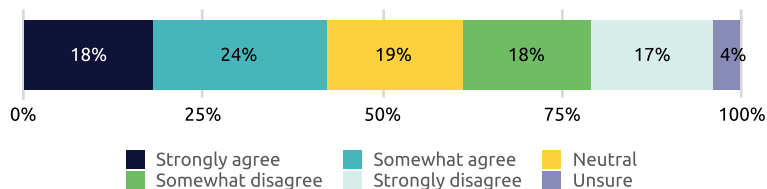


The *Nature* survey then asked a series of questions relating to students' experience of careers support from their supervisors. The role of institutional careers services or advisers is not captured in the 2025 *Nature* survey, but will be mentioned later in this report.

When asked whether their supervisor makes time for frank conversations about their career (Figure 5), 42% strongly or somewhat agree. In contrast, 35% disagree or strongly disagree with this statement. This indicates some students may feel unable to approach their supervisor about careers matters or that their supervisor may feel unable to provide such guidance, perhaps redirecting students to other sources of information.

The role of the PhD supervisor has changed in recent years, from the more traditional apprenticeship model to one in which there are expectations of a broader curriculum of development, including careers.⁸ This changing role of the supervisor will be explored in greater detail later in this report. However, students also have additional sources of support, such as institutional career services, and these may become more important if a student feels unable to have frank conversations about their careers with their supervisor.

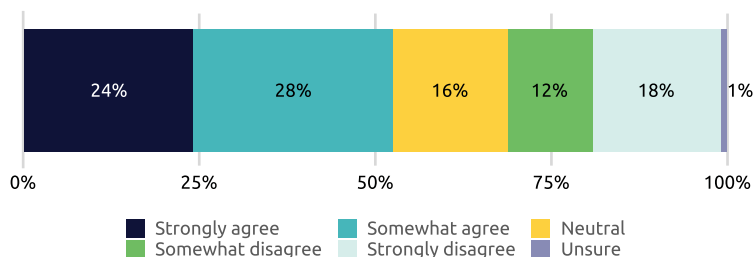
Figure 5: 'My supervisor makes time for frank conversations about my career'



When asked about whether their supervisor encourages them to attend career training and events, 52% strongly or somewhat agree, while 30% strongly or somewhat disagree (Figure 6). This suggests an opportunity to support development for these supervisors. Examples of support for supervisors can be seen through projects such as the Next Generation Research SuperVision Project which is aimed at enhancing doctoral

supervision practices.⁹ This project is a £4.6 million Research England-funded project, backed by the seven UKRI Research Councils, the Crick Institute, the Wellcome Trust, global businesses and universities to transform the culture and practice of research supervision. At present, this project has focused on a range of initiatives such as developing recognition procedures for supervisors and establishing peer mentoring, but future initiatives could focus on careers to ensure that supervisors feel able to support their students' career progression by signposting opportunities and encouraging them to pursue them.

Figure 6: 'My supervisor has encouraged me to attend career training and events'



This finding, that only 52% of PhD students agree that their supervisor encourages them to attend career training and events, also conflicts with the 2024 UKRI *Statement of Expectations for Doctoral Training*, endorsed by other funders such as the British Heart Foundation, Cancer Research UK and Wellcome, which states that supervisors should 'encourage students to access training and development opportunities, including placements'.¹⁰ However, the experiences of the students captured by the *Nature* survey may include those pre-dating the 2024 statement and so this finding should be re-evaluated after more time has elapsed. Despite this, an earlier version of the *Statement of Expectations for Doctoral Training*, published in 2016, also included statements around careers including:

Career advice should be provided (both prior to embarking on a PhD and ongoing) to enable students to choose the most

appropriate type of PhD and have the confidence and skills to explore the impact they can have in a wide range of relevant sectors and so manage their careers.

and:

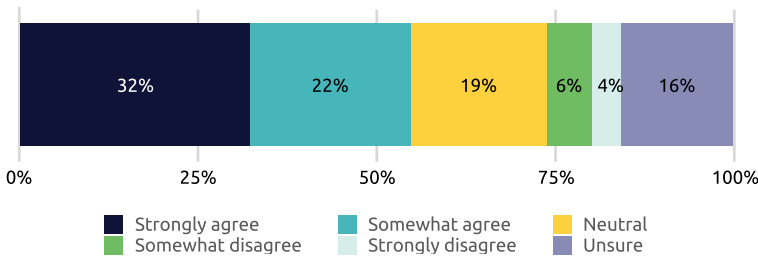
Supervisors should recognise doctoral study as a wider training opportunity and encourage and support students in developing their careers.¹¹

As such, these results indicate that a gap already existed between funder expectations and actual experience.

Over half of the respondents report they strongly or somewhat agree that their supervisor is open to the idea of them pursuing a career outside academia (Figure 7). Again, this suggests the UKRI 2024 *Statement of Expectations for Doctoral Training*, which includes the expectation to 'encourage students' curiosity about the full range of careers open to them', is not yet being consistently fulfilled. This is similar to the 56% of individuals who strongly agree or agree with the statement 'Members of my department are open to the idea of me pursuing a career outside academia' in 2019. Although this may suggest there has been little change in attitudes since then, it is important to note that the change from asking about the department to focusing on the supervisor may influence the responses given.

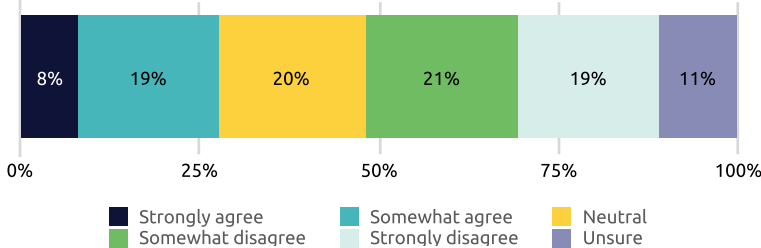
However, it is important to note that only 10% somewhat or strongly disagree with the statement 'My supervisor is open to the idea of me pursuing a career outside academia', while 19% are neutral and 16% are unsure. This may suggest that some students have not discussed pursuing a non-academic career with their supervisor and so are unsure of their response or the findings may indicate a level of ambivalence towards the role of supervisors when students are interested in pursuing non-academic careers.

Figure 7: 'My supervisor is open to the idea of me pursuing a career outside academia'



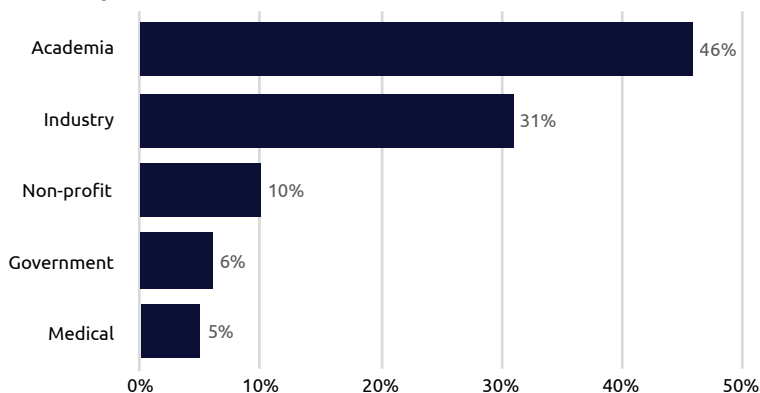
In contrast, Figure 8 shows that only 27% of PhD students think their supervisor has useful advice for careers outside of academia. This shows a mismatch between the support given by supervisors and their ability to provide relevant careers advice. As such, it may be useful to provide supervisors with additional resources regarding non-academic careers or ensure they can signpost to a separate careers advice service. This is again similar to the 26% who strongly agree or agree with the statement 'my department has useful advice for careers outside academia' in the 2019 *Nature* survey. Although the 2019 survey asked about the department rather than the supervisor specifically, it suggests there may have been little change in students' beliefs about obtaining advice on non-academic careers from one of their primary sources of support (departments and supervisors) in the intervening six years.

