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of researchers

Careers in Research Online Survey (CROS)

2015 UK aggregate results

The Concordat
to Support the Career Development of Researchers

CRAC

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CRAC: The Career Development Organisation

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Authors: Robin Mellors-Bourne, Research Director, CRAC
and Janet Metcalfe, Chair and Head of Vitae

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Careers in Research Online Survey (CROS)
2015 UK aggregate results

Executive summary

CROS provides insights into the views of research staff in relation to their experiences, career aspirations and career development. It is strongly established as an important evaluation mechanism for UK institutions reviewing their implementation of the Concordat principles and seeking evidence for their submissions to the HR Excellence in Research Award and the Athena Swan Charter.

The CROS 2015 aggregate results present what is believed to be a representative view across the UK higher education sector of the attitudes and activities of research staff, recorded through 8,964 responses and from 72 institutions, more than have previously participated. CROS 2015 respondents comprise up to a quarter of all research staff in the UK and provide a robust and illuminating insight into the UK's progress in achieving the vision of the Concordat to Support the Career Development of Researchers.

Comparison of the CROS 2015 aggregate results with CROS 2013, 2011 and 2009 demonstrate that progress has been made in the sector on many of the Concordat principles. The extent of progress varies across the range of principles, but there is remarkable consistency in many results and in some areas progress has reached a plateau. This depiction of overall progress reflects the progress made by individual institutions, particularly in relation to recruitment and support, support and career development, and some aspects of recognition and value, for which institutions should be commended, although the results within individual institutions are likely to be more varied.

Recruitment and selection

CROS 2015 results show that there has been some further progress in terms of improving the openness and transparency of recruitment and appointment processes. Higher proportions of those recruited in the last two years were supplied with job descriptions and a range of other employment-related information when they applied for their current role. Very slightly more were offered inductions when they started.

There was a slight decrease in the proportion of research staff employed on fixed-term contracts but these still formed the majority (74%). However, this was considerably higher for research staff in their first position in the institution (over 90%). There was evidence to suggest a slight decrease in the use of very short contracts since 2013.

Support and career development

Participation in appraisal or staff review within the last two years has continued to increase, to two-thirds overall (and higher for those on open-ended contracts). The proportion of respondents claiming that they have not been invited to undertake appraisal has also fallen again. Perceived levels of usefulness of these appraisals, at 61% overall, have been maintained at similar levels or very slightly increased; an achievement in the context of an increasing extent of appraisal.

CROS 2015 reaffirms the positive attitudes held by most respondents of their work-life balance, integration into and recognition by their institution for their research activity.

The extent of perceived recognition for wider contributions beyond research remains lower and more variable.

The take-up of training and development activities has remained broadly static compared with levels reported in 2013 and 2011. There remains significant enthusiasm for wider experiences beyond core research activity. Analysis of CROS 2015 focused specifically on several activities that are of current interest: public engagement, research integrity, knowledge exchange activities and participation in teaching.

Although there was fairly low awareness of the Concordat for Engaging the Public with Research, the proportions participating in public engagement and outreach were substantial, as were those participating in knowledge exchange and impact activities. However, by no means all of these research staff had been trained in this area, or felt recognised and valued for these activities.

Just over a quarter of research staff were aware of the Concordat to Support Research Integrity, with almost a third having undertaken training in ethical research conduct and similar numbers wanting to do so. The extent of teaching and lecturing, other supervisory and management activity was significant and continues to offer opportunities for research staff to develop more broadly through these types of activity: many do not feel fully valued for this work.

Researchers' responsibilities

The overwhelming majority of 2015 respondents claim that they take ownership of their career development, feel encouraged to engage in career development and spend some time on continuing professional development annually. Half have a career development plan and over half now have a formal record of their development activity, which has risen slightly since 2013.

There remains a significant credibility gap between respondents' career aspirations, expectations and the likelihood of these being fulfilled. In terms of career intentions, over three quarters of research staff respondents continue to aspire to an academic career in the long term, and around two thirds expect to achieve it. Overall, this seems to suggest that many research staff do not have realistic expectations of their long-term career prospects and have little knowledge of or value careers in other employment sectors.

Equality and diversity

The vast majority of respondents continue to report that they believe that their institution is committed to diversity and equality and that staff are treated fairly by the institution in relation to recruitment, access to training and day-to-day treatment at work. Over two-thirds were satisfied with their work-life balance and half believed their institution promoted better health and well-being.

However, there are significant minorities who disagree, perceiving some unfairness in treatment in relation to progression and reward, in particular in terms of gender. Such perceived unfairness is higher amongst female research staff than males, and has persisted in successive surveys despite greater awareness of equality and diversity issues in higher education, exemplified by a rise in awareness of Athena Swan, which was known to four-fifths of all respondents. The two groups of researchers worthy of further attention are female research staff and those who have had five or more contracts in their institution.

Implementation and review – next steps

With the backdrop of what seems likely to be an increasingly challenging funding environment, different efforts may be needed in future to achieve substantial further change. Deeper cultural shifts may be aided by more local investigation, identification of good practice and what underlies it. Institutions are strongly encouraged to analyse their own results, make comparisons with the UK aggregate, the benchmarking groups, and particularly their own longitudinal progress. Institutions should also share their results with research staff, their managers, senior managers and researcher development professionals.

The CROS/PIRLS Steering Group will continue to refine and deploy the survey to assist institutions to strive to improve their provision for research staff, enhance their provision through sharing practice and identify evidence of their progress in implementation of the Concordat principles.