Figure 8: 'My supervisor has useful advice for careers outside academia'



When asked to rank their career preferences across academia, industry, government and the non-profit and medical sectors, 46% of PhD students rank academia first (Figure 9), making it the most popular choice. However, this leaves 54% ranking other sectors first, demonstrating a majority interest in non-academic careers. Industry is the second most popular choice, selected by 31%. Compared with 2019, when individuals rated their likelihood rather than ranking different sectors, 67% rated a career in academic research as very likely (42%) or likely (25%), suggesting a potential decrease in the prioritisation of an academic career from 2019 to 2025. Given the different formats in which these questions were asked across both surveys, comparisons here must be drawn with caution. In 2019, 64% of respondents were likely (41%) or very likely (23%) to consider a career in industry research, showing that it remains the second choice for PhD students. However, there is an overall decline in the prioritisation of an academic career from students, as in 2017, and, as discussed is the introduction, nearly 80% of students rated a career in research in academia as very likely or likely.

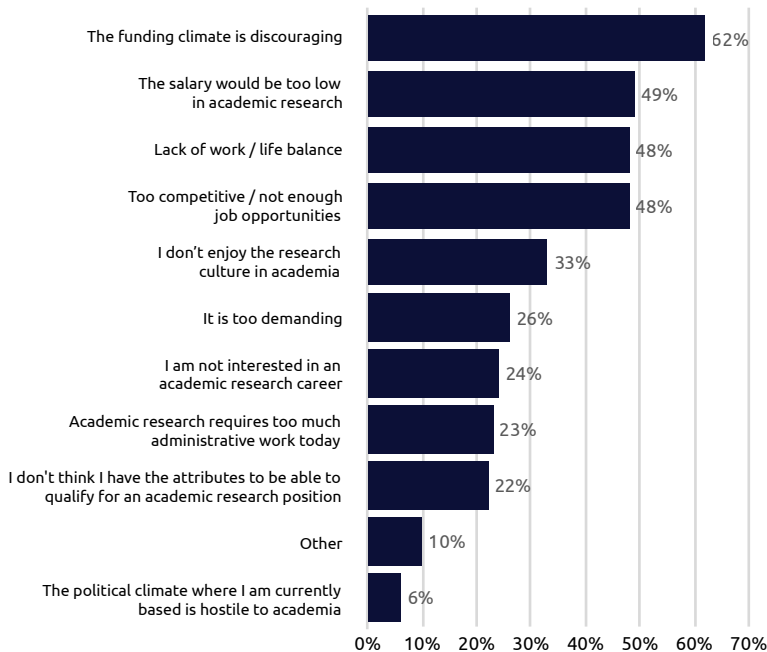
Figure 9: 'Which of the following sectors would you most like to work in ultimately?'



Respondents ranked the options from 1-5, with 1 being the sector you would most like to work in ultimately and 5 being the sector you would least like to work in ultimately. The chart shows the sector ranked number one by each of the 201 respondents.

The 108 individuals who did not rank academia first were asked a follow-up question regarding their reasons for finding academia less appealing than other sectors. Of these, 62% report feeling the funding climate is discouraging (Figure 10). In contrast, only 24% indicate they are not interested in an academic career. This suggests most individuals ranking non-academic careers first are doing so not out of preference but because of perceived difficulties within academia itself. This is reinforced by 49% and 48% being concerned about the salary and the work-life balance in academia respectively.

Figure 10: ‘You told us that working in academia is less appealing to you than working in other sectors. Why is this?’

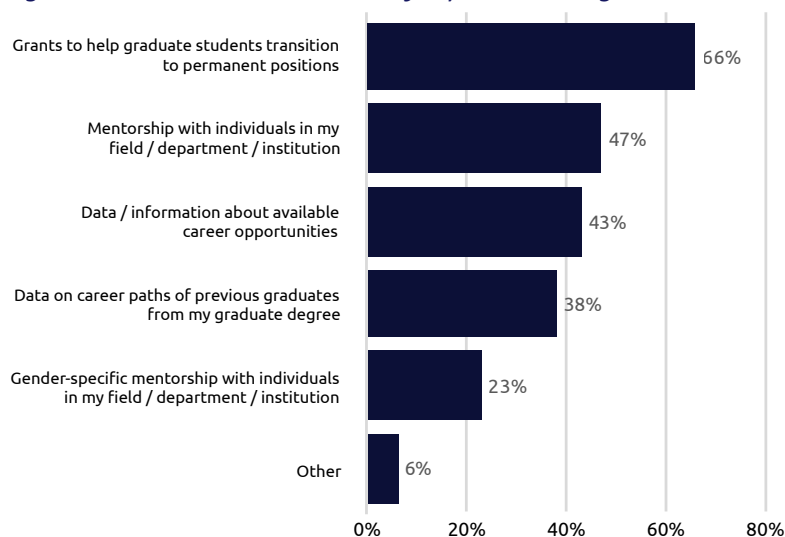


Only the 108 respondents who did not rank academia as number one were asked this question.

When asked about what careers resources might be missing or limited (Figure 11), 66% of students selected grants to help them transition to

permanent positions. Although this is a popular choice for students, a desire for grants to help graduate students transition to permanent positions is unlikely to be unique to PhD students and funding is particularly difficult to access in the current financial climate of both higher education institutions and funding bodies. However, 43% also report they want more information about available career opportunities and 38% want more information on the career paths of alumni from the same programmes.

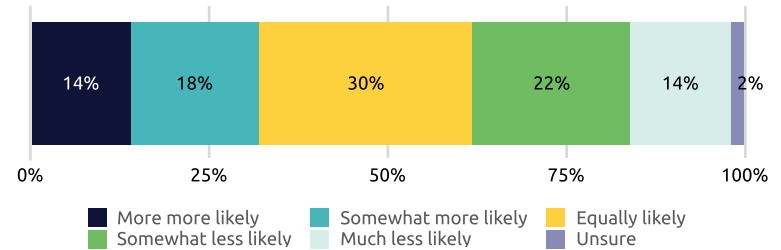
Figure 11: 'What careers resources do you feel are missing or limited?'



Respondents are asked how likely they are, compared to when they started their PhD, to pursue an academic career. Figure 12 shows that 30% are equally likely, while those who are more or less likely are similarly split (36% are somewhat or much less likely and 32% are somewhat or much more likely). This contrasts with the 2017 survey finding that almost 80% of students felt their interest in pursuing an academic career had increased or remained unchanged since starting their PhD, but the results are similar to 2019. In 2019, it was reported that 34% were equally likely to pursue a research career, while 33%

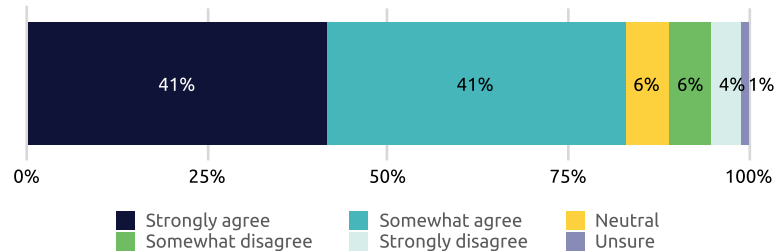
were more likely and 32% less likely. However, it is important to note that it is unknown which of these respondents may have begun their PhD with motivations other than pursuing an academic career.

Figure 12: ‘How likely are you compared to when you started to pursue an academic career?’



Students are also asked whether their graduate programme is preparing them well for a research career (Figure 13), with 82% strongly or somewhat agreeing, similar to the 81% who did so in 2019.

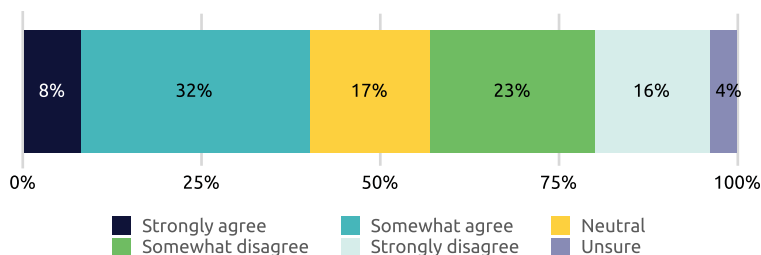
Figure 13: ‘I feel that my graduate degree programme is preparing me well for a research career’



In contrast, when asked if their graduate programme is preparing them well for a non-research science-related career (Figure 14), under half (40%) strongly or somewhat agree with the statement. This shows that, despite 54% of respondents prioritising a non-academic career, only 40% feel their PhD programme is equipping them to work outside research, indicating a potential mismatch between student career expectations and PhD careers provision.

Nevertheless, this is an increase on 2019, where 33% reported that their programme was preparing them for a non-research career. This may suggest today's students are better equipped for a non-academic career than their predecessors. However, it may also reflect a change in the wording of the question, as in 2019 students were asked about their preparation for a non-research career, while in 2025 they were asked about their preparation for a non-research science-related career. As many of the survey respondents are likely to be studying science-related fields, this change in question may alter the response given.

Figure 14: 'I feel that my graduate degree programme is preparing me well for a non-research science-related career'



Compared to the 2019 *Nature* survey, an increasing number of PhD students are considering non-academic careers and may be feeling better prepared for this. In contrast, other findings (such as the likelihood of pursuing an academic career compared to when they started and preparation for an academic career) appear to have remained consistent across six years, potentially indicating little change in PhD careers provision.

Takeaways from the *Nature* survey

The *Nature* survey shows that, while an academic career remains a clear priority for many PhD students, the majority of students are considering careers outside of academia (54%), particularly in industry. Despite this growing interest in non-academic careers, only 40% of students feel their PhD programme is equipping them for a non-academic science-related career. This survey also shows similarities to the results obtained

in the 2019 survey, indicating that little movement has been made in this area to expand the career experiences of PhD students. In particular, the lack of departmental colleagues who were knowledgeable about careers outside academia was reported in 2019, and in 2025 students report that their supervisors continue to lack advice in this area.

The quality of career guidance itself was also a potential area of concern in the 2025 *Nature* survey, with 33% indicating dissatisfaction with career guidance provided by their supervisor. Despite this, in the 2020 HEPI report, *PhD students and their careers*, it was shown that only 13% of students were likely to discuss their career options with an institutional careers consultant.¹²

What is the role of the PhD supervisor in career development?

Supervisors are a particular area of interest for those exploring professional development for PhD students, as the support of a PhD supervisor can be a key component to pursuing opportunities, including outside academia. Some opportunities, such as internships and training courses, may require signed permission from supervisors and, as such, if the supervisor does not encourage exploration of these opportunities, this can prevent students from taking part. In this way, the supervisor can act as a gatekeeper to students' accessing development opportunities.¹³ This is particularly concerning, given that only 42% of respondents to the 2025 *Nature* survey feel their supervisor had time for frank conversations about their career and only 52% feel their supervisor encouraged them to attend careers training and events.

This could show differing priorities for students and supervisors during a PhD. For the supervisor, the primary goal of the PhD student may be to ensure they undertake their research project in a timely manner. For the student, the PhD is an opportunity not only to undertake their research project, but also to consider their academic and professional development and pursuit of a career after completion.

My supervisor told me that there's training for your PhD and training for your future career and I don't care about the second one. **Former PhD student**

Additionally, most supervisors draw on their own personal experiences and networks to provide careers advice, particularly for those who are interested in an academic career.¹⁴ Supervisors whose personal career journey has been in academia may have limited advice for students interested in non-academic careers and only 28% of *Nature* respondents feel their supervisor has useful advice for careers outside academia. This may result in a mismatch in expectations between students and supervisors.¹⁵ However, it is important students do not become dependent on their supervisor as their only source of support, and that supervisors recognise when to signpost students to appropriate services.¹⁶

PhD researchers need to be exposed to sources of information outside of their supervisor. **Institutional careers professional**

Although the Research SuperVision Project is aimed at enhancing doctoral supervision practices through supervisor training, careers training is not currently the focus of this initiative.¹⁷ However, support and training for PhD supervisors may be an integral way to overcome this potential knowledge gap and ensure supervisors are able to guide appropriately and signpost to other services when necessary. It may also ensure that supervisors encourage student career development and do not become a barrier to students pursuing opportunities.

This discourse highlights the important role supervisors can play in the career journeys of PhD students. The *Nature* survey places supervisors as an integral component of students' career experiences, framing questions in relation to supervisory support. However, it is important to consider if careers support should be a component of the supervisory role, which has traditionally focused on academic guidance and timely completion. Expectations on the role of supervisors have expanded to

include pastoral and careers support, raising questions about fairness as many supervisors lack experience beyond academia.¹⁸ Rather than acting as careers advisers, supervisors may be better supported through training that helps them signpost students to appropriate career resources and services. Consequently, supervisors may be best placed to signpost PhD students to support elsewhere, rather than act directly as careers advisers.

The *Nature* survey previously asked students about whether they had discussed their career plans with an institutional careers adviser, but this question ('What have you done to advance your career?') was not included in the 2025 survey, despite institutional careers advisers being, arguably, better placed to provide advice about non-academic careers than supervisors.

What non-academic roles do students pursue?

In 2016, Vitae, a non-profit organisation dedicated to supporting the professional and career development of researchers, surveyed 856 former research staff, which included in-depth interviews of 40 respondents.¹⁹ This survey focused on people no longer working in higher education research, moving onto careers in professional higher education roles, research outside of higher education, policy and administration, public engagement and science communication, writing and publishing, teaching and other sectors. It found the long-term aspirations of respondents had changed since being employed in higher education research; 78% of all respondents had wanted to pursue an academic career at the time they were working in higher education research, but only 18% of all respondents were still pursuing such ambitions after they left academia. More than four-in-five of all respondents were satisfied in their current role. Almost one-third of all respondents were working in research or as research managers outside of academia, while one-quarter were continuing to work in higher education but outside of research roles. This demonstrates that although individuals may desire an academic career, those who leave are able to pursue other fulfilling roles, often using the same skills.

However, this report did not capture all doctorate holders; instead, it captured only those who had undertaken a postdoctoral research role and subsequently left academia.

A 2022 Vitae report analysing *Graduate Outcomes Survey* data from 2018/19 found that 49% of 9,265 employed UK-based doctorate holders were employed in higher education, but there were significant differences by discipline.²⁰ Doctorate holders in the humanities, arts and social sciences had higher rates of employment in higher education roles (with social sciences reaching 72%), while STEM doctorate holders had lower rates. Furthermore, 62% indicated their doctorate was a requirement for their role, with an additional 24% indicating their doctorate was an advantage in getting a job.

In 2026, the Vitae report analysing *Graduate Outcomes Survey* data from 2022/23 found that 41% of 6,020 UK-based doctorate holders were employed in higher education, lower than in the 2022 analysis.²¹ This supports the idea that a growing number of doctorate holders are pursuing non-academic careers. This is believed to be due to a decrease in the proportion of physical and biological sciences students working in higher education research. In the 2026 report, 14% of doctorate holders report they are working in research roles outside of higher education, compared to 10.2% in 2022.

Variation by discipline is also observed in a 2023 paper focused on PhD graduates in non-academic careers. The paper found that science graduates from Russell Group universities were significantly more likely to secure non-academic research roles and reported higher levels of career satisfaction than those from non-Russell Group institutions or other disciplines.²² In contrast, PhD graduates in the humanities and social sciences were less likely to be in non-academic research roles and reported lower levels of career satisfaction than those from other disciplines. The paper's author speculated this could be due to difficulties translating the skills acquired during the PhD to different professional contexts.

3. Current career resources for students

What resources are available to support PhD students?