Recommendations

1. Institutions should review their use of fixed-term contracts for research staff, including amongst different groups, and only use them where fair and appropriate.
2. Institutions should identify any local sub-populations of researchers who do not feel integrated into their departmental or institutional communities and help them to explore career development strategies.
3. Institutions should consider how they can recognise more fully the contribution of researchers in areas such as teaching, supervision, knowledge exchange, impact and public engagement.
4. Institutions should explore opportunities to provide training, development or support to research staff who are already undertaking activities such as teaching, knowledge exchange and public engagement, as well as those who express an interest in doing these activities.
5. Institutions should provide opportunities for reflection and learning from research staff's broader activities to widen career horizons and prepare all research staff for a range of different career directions.
6. Institutions should encourage research staff to engage more actively in career development planning and consideration of a wider range of career options, and provide advice about career progression both within and outside higher education, including the positive experiences of those who have moved to careers outside higher education.
7. Institutions should undertake detailed scrutiny of their CROS data, longitudinal trends and open-ended responses to identify any perceptions of discrimination and unjustified inequalities between different types of research staff and with other staff, in order to consistently embed improved institutional policies that are now in place.
8. Institutions are encouraged to continue to participate in CROS and to utilise the data obtained to enhance their career development provision for research staff and evidence of progress for other initiatives, such as Athena Swan and the European HR Excellence in Research Award.
9. Institutions are invited to support the CROS/PIRLS Steering Group in its efforts to maximise the value obtained from the survey for institutions and the sector in providing feedback on the appropriateness of the survey, contributing case studies of practice and participating in the forthcoming pilot of an aggregated confidential analysis of responses to open-ended questions.

1 Introduction

This report presents findings from the 2015 Careers in Research Online Survey (CROS). CROS is an online survey designed to collect the anonymous views of research staff employed in UK higher education (HE) institutions about their experiences, career aspirations and engagement in career development opportunities and activities.

The findings in this report comprise aggregated results from the core questions common to the individual CROS surveys run by 72 UK institutions in spring 2015. The report provides a snapshot of the current views of UK research staff respondents, against which individual institutions can compare and evaluate the data they collect in their own CROS surveys. Where questions are comparable with those posed in previous surveys (CROS 2009, 2011 and 2013[1]), comparisons with key aggregate results from 2013 and earlier years are made, thereby highlighting changes in the UK HE sector in recent years.

Since 2009 the questions in CROS have been closely linked to the Concordat to Support the Career Development of Researchers[2]. In this way, changes in CROS results, within individual institutions and the UK aggregate, offer evidence of progress within the sector in respect of the implementation by institutions of the Concordat principles, and offer insights and prompts as to potential further actions to consolidate it.

The complete UK aggregate CROS 2015 results, including comparison with CROS 2013 results, are presented in Appendix 1.

1.1 Context

The importance of a highly-skilled research workforce has repeatedly been articulated in the policy of recent Governments as a key element of the UK's strategy to support research innovation, future economic prosperity and national and societal wellbeing. The development of highly skilled and effective researchers has been seen as key to capitalising on the impact of the UK's excellent research[3].

The Concordat to Support the Career Development of Researchers incorporates a set of principles aimed to enhance the attractiveness and sustainability of research careers, and to ensure continued provision of well-trained, talented and motivated researchers within the UK labour force.

The alignment of CROS with the Concordat principles provides an important mechanism to assess progress in its implementation, based on the views and experiences of a wide range and number of research staff across the UK, given anonymously. The Concordat is also the mechanism through which UK institutions can demonstrate alignment with the principles of the European Charter and Code, and 94 UK organisations now hold the HR Excellence in Research Award[4] as a result, amongst the 245 award-holders across Europe. Vitae leads the implementation of the Concordat on behalf of the Concordat Strategy Group, whose membership includes RCUK, the UK Funding Bodies, other research funders and Universities UK. It also provides managerial support to the CROS/PIRLS Steering Group (Appendix 2) and manages the operation and publication of CROS and the associated Principal Investigators and Research Leaders Survey (PIRLS)[5].

The Concordat to Support the Career Development of Researchers contains seven key principles:

1. Recognition of the importance of recruiting, selecting and retaining researchers with the highest potential to achieve excellence in research
2. That researchers are recognised and valued by their employing organisation as an essential part of their organisation's human resources and a key component of its strategy to develop and deliver world-class research
3. That researchers are equipped and supported to be adaptable and flexible in an increasingly diverse, mobile, global research environment
4. The importance of researchers' personal and career development, and lifelong learning, is clearly recognised and promoted at all stages of their career
5. That individual researchers share the responsibility for and need to pro-actively engage in their own personal and career development, and lifelong learning
6. Equality and diversity must be promoted in all aspects of the recruitment and career management of researchers
7. The sector and all stakeholders will undertake regular and collective review of their progress in strengthening the attractiveness and sustainability of research careers in the UK

CROS also provides valuable insights through the experiences and perspectives of current research staff into the progress of complementary initiatives to improve the research environment. For example, CROS asks questions relevant to the implementation of the Concordat to Support Research Integrity[6], the Concordat for Engaging the Public with Research[7] and the Athena Swan Charter[8]. It also provided evidence of the career development support for research staff to inform Unit of Assessments submissions for the Research Environment within the Research Excellence Framework (REF) 2014[9].

[1] www.vitae.ac.uk/cros

[2] Concordat to Support the Career Development of Researchers, UUK, 2008 www.vitae.ac.uk/concordat

[3] HR Excellence in Research Award press release, 2010 www.vitae.ac.uk/policy-practice/375-327021/UK-universities-lead-Europe-in-gaining-recognition-from-the-European-Commission-for-researcher-development.html

[4] HR Excellence in Research Award www.vitae.ac.uk/hrexcellenceaward

[5] Principal Investigators and Research Leaders Survey. www.vitae.ac.uk/pirls

[6] Concordat to support research integrity, UUK, 2012 www.universitiesuk.ac.uk/highereducation/Documents/2012/TheConcordatToSupportResearchIntegrity.pdf

[7] Concordat for Engaging the Public with Research, RCUK, 2010 www.rcuk.ac.uk/RCUK-prod/assets/documents/scisoc/ConcordatforEngagingthePublicwithResearch.pdf

[8] Athena Swan Charter, ECU, 2005 www.ecu.ac.uk/equality-charters/athena-swan/

[9] Research Excellence Framework (REF), 2014 www.ref.ac.uk/

2 CROS 2015

2.1 Target audience

CROS is targeted at research staff employed in UK higher education institutions as defined in the Concordat to Support the Career Development of Researchers:

'Researchers are broadly defined as individuals whose primary responsibility is to conduct research and who are employed for this purpose. It is recognised that this broad category of staffing covers a wide range of staff with different disciplinary backgrounds, levels of training, experience and responsibility, types of contract (fixed or open-ended, full- or part-time), and different career expectations and intentions.'

The emphasis on 'primary' responsibility is intended to exclude those in a research support role, such as technicians. It is also intended to exclude lecturers and professors, those who are more established in their careers and may have responsibility for other researchers: these staff are directed to PIRLS. However, the Concordat Strategy Group has recognised that there are likely to be early career academic staff who may be sustaining their research activity through a series of teaching contracts and fellowships, particularly in the social sciences, arts and humanities. For CROS 2015, institutional coordinators were encouraged to promote the survey additionally to such early career staff who are 'engaged in research'.

2.2 Methodology

CROS 2015 comprised a series of parallel surveys conducted by individual institutions, between March and May 2015. CROS was hosted on the BOS (Bristol Online Surveys) platform[10], which provides a secure environment for the design, implementation and analysis of online surveys. Individual institutions' surveys contained a core question set to which they could add a small number of bespoke questions for their own participants. Linkage of all survey responses through the BOS tool enabled collation of the responses to the core questions on a confidential basis, protecting the anonymity of individual respondents and their institutions, offering the opportunity for aggregate analysis.

The CROS/PIRLS Steering Group undertake a review of the CROS question set every two years, inviting feedback from both participating and non-participating institutions. The aim is to ensure the survey remains relevant, while maintaining the longitudinal comparison of the questions. Very few further changes were made to the question set for CROS 2015, other than a small number of changes to options to aid clarity of interpretation and to reflect recent initiatives within the sector. However, the BOS platform has been updated since CROS 2013 and this introduced the opportunity to route respondents to different questions or sections dependent upon their responses to particular questions. This resulted in some changes to the wording of question roots, but these did not impact on the meaning of those questions. All core questions were optional, except where they contained routing options. The core question set can be seen in Appendix 1.

The primary scope of this report is to present the UK aggregate data of CROS 2015 results, together with comparisons to the aggregate CROS 2013 results. Such comparisons provide a number of measures of progress in terms of implementation of the Concordat at the UK level. In addition, it highlights CROS respondents' perspectives and activities in relation to certain key initiatives in the sector.

Given the varied environments, infrastructure and practice to support researchers within individual institutions, responses from a particular institutional cohort may differ markedly from the aggregate responses reported here. Institutions are encouraged to use their own data to assess their progress in embedding the Concordat principles, comparing their results with the UK aggregate results reported here, benchmarking them against other groups of institutions through the BOS tool, and comparing them with their previous CROS results.

2.3 Participation and response rates

72 UK higher education institutions participated in CROS 2015. These comprised 18 Russell Group member institutions, 24 other 'pre-1992' institutions and 30 'post-1992' institutions which included 11 within the University Alliance. Participating institutions were located in all four UK nations: 51 in England, 12 in Scotland, 7 in Wales and 2 in Northern Ireland.

Individual institutions were responsible for identifying their research staff populations and targeting survey invitations to them. On this basis, the total target population in the participating institutions was 32,280, which is over 70% of the number of research-only academic staff in the UK as reported in the HESA Staff Record[11].

In total, 8,964 complete, non-duplicate responses were obtained from respondents in the 72 institutions. These comprised the aggregate dataset analysed for this report. They represented an overall response rate of around 28%, slightly higher than for CROS 2013 when 68 institutions participated (Table 1).

Of the 72 institutions participating in 2015, 58 had also participated in 2013 with some others that had participated in 2011 but not 2013. Broadly, CROS 2015 targeted many of the research staff that had been targeted in 2013, plus those in a range of additional institutions. An overall UK response rate of 28% is considered healthy for surveys of this type amongst those in employment.

[10] BOS www.onlinesurveys.ac.uk/

[11] HESA (2015). Resources of Higher Education Institutions 2013/14; 'research only' staff www.hesa.ac.uk

Table 1 Institutional participation and response rates for CROS 2015, compared with CROS 2013 and CROS 2011

	2015	2013	2011
No. of complete responses	8964	8216	5585
Population sampled	32,280	32,000	22,250
Response rate	28%	26%	25%
HEIs participating	72	68	46

2.4 Profile and characteristics

The profile of the respondent sample was extremely similar to that achieved in CROS 2013 in terms of gender, age and other personal characteristics (Table 2). 54% of respondents who stated their gender were female, with 2% choosing not to identify their gender. This suggests that CROS continues to over-represent female research staff, compared with the 47% of female staff employed on a 'research only' basis in the HESA Staff Record (2013/14). The higher proportion of females amongst CROS respondents may simply reflect the common observation in many surveys that females tend to be more willing to respond to surveys than males.

Table 2 Characteristics of CROS respondents, compared with HESA Staff Record data

	CROS 2015 %	CROS 2013 %	CROS 2011 %	HESA 13/14 %
Age (yrs)				
30 and under	25	25	26	28*
31-45	59	58	58	52*
Over 45	16	17	16	19*
N	8884	8026	5317	
Gender				
Female	54	54	53	47
Male	46	46	47	53
N	8765	7920	5407	
Nationality				
UK	60	63	67	59*
Other EU	26	22	19	20*
Rest of world	15	15	15	20*
N	8840	7767	5383	

*HESA Staff Record 2012/13

A quarter of respondents were aged 30 or younger, while 59% were aged 31-45 and 16% over 45 years. 60% declared that they were UK nationals, with 26% from other European Union countries and 14% from the rest of the world. This matches recent HESA data in terms of the proportion of UK domiciles, and continues a slight trend of an increase in the proportion of respondents from other EU countries, and a slight decline in the proportion of UK nationals, seen since CROS 2011. The proportion of UK respondents matches the 2012/13 HESA figure for those employed on a research-only contract.