This section will highlight some of the resources, both institutional and external, that already exist to support PhD students in their career development. Examples of these resources include podcasts, such as the 'Careers in Your Ears' podcast from King's College London and the independent 'Papa PhD' podcast.²³ There are also blogs, including 'PostGradual' and the University of Sheffield's 'Think Ahead'.²⁴

The Prosper platform was funded by UKRI and aims to enhance career mobility for post-doctoral researchers.²⁵ It contains information about career opportunities across different non-academic sectors and is free to use. Over 100 employers have contributed to the platform, which now has over 1,200 registered users.²⁶ Although Prosper is aimed at post-doctoral researchers, many of its resources may also be of use to PhD students. Additionally, UKRI has launched the '101 jobs that change the world' campaign, which showcases profiles demonstrating a diverse range of careers in research and innovation.²⁷ Such platforms can broaden the awareness of PhD students to a wide range of potential careers. However, it is important all institutions make students aware of these platforms so they can be fully utilised.

There are also several entrepreneurial programmes, particularly aimed at STEM students, including YES and Spin Up Science.²⁸ These can be an opportunity to explore careers in enterprise, intellectual property and finance, but such programmes often have fees, restricting access to those who can afford them.

Another example comes from the University of Bath, which runs Integrative Think Tank (ITT) workshops to bring PhD students together with industry partners and academics and to generate mathematical questions out of real-world challenges.²⁹ Attendance at a minimum of two workshops in the first year is compulsory and students are required to attend at least four in total over the course of their PhD. Through these

workshops, students interested in industry careers have an opportunity to network and are exposed to alternative workplace cultures.

Doctoral Training Programmes (DTPs), which are considered in more detail elsewhere in this report, are structured, fully-funded PhD programmes and often embed additional training and opportunities.³⁰ This can include career-facing opportunities such as internships, career coaching and specialised training. They are delivered in cohorts, providing peer support from other PhD students and often provide additional funding for professional development opportunities. As such, students who are part of a DTP may have additional career resources and opportunities compared to other PhD students.

How do PhD students prepare for their careers?

Networking and collaboration

Networking may be particularly important to the career development of PhD students. During interviews, one PhD student reported that 'Networking is the most important thing'. Networking can occur through attending conferences, events and capitalising on opportunities.

Some opportunities are free or short-term commitments which allow students to explore other sectors, such as Three Minute Thesis or Pint of Science, allowing PhD students to explore public engagement and science communication.³¹ The development of training resources about networking highlights its importance in helping people improve their skills in this area.³² For PhD students in particular, networking can be an opportunity to form new collaborations, as well as to identify potential career development and employment opportunities.

The Thomas Young Centre (TYC) is an interdisciplinary alliance of London researchers looking to address societal and industry challenges relating to materials and molecules.³³ The TYC encourages both networking and collaboration, bringing researchers from four London universities together for events, research and industry partnerships. Some events are PhD-specific, including a Postgraduate Student Day.

Some institutions have mentoring and alumni schemes that bring alumni back to speak to current students about their career journeys.³⁴ These schemes are often not formalised, instead the result of student networking or connections through institutional careers advisers. Showcasing the careers of alumni can demonstrate to current students the wide range of sectors and roles available, in addition to identifying potential mentors of interest.

Collaboration can be useful to both students and institutions, allowing students to access a wider range of careers information while sharing resources across institutions. Some institutions are already part of collaborative careers efforts. One example of this is the White Rose Consortium (comprising the universities of Leeds, Sheffield and York) holding the White Rose PhD Careers and Networking Fair.³⁵ The University of Manchester, University of Salford and Manchester Metropolitan University established the Greater Manchester Researcher Development Partnership (GMResDev) for cross-institutional careers development at all levels, including 'Career Conversations'; an online panel series showcasing speakers who are former PhD students and academics and now work in a variety of roles and sectors beyond academic research.³⁶

Developing transferable skills

The development of transferable skills and their application across different sectors is another area of interest for PhD students. Many institutions have careers resources designed to support students with this.³⁷ Additionally, transferable skills were highlighted in a 2016 Vitae report of former researchers who identified key skills from their time in research and how these could be applied to their careers.³⁸ The report identified communication, critical thinking, problem solving, teamwork, independent working and project management as skills used by at least 40% of survey respondents, including those working outside academia. However, the Vitae report may have limited generalisability as the largest respondent group were female bio-scientists, and therefore PhD students belonging to other groups may be less able to use this information.

How do funding and institutional structures create inequities?

In addition to showcasing the career resources and opportunities that exist, it is important to highlight the inequities that often operate within these opportunities. Careers training and events may take place in-person at a specific location. This can exclude participation by students who are part-time, those with disabilities, those without the financial means to travel or those whose PhD involves time-restricting activities such as laboratory work or fieldwork. For example, a 2009 survey found that 21% of part-time PhD students had never attended a university training event.³⁹ Consequently, making training more accessible, including by recording events and offering them as hybrid opportunities, ensures that students unable to attend in-person are also able to access relevant materials.

There are also differences between PhD programmes because, as previously mentioned, Doctoral Training Programme (DTP) students may have careers elements embedded within the programmes. An example of this is the Biotechnology and Biological Sciences Research Council-funded PhD programmes, which include a mandatory three-month student placement known as Professional Internships for PhD Students (PIPS).⁴⁰ These PIPS can take place outside an academic setting, allowing students to explore non-academic careers, develop their transferrable skills and build their professional networks. A similar programme exists for students on the CHASE Doctoral Training Programme, which is funded by the Arts and Humanities Research Council.⁴¹

As a non-DTP student, I would have loved the opportunity to do an internship. Former PhD student

Students who are not on a Doctoral Training Programme may be unable to access funding to allow them to undertake similar placements. Funding can also affect the ability of students to attend conferences due to the costs of travel and accommodation, reducing their ability to network. This begs the question, what impact does being a Doctoral Training Programme PhD student have on their careers experience?

At present, there are insufficient data to answer the question of how students' career experiences are affected by their Doctoral Training Programme status. As a result, this is currently being addressed by ongoing evaluations of Doctoral Training Programmes and UK investment in doctoral training.

Interviews undertaken for this report suggest that, for students who focus on prioritising completion of their PhD at the expense of their professional development training, and those who were mandated to complete professional development training as part of Doctoral Training Programme requirements, found it beneficial. However, students who were not on Doctoral Training Programmes and prioritised their PhD completion wished they had been more engaged with professional development training. Additionally, students who were not on a Doctoral Training Programme reflected on the lack of funding for some professional development opportunities, including internships, which may have been beneficial in their career development.

4. Additional resources benefitting PhD careers provision

It is important to ensure that PhD students receive appropriate career training not only for their individual benefit, but also for the benefit of the UK economy and labour market. PhD students may pursue a range of careers in a range of sectors and so ensuring their PhD training equips them to assimilate quickly into the labour market will maximise innovation. As such, identifying gaps where PhD career provision can be strengthened will bring a range of benefits to society.

Which career resources are most lacking in PhD programmes?

When asked about missing or limited careers resources for students, 43% of the *Nature* respondents highlight that they want more information on available career opportunities. Additionally, 38% indicate they want more data on the career paths of previous graduates from their PhD programme. These survey responses show the information gap that exists for some students.

To provide more information on career opportunities, there needs to be realistic information about available careers, both prior to starting a PhD and during the early stages of a PhD.⁴² This includes providing clear information about the number of PhD graduates who go on to academic careers, as well as other potential careers that may be appropriate for the skill set developed through a PhD. Disseminating this information can help students establish realistic expectations, but also capitalise on opportunities to explore a diverse range of options and further develop skills. This need was also highlighted in the interviews, with a former PhD student reporting: ‘There really wasn’t a lot of exposure to non-academic or industry focused roles’.