The ethnicity of respondents was investigated only for those of UK nationality, and showed that 91% of those who stated their ethnic background selected a 'white' ethnic category, higher than the 85% reported in CROS 2013. However, it is close to recent figures from HESA of 89% for research-only staff (for 2012/13).

Just over 2% of respondents reported that they considered themselves disabled, the same proportion as recorded by HESA, while 95% did not and the remaining 2% preferred not to answer.

Since CROS 2013, respondents have been asked to identify their main subject specialism using the Units of Assessment in the Research Excellence Framework (REF). At the broad REF Panel level, the breakdown of 2015 respondents by subject specialism was extremely consistent with that obtained in 2013 (Table 3), with 50% reporting a Panel A specialism (medical, biological sciences and agriculture), 30% in Panel B (physical sciences, engineering and mathematics), 14% in Panel C (social sciences, including education) and just under 6% in Panel D (languages, humanities and creative arts). The detailed breakdown at Unit of Assessment level can be seen in Appendix 1.

Table 3 Subject specialism of CROS respondents

	CROS 2015 %	CROS 2013 %	HESA 12/13 %
REF Panel A (medical, biological sciences and agriculture)	50	48	50
REF Panel B (physical sciences, engineering and mathematics)	30	30	33
REF Panel C (social sciences, including education)	14	15	13
REF Panel D (languages, humanities and creative arts)	6	5	4
N	8667	8030	

2.5 Representativeness of the sample and comparability

Statistically, for a random sample of a known size from a known total population, the confidence interval (effectively the 'error bar' for a result) can be calculated for a certain level of confidence. Statistical analysis is frequently conducted on the basis of a 95% confidence level and, on this basis, 8,964 CROS responses from a population of 32,280 research staff targeted produces a confidence interval of just under 1% for mid-range percentages (i.e. the error bar would be smaller than 1%, and smaller still for smaller percentage results). Such a small confidence interval indicates that the overall responses to CROS are likely to be highly representative of the target population sampled and, assuming random sampling, potentially of the total UK research staff population.

3 Results

In the remainder of this report we highlight a selection of key results from CROS 2015 and how these inform particular areas of focus and/or initiatives in current HE research and researcher development. The full aggregated results for CROS 2015 are presented in Appendix 1, with comparative data from CROS 2013, where appropriate.

3.1 Recruitment, selection and employment conditions

3.1.1 Recruitment and appointment processes

The Concordat to Support the Career Development of Researchers seeks open and transparent recruitment policies and that job descriptions and all other relevant information are supplied to applicants. The European Commission is putting increasing emphasis on the importance of open, merit-based recruitment within their European Research Area (ERA) priorities, so CROS provides useful evidence of the UK and individual institution's recruitment and selection processes from the researchers' perspectives.

The routing in CROS 2015 directed questions about recruitment only to those who had been in their current post for up to two years; whereas previous surveys asked respondents to voluntarily answer these questions if they had been in post for up to two years: many more chose to answer these questions. This change means that CROS 2015 results provide a more robust snapshot of recent recruitment practices and comparability with CROS 2013 for this section of the survey should be treated with caution.

Almost half of respondents (49%) had learnt of their current job opportunity through an open advertisement or listing, which was higher than the figure of 44% obtained in 2013. 14% were named on the grant and 13% had a previous contract extended or had been redeployed. 31% also, or only, learned of the opportunity by word of mouth, which appeared to be higher than was recorded in CROS 2013. Of these, two-thirds only heard by word of mouth, roughly equally split between those on their first research staff contract and those that had a previous contract with the institution.

In terms of the information provided to respondents during the application process for their current post, the proportions reporting provision of a written job description and details of requirements for qualifications, specialist research skills and transferable skills were all higher than recorded in CROS 2013 (Figure 1). Almost 90% of respondents had received a job description and details of requirements for research skills and qualifications.

The proportion of respondents that reported they had been offered an induction at the start of their current role was consistent with 2013 results, and slightly higher in relation to departmental/faculty/unit inductions. Over three-quarters of respondents reported being offered at least a local induction to their role. These levels had risen consistently since 2009 but may now have reached a plateau, albeit at a high level. The level of take-up and perceived usefulness of all three types of induction are at least consistent with those reported in CROS 2013.

3.1.2 Employment status

The Concordat recommends that institutions appoint research staff on open-ended contracts unless there is a recorded and justified reason to employ on a fixed-term contract. Overall, 74% of 2015 respondents reported that they were currently employed on a fixed-term contract, and 24% on an open-ended contract (with <1% employed on a casual or hourly paid basis). The proportion on a current fixed-term contract had been 77% in CROS 2013 and 2011, and 82% in 2009, so this marks further, if slow, positive progress.

When analysed by institutional type, the proportion with fixed-term contracts was 78% within Russell Group institutions and lower (67%) in other institutions. Analysed by the broad subject-based REF Panels, the proportion of fixed-term contracts was higher amongst Panel A (78%) and Panel B (79%) respondents, than amongst Panel C (64%) and Panel D (58%) respondents.

Figure 1 Proportion of respondents reporting provision of information when applying for their current role

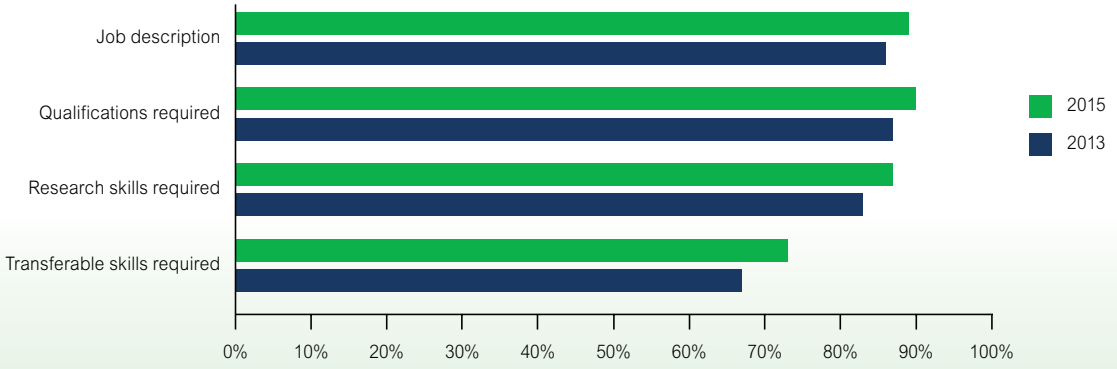


Figure 2 Proportion of respondents with a fixed-term employment contract, by gender and REF Panel

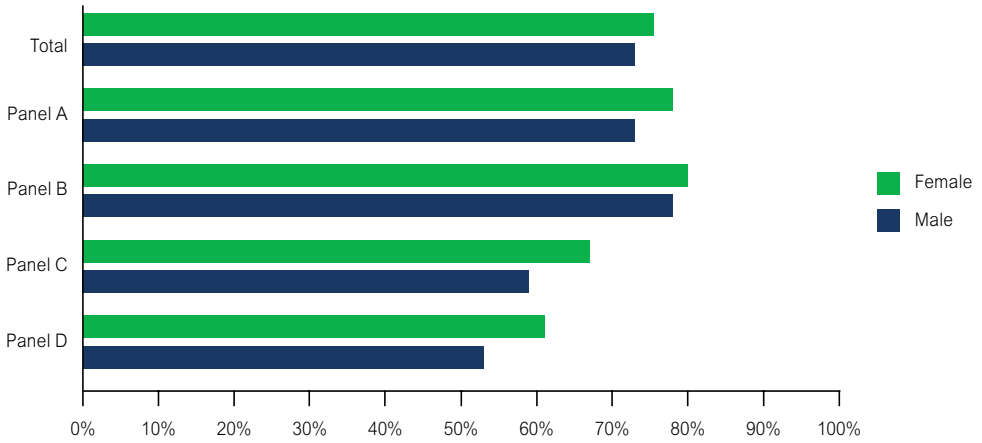
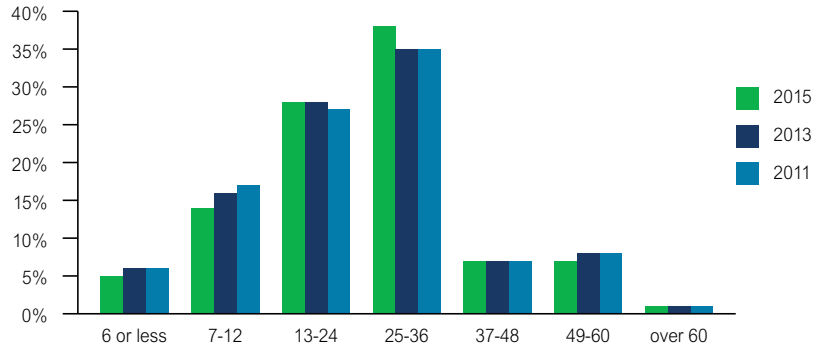


Figure 3 Length (in months) of current employment contract, for respondents employed on a fixed-term contract



There was a slight difference in relation to gender, with slightly more female respondents (76%) reporting that they had a fixed-term contract than males (73%). This difference persisted within each REF Panel, although was smaller in Panel B (Figure 2). Although a higher proportion of female respondents (20%) was employed on a part-time basis than of males (6%), this does not account for the gender difference, as a slightly higher percentage of all part-time contracts was open-ended, than amongst full-time contracts. The differential also cannot be accounted for by variations in age or experience, as these did not vary significantly with gender.

Respondents in the earlier stages of their research career were more likely to be employed on a fixed-term basis, with 91% of respondents on their first contract of employment with their institution being employed on a fixed-term basis, and 92% of all respondents under 30 years of age.

For respondents with fixed-term contracts, the most prevalent length of contract was between two and three years (38%), while 19% reported being employed on a contract of one year or less, compared with 21% in 2013. Previous CROS reports have highlighted concern over an apparent increase in the use of very short contracts; however the 2015 results suggest that this trend may now have reversed (Figure 3).

There was no strong link between the length of contracts and either gender or subject specialism of the respondent. On the other hand, the issue of very short-term contracts was particularly acute amongst respondents who had had multiple contracts with their institution. Amongst these, 37% of those with a current fixed-term contract and who had had five or more contracts with their current institution reported that their contract was a year or less in length. However, this was somewhat lower than in 2013 when the comparable figure was 43%.

3.2 Support and career development

3.2.1 Appraisal and review

The Concordat states that managers are required to participate in active performance management and supervision of their researchers. The CROS 2009 report recommended that "all eligible researchers should undertake regular reviews and appraisal" so the extent of appraisal is a relatively simple benchmark with which to measure progress in relation to this issue.

Further progress has been made in terms of the extent of participation in appraisal or review, with 67% of CROS 2015 respondents reporting that they had participated in an appraisal or review within the past two years. This proportion has risen strongly since the first CROS survey in 2002 (albeit involving a small sample of institutions), when only 32% responded that they had ever taken part in their institution's staff review process. Since CROS 2009, the measure has been participation in an appraisal or staff review within the last two years, and this proportion has risen from 50% in 2009 to 55%

in 2011, 60% in 2013 and now 67% in CROS 2015. However, this still lags the position for principal investigators and research leaders, who in many cases manage research staff, amongst whom the proportion is currently 89%[12].

Appraisal was more common amongst respondents employed on open-ended contracts (83%) than those employed on a fixed-term basis (62%, although this has risen markedly since 2013 when it was 54%). Previous differences in the extent of appraisal between those employed in Russell Group and other institutions have now narrowed, being 66% in Russell Group institutions and 68% in other institutions in 2015.