Previous research has also suggested careers information should be introduced at an earlier stage of a PhD, in line with the 2024 UKRI *Statement of Expectations for Doctoral Training*, which indicates research

organisations will ‘provide advice on the breadth of careers in the first year of doctoral training to enable students to make informed choices on their development’.⁴³

Careers should be introduced early because I wouldn't have engaged with careers activities in my final year of my PhD as I was too focused on finishing. **Former PhD student**

Many institutions have careers services; however, there is a need to highlight dedicated provision for PhD students, as in some cases students are unsure of where to access support and resources and may instead rely on their supervisor. Additionally, where dedicated provision is unclear, students may feel unable to access services as they may feel that the careers provision is aimed predominantly at undergraduates. This is supported by data from Vitae, which found in 2012 that fewer than one-third of final-year UK PhD students had used their institutional careers services, a substantially smaller proportion than undergraduate students, while two-thirds felt they would have benefited from using their institutional careers service at some point during their PhD.⁴⁴ However, it is important to note that in some institutions only a small number of PhD students may be registered and, as such, this provision may be better suited as shared services with other higher education institutions. Furthermore, it is important to ensure that careers services can provide a range of information, not skewing towards a single discipline or being so generic that the information is of limited practical use.

I approached the university careers service but a lot of people there didn't know what a PhD is and how it works – the service seemed aimed at undergraduates. **Former PhD student**

Why is tracking the careers of doctorate holders important?

One way in which data about the careers of alumni can be obtained is through tracking doctorate holders. The importance of tracking doctorate holders has long been of interest to observers of the labour

market. Vitae have been strong advocates for tracking doctorate holders to capture their contributions to the UK research and development pipeline and to broader society.⁴⁵ Organisations such as the National Centre for Universities and Businesses (NCUB) are also interested in this area to observe intersectoral mobility and how researchers moving into other fields can lead to innovation in other sectors.⁴⁶

Some of this information is captured in the Longitudinal Employment Outcomes (LEO) data, a recently established database pairing educational information with employment outcomes for labour market purposes.⁴⁷ However, this includes data from a wide range of learners and therefore does not demonstrate the specific destinations of doctorate holders. Additionally, access to this data is restricted and as such individuals are unable to benefit from the insight that such data may provide on doctorate holders.

In addition to the use of tracking doctorate holders for economic output, this same information may be highly valuable to current PhD students exploring their future careers. The importance of following the careers of doctorate holders as a careers resource has been considered at both national and international levels.⁴⁸ Tracking the career trajectories of PhD students may also contribute to identifying differential outcomes for different groups of PhD students, for example those on Doctoral Training Programmes (DTPs), to observe whether there is a material difference in outcomes. This can be used to tackle inequity in careers provision and support students who need it most.

Universities may track alumni, but usually through central alumni services. Informal tracking may also occur through institutional careers advisers which build networks of engaged students to recruit alumni for events and mentoring, but these are often on an individual basis and develop over time. As a result, newer institutional careers advisers may lack such connections, and established networks can be lost when staff leave, demonstrating the key role that institutional careers advisers can play in providing careers advice to PhD students. This again highlights the need for more formalised tracking of doctorate holders at both the institutional and national level.

A lot of PhD alumni networks and knowledge sits inside a single person's head – so it can be a problem if that person leaves.

Institutional careers professional

Awareness of the importance of tracking doctorate holders has been growing in recent years, with the setting up of Vitae's Researcher Career Tracking group.⁴⁹ This group invites current and former PhD students, alongside funders and higher education institutions, to discuss potential tracking mechanisms. One of the key goals of this project is to quantify the contribution of PhD graduates to the UK economy, particularly in research and development.

This interest culminated in the publication of a *Researcher Career Tracking* report in 2024, which examined current surveys and tracking of postgraduate students as well as their limitations.⁵⁰ Additionally, it considered approaches used by other countries to track the career trajectories of PhD students and proposed improvements which would increase the UK's capacity to track PhD students following graduation.

The Research Career Tracking report ultimately recommends an aggregation and facilitation model to collate data on PhD careers, collecting data from multiple sources including surveys, publicly available information and administrative data, and storing it in a central organisation. However, for this method to be successful, a central organisation must first be established or an existing organisation identified. HESA or UKRI could be chosen, for example.

CRAC-Vitae has also undertaken work tracking the alumni of specific early-career researcher fellowship schemes. A 2024 survey of British Academy-funded early-career researchers, which focuses on the humanities and social sciences, found that 93.6% of survey respondents who had previously undertaken the Postdoctoral Fellowship were currently working in the higher education or academic sectors.⁵¹ However, the results are incomplete, as those who did not respond are more likely to be in non-academic careers, with additional evidence suggesting a significant proportion work outside academia. Similar

patterns appear in other Fellowship studies, highlighting the difficulty of tracking researchers who leave academia. As a result, these studies often under-represent non-academic career paths and fail to provide a complete picture of career outcomes for doctorate holders.

The European Parliament has also been interested in tracking graduates, launching the European Graduate Tracking network in May 2022, with the goal of standardising the information retained on graduates across EU member countries, to allow for changes in graduate training and policy, in addition to improving integration into the labour market.⁵² However, this is aimed at all graduates of higher education and is not restricted to PhD graduates.

The European Commission is also co-funding the Research and Innovation Careers Observatory (ReICO), for data on research careers.⁵³ The ReICO aims to provide evidence on careers in research and innovation to bridge the evidence and policy gap outlined above. This will allow ReICO to track and analyse trends in EU and Organisation for Economic Co-operation and Development (OECD) countries. Aspects monitored will include skills and training, jobs and careers and geographical mobility.

Some countries already have tracking schemes focused on doctorate holders. The US has the Survey of Doctorate Recipients (SDR), which is conducted every two years, tracking the career paths of scientists, engineers and health research doctorate holders from US institutions, allowing decisions to be made regarding policy, education, research, training and salaries.⁵⁴ Although this allows for long-term tracking, it is important to highlight that it focuses only on a specific sector, not all PhD graduates. However, the data are publicly available and so may be of use for both labour market and careers purposes.

In other cases, universities themselves track their PhD graduates. The Faculty of Psychology and Educational Sciences at KU Leuven in Belgium was able to track the current careers of 96% of their PhD graduates between 2002 and 2021.⁵⁵ This found that 25% were professors, 14% were post-doctoral researchers, 9% were researchers or lecturers and

6% worked in policy or management in higher education. Only 5% were researchers outside academia, with 5% working as data scientists and 11% in psychotherapy, speech therapy and special needs education. The remaining 4% were in unknown professions and 22% were classified as being in other professions. This demonstrates that around half their doctorate holders are working outside academia, an insight which can be used to shape training during their PhD programmes.

In the UK, tracking may be best suited to HESA, which already runs the *Graduate Outcomes Survey*. As such, this would entail longer term follow up of PhD students to capture their information beyond the 15-month timeframe of the *Graduate Outcomes Survey*, allowing for a more detailed picture of the role that doctorate holders play over time and the sectors in which they are operating.

What institutional and cultural changes will support career development?

Increasing institutional collaboration

Some career resources are produced by higher education institutions and thus are not openly accessible. This could lead to unnecessary duplication as institutions invest in replicating materials already produced elsewhere. One example of this is the 'Careers beyond academia' course at the University of Birmingham, which may provide useful information and resources for students at other universities, but is located on its intranet and so is not publicly accessible.⁵⁶ However, the competitive nature of the higher education sector may not incentivise institutions to make their resources open access. Despite this, there may be interest from careers professionals to increase institutional collaboration, as one careers professional reported during the interviews that, 'Higher education institutions don't collaborate as much as we could do, we seem to work in silos'.

Changes to culture and perception

Work also needs to be undertaken to change the culture and mentality underpinning PhD careers. For some students, the focus is their research

project. Although this is a key component of the PhD experience, this should not be the only focus. Undertaking a PhD may also be an appropriate time for students to explore a range of opportunities, including public engagement and contributing to research culture. By focusing solely on their PhD project, some students may not take advantage of these opportunities, which they may regret later in their careers, particularly if they later become interested in pursuing a non-academic career. Although their focus may benefit their PhD, it can come at the expense of their professional and career development.