Amongst the approximately one third of respondents who reported that they had not had an appraisal, 44% had only recently been appointed, were on probation or were otherwise ineligible. This suggests that only 18% of the total respondent sample who were eligible to have undertaken appraisal did not do so.

61% reporting undertaking appraisal/review reported it as being useful or very useful overall. This was slightly above the figure of 59% reported in 2013. Its usefulness was also reported to be slightly higher than was the case in 2013 for all the specific themes questioned. These comparisons have been made after exclusion of 'not applicable' responses in both years.

3.2.2 Recognition and value

CROS 2015 results were very consistent with those of 2013 in relation to the attitudes held by most respondents in terms of perceived integration within their departmental research community, institutional research community and wider disciplinary community. None had changed by more than a percentage point from the results obtained in 2013, which painted a positive picture of these attitudes.

A more mixed picture emerged in terms of their perceptions of whether they felt recognised and valued by their institution. A strong majority felt recognised and valued for their contribution to research activity, for example, through publications. However, perceptions of feeling recognised and valued for wider contributions beyond research remained at a lower level for many activities, including their role in supervision and management, teaching, and in peer review. Although not directly comparable with CROS 2013, due to a change in response options, these perceptions did not appear to have improved since then.

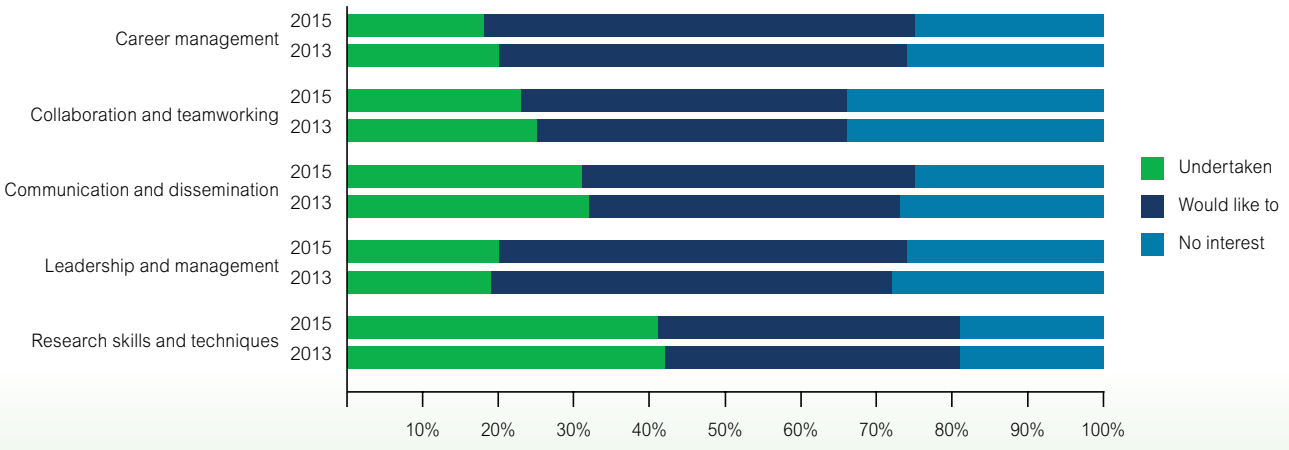
3.2.3 Engagement in career and professional development

The proportion of CROS 2015 respondents who felt that they were encouraged to engage in personal and career development was 75%, while 88% considered that they took ownership of their career development. Just over half (52%) reported that they had a clear career development plan, and a similar proportion claimed to maintain a formal record of their continuing professional development (CPD) activities. These were all very consistent proportions with those reported in CROS 2013 (and where comparable 2011).

The extent of participation in training and other CPD reported by respondents, in terms of the number of days during the past 12 months, was similar to that reported in CROS 2013. A lower proportion (17%), however, stated that they had undertaken none at all, compared with 2013 (21%).

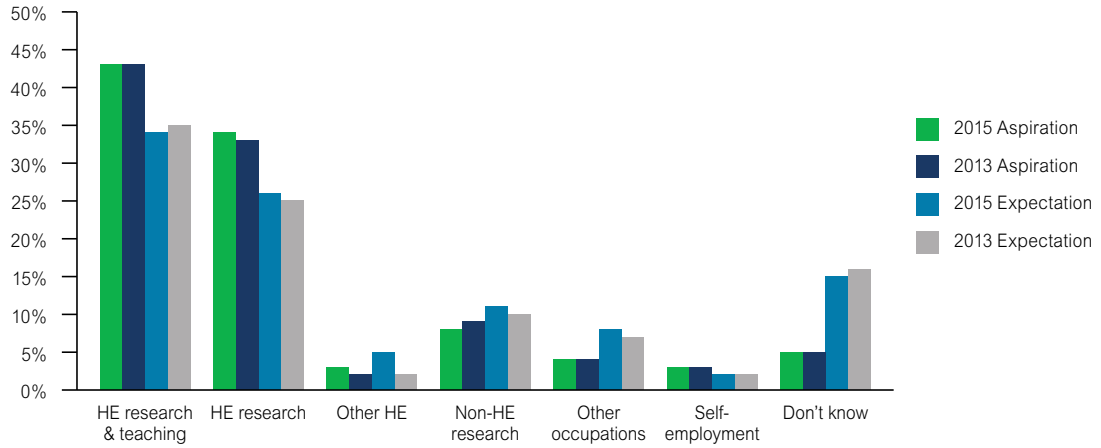
The proportions of respondents who had undertaken training and other CPD activity (not just within the last 12 months) relating to their career management was 18%, which was slightly lower than the 20% reported in 2013. Similar very slight shifts downwards were reported for participation in training or CPD activity in a range of aspects of transferable skills (Figure 4), while levels were consistent amongst some other areas. The proportions stating that they were not interested in training in these areas were consistent with 2013 or were slightly lower, with concomitant slight rises in the proportion stating that they would like to participate. However, these shifts were relatively minor in scale and the position for research skills was unchanged from 2013.