The PhD is a good time to try and give everything a go.

Former PhD student

Students also need exposure to alternative workplace cultures during their PhD, as this has been found to be one of the greatest challenges to former researchers transitioning to other occupations.⁵⁷ A 2014 report surveyed employers of PhD graduates and found that, for non-academic roles, employers had concerns around doctorate holders' ability to work in a commercial environment and their teamwork skills. As a result, some employers highlighted the need for PhD students to obtain relevant work experience to demonstrate their aptitude.⁵⁸ This need was also identified during interviews, with an institutional careers professional indicating that 'PhD researchers need an awareness of other workplace cultures'.

One way to expose students to other workplaces is through non-academic internships such as the Professional Internships for PhD Students (PIPS), which allows students to experience an alternative workplace culture.⁵⁹ This has been shown to enhance confidence in a range of transferable skills, including business awareness, communication and collaboration skills.⁶⁰ Students themselves have also demonstrated an interest in internships, placements and non-academic excursions, with one-in-20 respondents reporting this was a significant goal during their PhD.⁶¹ Additionally, during an evaluation of the PIPS internship, 80% of 734 students who had undertaken a PIPS

internship reported that it had helped them develop a skill valuable to the completion of their PhD.⁶² Programmes that embed internships allow PhD students to undertake them during the PhD timeframe and some provide funding for transport, accommodation and additional costs incurred. However, these opportunities are not embedded in all PhD programmes. Institutions could provide funding to enable students without an embedded internship the financial capability to explore alternative options and develop their CV.

There also needs to be a shift in the acceptance of non-academic careers by the wider community. Due to the traditional pipeline of PhD to academia, pursuing a non-academic career may be perceived as a failure. This was particularly highlighted in Vitae's 2016 report of researchers who had left academia, which found that former researchers struggled with the loss of an academic identity and the idea that they had 'failed'.⁶³ This highlights the implied expectation that PhD students and researchers will continue to pursue academia and that exploring alternative options may be seen as failure to adhere to this. Others also reported that the hardest aspect of the transition was making the decision, again demonstrating the fixation of academia as the primary expected career outcome.

Not going into academia isn't failing.

Former PhD student

Consequently, the unfavourable framing of non-academic careers must be addressed, given the high numbers likely to pursue routes outside academia, either out of interest or necessity. This can be done by highlighting the importance of transferable skills, providing or advertising both academic and non-academic opportunities and ensuring that supervisors and institutions are not barriers to students exploring non-academic careers. Implementing tracking of doctorate holders may also positively influence perceptions by demonstrating the contributions doctorate holders make to other sectors and showcasing the diversity of available trajectories. Additionally, some industries

specifically look to hire PhD graduates, with successful outcomes for both the student and employer, and so tracking doctorate holders may highlight career opportunities in industry.

Recommendations

- › **Opportunities to experience non-academic environments, including internships, should be advertised and funding should be provided by institutions where possible.**

Exposing students to non-academic environments is critical, given the significant proportion of doctorate holders working outside academia. This can be done in a variety of ways, from engaging with institutional partners, attending events and undertaking internships. Opportunities to take up these experiences should be advertised across the institution. Internships have particularly been identified as useful to students to develop their understanding of a work environment, expand their networks and build their skills. As a result, opportunities to intern in a non-academic environment can be particularly important to students who have decided not to pursue an academic career or are unsure of what they would like to do in future. Programmes such as the Professional Internships for PhD Students (PIPS), from the Biotechnology and Biological Sciences Research Council, act as a proof of concept for both embedding a three-month internship into the existing PhD model and the benefit of such internships to the completion of the PhD itself. However, it is important to note that internships and other opportunities should be attached to institutional funding for additional expenses such as travel or accommodation, where possible, to reduce disparities in student access. These internships can also strengthen bonds between internship hosts, benefiting both parties, for example between industry and the student's institution.

- › **Institutions should record careers events and training, and this should be made available to students virtually.**

PhD students may have limited time to attend in-person events, particularly if they are not based at the location of the training. Students who work in fields which may involve practical elements, those undergoing internships and part-time students can be particularly affected by this. Students may also be deterred from attending by

additional costs that may arise, for example from travel. Ensuring that careers events and training are recorded and made available virtually allows students who are unable to attend in person the opportunity to benefit.

】 **Collaboration between institutions should be used in developing careers resources and events.**

Careers resources and events are often only accessible to the students at a specific institution, resulting in a loss of time and efficiency in duplicating provision across the sector. Collaboration can increase the reach of events, allowing access from a wider pool of students across multiple institutions. Incentives provided by funders and other bodies may help to overcome some of the barriers created by competition between institutions.

】 **Institutions should have dedicated postgraduate careers support and should highlight its importance. In smaller institutions, this could involve shared services. There should also be greater collaboration between PhD supervisors and postgraduate careers support.**

Postgraduate careers support is often highly tailored and specialised, providing insight into how to apply for research funding, networking and identifying potential career paths, usually involving one-to-one career coaching. Although many institutions already have dedicated postgraduate careers support, a 2020 survey estimated there was only one dedicated postgraduate careers adviser for every 3,000 PhD students.⁶⁴ This suggests institutions should continue to invest in postgraduate careers services. Students also need to be aware of where to access postgraduate careers support, as they may feel the provision as advertised to undergraduates is of limited use to them.

There also needs to be greater collaboration between supervisors – as the primary contact of the student – and institutional careers advisers, who may be better suited to provide careers advice, particularly outside academia. An example demonstrating the importance of such

collaboration is the Organisational Development in Higher Education (ODHE) network, which developed a toolkit to support supervisors in their mentoring, allowing them to better support PhD student careers.⁶⁵

- » **Higher education institutions should provide training to PhD supervisors to ensure they can effectively support students in exploring careers and signpost them to appropriate services and resources.**

Many PhD students rely on their supervisor as their primary source of support during their PhD. However, the supervisor's role is to support the student's academic progress and the completion of their PhD. Although this position has expanded to include other forms of support, such as pastoral and careers support, it is important to remember that it is not their primary role. As such, training should be provided to PhD supervisors to ensure they are able to provide sufficient information and signpost other career resources and opportunities at the institution. Supervisors should not be a barrier to students' exploring a wide range of careers and should encourage students to take up opportunities. Providing training for supervisors may also ensure staff have a greater understanding of the nature and benefit of these services for their PhD students.

- » **Clear separation between academic development and professional development should be provided.**

There needs to be a clear separation between training designed to support the development of skills required for the PhD and those that are designed for broader professional development. An example of a skill required for the PhD may include specialised methodological training, while broader professional development may encompass networking skills or public speaking. Skills which may have crossover should be demonstrated in both an academic and non-academic context during PhD training, to provide students with examples of how to apply them during careers applications. While supervisors can be a valuable resource, students should not rely solely on their supervisor for both academic and professional development, and should also access

additional resources and support, including from other people at their institutions and resources more widely.

- › **National tracking of doctoral graduates needs to be conducted by the Higher Education Statistics Agency to provide careers insights, in addition to providing valuable information for the labour market, training reform and policy recommendations.**

Current alumni networks often rely on the personal knowledge built up by an institutional postgraduate careers adviser, which can be lost if the adviser leaves the institution. Instead, a more formalised process for tracking alumni should be undertaken, allowing current students to use data to gain insight into the career journeys of doctorate holders. Tracking should take place at the national level, as this will also provide important insights into the role of doctorate holders in the labour market. This tracking should be conducted by HESA, who already run the *Graduate Outcomes Survey* and as such are already tracking doctorate holders following completion of their PhD.