Figure 4 Proportion of respondents reporting areas in which they have undertaken or would like to undertake training or CPD activity



[12]Principal Investigators and Research Leaders Survey (PIRLS). 2015 UK aggregate results www.vitae.ac.uk/pirls

Figure 5 Respondents' long-term career aspirations and expectations



3.2.4 Career aspirations and expectations

The Concordat recognises that academic positions are limited within higher education and institutional cultures should support a broad-minded approach to researcher careers and that all career paths are valued equally. CROS respondents were asked to indicate their long-term career aspirations and expectations. Overall, 77% of CROS respondents still anticipated an academic career, with 43% aspiring to work in a research and teaching role and 34% in a pure research role within higher education (HE). 60% expect to achieve an academic career. These were very similar proportions to those reported in 2013 (Figure 5). A further 3% aspired to work in another HE role (including a teaching-only post) and 5% expected to achieve this. Research outside HE was anticipated by 11%, which was a little more than the 8% who aspired to this type of work. Around 15% of respondents did not know where they expected to work in the long term.

Amongst those who had had five or more employment contracts with their institution, 29% aspired to a research and teaching post and 47% a research-only role, while the proportions expecting to achieve these occupations were 19% and 38% respectively, and 21% did not know what they would do in the long term.

There was some variation when analysed within certain subgroups, including REF Panel (Figure 6) and gender (Figure 7). Figure 6 shows that much higher proportions of respondents in Panel D both aspired to (69%) and expected (60%) a research and teaching academic career, while this was lowest amongst Panel A respondents at 35% and 28% respectively. This trend was essentially reversed for HE research-only roles, with 40% of Panel A respondents aspiring to a research-only academic career and 30% expecting to achieve this, while only 20% of Panel D respondents aspired to a research-only academic career and 11% expected to achieve this. Overall, at least 60% of respondents in each REF Panel expected to achieve an academic career.

By gender (Figure 7), it can be seen that a slightly higher proportion of male respondents than females aspired to a research and teaching academic career, although similar proportions aspired to a research-only role. A roughly similar proportion of both genders expected some type of academic career, but a higher proportion of males expected that this would be a research and teaching role. Slightly more females than males appeared not to know their career aspiration, and did not know what they would end up doing in their career.

Figure 6 Respondents' long-term career aspirations (A) and expectations (E), by REF Panel