- › **PhD students should be encouraged and supported by their institutions and supervisors to access a range of academic and non-academic professional development opportunities to change student perceptions around their potential career options.**

A primary expectation has long been that PhD students will pursue careers in academia, despite this not being the reality. However, for a number of students, there remains a sense that pursuing a non-academic career is a failure. Students and supervisors may also be sceptical of the need to explore other opportunities, instead prioritising the completion of the PhD. However, changing this perception will allow more students to engage with opportunities to develop new skills or learn more about a different sector.

Conclusion

There continues to be a yawning gap between the number of PhD students and post-doctoral researcher positions. This encourages students to pursue careers across a wider range of sectors than previously envisaged by the traditional PhD model. Due to this shift in career trajectories, resources for PhD students have now been established, including institutional support, podcasts and internships. This is important because the number of doctorate holders who leave academia is growing, with many utilising their skills in other sectors. However, there remain barriers to accessing these resources, including supervisory gatekeeping, financial constraints and difficulty applying skills development to new contexts.

However, additional work is required to develop resources to support the careers of PhD students. One example is tracking careers, as this would provide a rich data source for PhD current students about the career paths of doctorate holders, as well as providing important economic insights. Further collaboration between and within institutions should also be implemented, as this may reduce the cost and burden of providing the right support, in addition to increasing the number of students reached.

Despite current resources and potential areas for improvement, an important question continues to persist – students continue to prioritise an academic career at the start of a PhD and the expectations of all these students cannot be met. What responsibility do institutions and funders have to consider the future of students during their PhD?

The number of PhD students in the UK has continued to grow, despite a similar lack of growth in academic roles, resulting in an increased number of PhD students pursuing diverse careers. Although some changes have been made, more work is needed on careers provision to support PhD students on their career journey, wherever this may take them.

Endnotes

- 1 Huw Morris, 'Have we reached PhD saturation point?', LSE Higher Education, July 2025 <https://blogs.lse.ac.uk/highereducation/2025/07/31/have-we-reached-phd-saturation-point/>
- 2 HESA, 'Higher Education Staff Statistics: UK, 2024/25', February 2026 <https://www.hesa.ac.uk/news/19-02-2026/sb274-higher-education-staff-statistics>
- 3 HESA, 'Graduate Outcomes 2022/23: Summary Statistics - Summary', July 2025 <https://www.hesa.ac.uk/news/17-07-2025/sb272-higher-education-graduate-outcomes-statistics>
- 4 Nature Research, Nature Graduate Survey 2017, October 2017 https://figshare.com/articles/dataset/Nature_Graduate_Survey_2017/5480716
- 5 Chris Woolston, 'Graduate survey: A love-hurt relationship', Nature, Volume 550, Issue 7677, October 2017, pp.549–552 https://www.researchgate.net/publication/320630608_Graduate_survey_A_love-hurt_relationship
- 6 Nature Research, 'Nature's Graduate Survey 2025', September 2025 https://figshare.com/articles/dataset/Nature_s_Graduate_Survey_2025/30084739/1
- 7 Bethan Cornell, 'PhD students and their careers', HEPI Policy Note 25, July 2020 <https://www.hepi.ac.uk/reports/phd-students-and-their-careers/>
- 8 Dawn C Duke and Pam M Denicolo, 'What supervisors and universities can do to enhance doctoral student experience (and how they can help themselves)', FEMS Microbiology Letters, Volume 364, Issue 9, May 2017 <https://pmc.ncbi.nlm.nih.gov/articles/PMC5812516/>
- 9 RSVP Consortium, 'Next Generation Research SuperVision Project Homepage' <https://www.rsvp.ac.uk/>
- 10 UKRI, 'Statement of Expectations for Doctoral Training', January 2024 <https://www.ukri.org/wp-content/uploads/2024/01/UKRI-300124-StatementExpectationsDoctoralTrainingJanuary2024.pdf>
- 11 UKRI, 'Statement of Expectations for Doctoral Training', September 2016 <https://www.ukri.org/wp-content/uploads/2020/10/UKRI-211020-StatementOfExpectationsPostGradTraining-Sep2016v2.pdf>
- 12 Bethan Cornell, 'PhD students and their careers', HEPI Policy Note 25, July 2020 <https://www.hepi.ac.uk/reports/phd-students-and-their-careers/>
- 13 CRAC / Vitae, 'Embedding career learning into doctoral programmes', November 2024 <https://vitae.ac.uk/wp-content/uploads/2025/02/Embedding-Career-Learning-in-PGR-UKRI-report.pdf>

- 14 UK Council for Graduate Education, 'Good Supervisory Practice Framework – Supporting candidates' personal, professional and career development' <https://supervision.ukcge.ac.uk/good-supervisory-practice-framework/7-supporting-candidates-personal-professional-and-career-development>
- 15 Dawn C Duke and Pam M Denicolo, 'What supervisors and universities can do to enhance doctoral student experience (and how they can help themselves)', FEMS Microbiology Letters, Volume 364, Issue 9, May 2017 <https://pmc.ncbi.nlm.nih.gov/articles/PMC5812516/>
- 16 Marie Parker-Jenkins, 'Mind the gap: developing the roles, expectations and boundaries in the doctoral supervisor-supervisee relationship', Studies in Higher Education, Volume 43, Issue 1, 2018, pp.57–71
- 17 RSVP Consortium, 'Next Generation Research SuperVision Project Homepage' <https://www.rsvp.ac.uk/>
- 18 Dawn C Duke and Pam M Denicolo, 'What supervisors and universities can do to enhance doctoral student experience (and how they can help themselves)', FEMS Microbiology Letters, Volume 364, Issue 9, May 2017 <https://pmc.ncbi.nlm.nih.gov/articles/PMC5812516/>
- 19 Vitae, 'What do research staff do next?' 2016 <https://vitae.ac.uk/wp-content/uploads/2025/03/Vitae-What-do-research-staff-do-next-2016-1.pdf>
- 20 Vitae, 'What do researchers do', September 2022 <https://vitae.ac.uk/wp-content/uploads/2024/12/What-do-researchers-do-doctoral-graduate-employment-activities-earnings-2022-1.pdf>
- 21 Vitae, 'What do researchers do', March 2026 https://vitae.ac.uk/wp-content/uploads/2026/03/Vitae_WDRD2026_Report-2.pdf
- 22 Sally Hancock, 'Knowledge or science-based economy? The employment of UK PhD graduates in research roles beyond academia', Studies in Higher Education, Volume 48, Issue 10, August 2023, pp.1523–1537 <https://doi.org/10.1080/03075079.2023.2249023>
- 23 King's Careers & Employability, 'Careers in Your Ears' <https://open.spotify.com/show/ObucpJvP3n73pYLSNh8P9Z?si=91071f8fcfa9457a&nd=1&dlsi=72ba1bb1acdf4e19>; David Mendes, 'Beyond the Thesis' <https://papaphd.com/>
- 24 Holly Prescott, 'PostGradual: The PhD Careers Blog' <https://phd-careers.co.uk/>; University of Sheffield Researcher Development Team, 'Think Ahead Blog' <https://thinkahead-sheffield.wordpress.com/>
- 25 Prosper, 'Prosper Homepage' <https://prosper.liverpool.ac.uk/>
- 26 Fiona McBride, 'Prosper one year on: enhancing career mobility across the sector', March 2025 <https://www.ukri.org/blog/prosper-one-year-on-enhancing-career-mobility-across-the-sector/>

- 27 UKRI, '101 jobs that change the world' <https://www.ukri.org/news-and-events/101-jobs-that-change-the-world/>
- 28 Haydn Green Institute for Innovation and Entrepreneurship, 'Your Entrepreneurs Scheme Homepage' <https://www.yescompetitions.co.uk/>; Spin Up Science, 'Spin Up Science Academy' <https://www.spin-up.science/>
- 29 SAMBa, 'Integrative think tanks (ITTs)' <https://samba.ac.uk/working-with-samba/integrative-think-tanks-itts/>
- 30 Wellcome Trust, 'Four-year PhD Studentships in Science (closed)' <https://wellcome.org/research-funding/schemes/four-year-phd-studentships-science-closed>
- 31 Vitae, 'Vitae Three Minute Thesis Competition' <https://vitae.ac.uk/support-services/vitae-three-minute-thesis-3mt-competition/>; Pint of Science, 'Pint of Science Homepage' <https://pintofscience.co.uk/>
- 32 Kintish, 'Develop your face-to-face and online networking skills' <https://kintish.co.uk/>
- 33 The Thomas Young Centre, 'About TYC' <https://thomasyoungcentre.org/>
- 34 Catherine Reynolds, 'Beyond the PhD: Key alumni insights to power your next steps', LSE Blogs, February 2026 <https://blogs.lse.ac.uk/careers/2026/02/16/beyond-the-phd-key-alumni-insights-to-power-your-next-steps/>; University of Birmingham, 'Careers Network Mentoring Scheme' <https://intranet.birmingham.ac.uk/student/careers/mentoring/careers-network-mentoring.aspx>
- 35 White Rose Consortium, 'PhD Careers Fair' <https://whiterose.ac.uk/what-we-do/who-do-we-support/phd-careers-fair/>
- 36 The Greater Manchester Researcher Development Partnership, 'The Greater Manchester Researcher Development Partnership (GMResDev)' <https://www.linkedin.com/groups/13025448/?showWelcomeNote=true>
- 37 University of Nottingham Careers and Employability Service, 'What researchers have to offer' <https://www.nottingham.ac.uk/careers/postgraduate-researchers/exploring/offer.aspx>
- 38 Vitae, 'What do research staff do next?' 2016 <https://www.ukri.org/manage-your-award/studentship-guidance/flexibilities-with-training-grants/>
- 39 Tristram Hooley et al, 'Understanding the part-time researcher experience', 2009 <https://derby-repository.worktribe.com/output/805121>
- 40 UKRI, 'Studentships' <https://www.ukri.org/what-we-do/developing-people-and-skills/bbsrc/doctoral-training/studentships/>
- 41 CHASE DTP, 'Placements' <https://www.chase.ac.uk/research-placements>
- 42 Julie Gould, 'How to build a better PhD', Nature, Volume 528, Issue 7580, December 2015, pp.22–25

- 43 UKRI, 'Statement of Expectations for Doctoral Training', January 2024 <https://www.ukri.org/wp-content/uploads/2024/01/UKRI-300124-StatementExpectationsDoctoralTrainingJanuary2024.pdf>
- 44 Vitae, 'What do researchers want to do? The career intentions of doctoral researchers', 2012 <https://vitae.ac.uk/wp-content/uploads/2024/12/WDRWTD-The-career-intentions-of-doctoral-graduates-Vitae-Feb-2012-1.pdf>
- 45 Vitae, 'Tracking career pathways' <https://vitae.ac.uk/policy/researcher-career-tracking-in-the-uk/>
- 46 NCUB Researcher Careers Mobility Taskforce, 'Pathways to Success', 2023 <https://www.ncub.co.uk/wp-content/uploads/2021/07/NCUBs-Pathway-to-Success-web.pdf>
- 47 Department for Education, 'Longitudinal Education Outcomes (LEO) data' <https://www.gov.uk/government/publications/longitudinal-education-outcomes-leo-dataset/longitudinal-education-outcomes-leo-data#overview>
- 48 Dawn C Duke and Pam M Denicolo, 'What supervisors and universities can do to enhance doctoral student experience (and how they can help themselves)', FEMS Microbiology Letters, Volume 364, Issue 9, May 2017 <https://pmc.ncbi.nlm.nih.gov/articles/PMC5812516/>; European University Association's Council for Doctoral Education Peer Group, 'Tracking the careers of doctorate holders', October 2020 https://eua-cde.org/downloads/publications/eua-cde%20tpg_web.pdf
- 49 Vitae, 'Tracking career pathways' <https://vitae.ac.uk/policy/researcher-career-tracking-in-the-uk/>
- 50 CRAC, 'Towards Systematic Tracking of Researcher Careers: A Scoping Review and Development Plan', October 2024 <https://vitae.ac.uk/wp-content/uploads/2025/03/Towards-Systematic-Tracking-of-Researcher-Careers-A-Scoping-Review-and-Development-Plan.pdf>
- 51 CRAC, 'Career tracking of British Academy funded early-career researchers', May 2025 https://www.crac.org.uk/Media/Default/files/BA%20RCT%20final%20report_with%20cover%20final.pdf
- 52 European Parliament, 'Developing graduate tracking at European level', November 2022 [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/739220/EPRS_BRI\(2022\)739220_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/739220/EPRS_BRI(2022)739220_EN.pdf)
- 53 European Commission, 'Research and Innovation Careers Observatory (ReICO)' <https://ec.europa.eu/era-talent-platform/reico/>
- 54 National Center for Science and Engineering Statistics, 'Survey of Doctorate Recipients (SDR)' <https://ncses.nsf.gov/surveys/doctorate-recipients/2023>
- 55 KU Leuven Faculty of Psychology and Educational Sciences, 'Career of our PhD alumni' <https://ppw.kuleuven.be/en/research/PhDalumni>

- 56 University of Birmingham, 'PGR Career Development programme' <https://intranet.birmingham.ac.uk/student/careers/postgraduate/pgr/programme.aspx#beyond>
- 57 Vitae, 'What do research staff do next?' 2016 <https://vitae.ac.uk/wp-content/uploads/2025/03/Vitae-What-do-research-staff-do-next-2016-1.pdf>
- 58 CFE Research, 'The impact of doctoral careers', November 2014 <https://www.ncub.co.uk/wp-content/uploads/2015/01/Impact-1.pdf>
- 59 University of Cambridge, 'Professional Internships for PhD Students (PIPS)' <https://bbsrc-dtp.lifesci.cam.ac.uk/PIPS>
- 60 CRAC / Vitae, 'Evaluation of the 'Professional Internships for PhD Students' (PIPS) programme', January 2024 <https://www.ukri.org/wp-content/uploads/2024/02/BBSRC-150224-EvaluationOfProfessionalInternshipsForPhDStudentsProgramme.pdf>
- 61 Pye Tait Consulting, 'New Deal for Postgraduate Research: Analysis of responses to Call for Input', April 2023 <https://www.ukri.org/wp-content/uploads/2023/04/UKRI-0-20423-New-Deal-for-Postgraduate-Research-Analysis-of-responses-to-Call-for-Input.pdf>
- 62 CRAC / Vitae, 'Evaluation of the 'Professional Internships for PhD Students' (PIPS) programme', January 2024 <https://www.ukri.org/wp-content/uploads/2024/02/BBSRC-150224-EvaluationOfProfessionalInternshipsForPhDStudentsProgramme.pdf>
- 63 Vitae, 'What do research staff do next?' 2016 <https://vitae.ac.uk/wp-content/uploads/2025/03/Vitae-What-do-research-staff-do-next-2016-1.pdf>
- 64 CRAC / Vitae, 'Embedding career learning into doctoral programmes', November 2024 <https://vitae.ac.uk/wp-content/uploads/2025/02/Embedding-Career-Learning-in-PGR-UKRI-report.pdf>
- 65 Organisational Development in Higher Education, 'Support from others' <https://odhenetwork.co.uk/academic-career-conversations/support-from-others/>

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Report

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This HEPI report examines the careers support available to UK PhD students, arguing that better preparation for a wider range of career paths would benefit both graduates and the UK economy. As PhD student numbers grow while academic opportunities remain limited, more researchers are pursuing careers beyond academia. However, careers support is inconsistent, with students dissatisfied with the guidance from their supervisors and feeling lacking in support to explore non-academic careers.

Recommendations from the report include expanding access to internships and other non-academic experiences, providing dedicated postgraduate careers support, improving supervisor training and signposting and making careers resources more accessible through collaboration and virtual delivery. It also calls for national tracking of doctoral graduates and greater encouragement for PhD students to engage with a broad range of professional development opportunities throughout their studies.

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