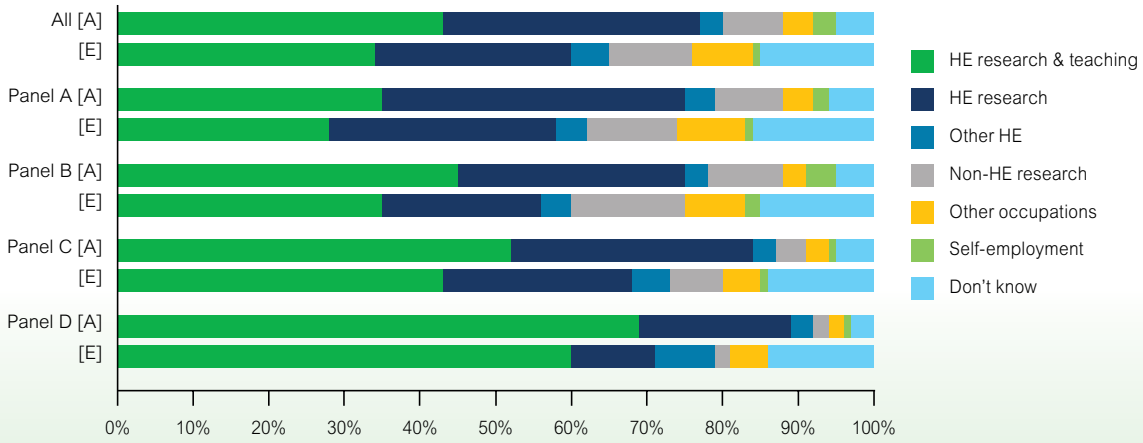


Figure 7 Respondents' long-term career aspirations and expectations, with gender

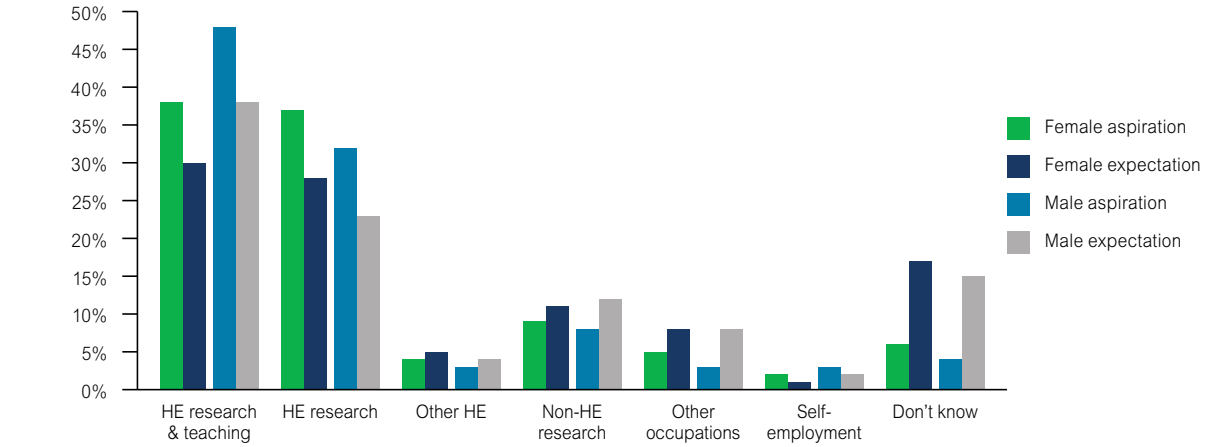
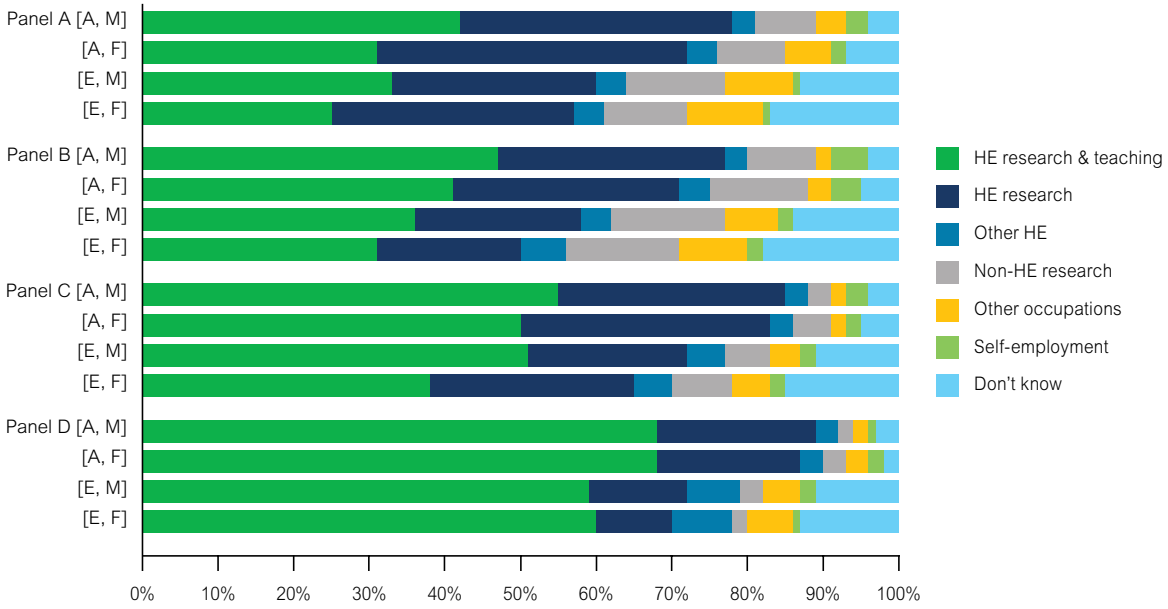


Figure 8 Respondents' career aspirations (A) and expectations (E) by REF Panel and gender (M, F)



When analysed by both gender and REF Panel, differences by gender were seen to persist for respondents in Panels A, B and C (Figure 8). It was notable that there were no differences by gender for respondents within Panel D specialisms.

On the basis of what is known of UK HE workforce statistics, it is thought that the expectations of many respondents continue to be unrealistic, and that the aspirations of some who seek a long-term career in higher education will not be fulfilled. It is thought that insufficient opportunities, at least in the UK, exist (or will do so) to enable the proportion of those hoping for a combined research and teaching role to achieve such a position. This emphasises the importance of institutions providing research staff with access to information about a wide range of career opportunities, and reinforcing this through pragmatic discussions during review meetings.

Only 9% of CROS 2015 respondents had undertaken an internship outside HE, which would provide valuable experience of other possible career paths, although 44% indicated that they would like to do so. This proportion was almost the same irrespective of the length of research staff experience. Somewhat more of those with short experience were keen to have this experience, than those who had been research staff for over ten years. Appetite for an internship was greatest amongst Panel A respondents (47%) and lowest amongst Panel D respondents (32%), and lower still for males in Panel D (27%). Other than in Panel D, there was no significant difference in the responses of male and female respondents on this topic.

3.3 The wider contributions of research staff

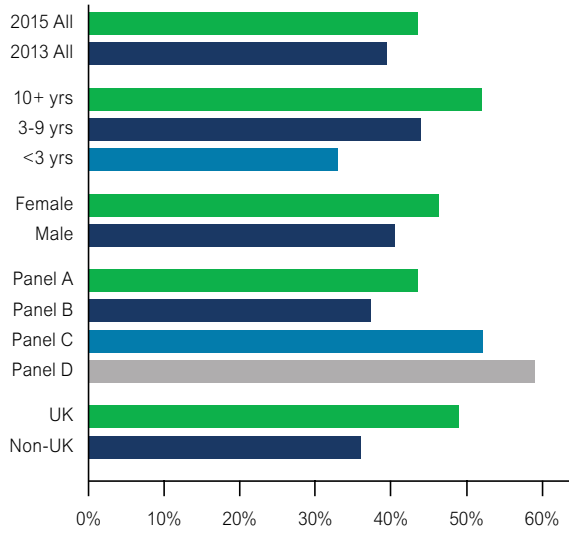
CROS 2015 was analysed specifically to provide valuable insights into the engagement of research staff in broader activities within the research environment. This focused specifically on public engagement, research integrity, knowledge exchange activities and participation in teaching. It explored the level of awareness of relevant UK initiatives, the extent to which research staff are engaged in these activities, whether they have been or wish to be trained, and whether they feel recognised for their engagement.

3.3.1 Public engagement

Government, the UK Research Councils and other research funders have been driving an agenda to encourage institutions to embed public engagement within their institutional missions and to involve the public, and other research users, in research. CROS provides an insight into how research staff are engaging in this agenda.

CROS 2015 results record that 44% of respondents have participated in public engagement activities within their current role, and that a further 39% would like to do so, while 18% had no interest in these activities. These figures indicate a small but significant increase in this activity and interest in it, since 2013 (Figure 9).

Figure 9 Proportion of CROS respondents of different types who had undertaken public engagement activities



There were, however, some significant variations within different sub-groups. The proportion active in public engagement was higher amongst UK-domiciled respondents (49%) than those from outside the UK, although more of the latter were keen to engage in this activity. Higher proportions of respondents in Panel D especially (over 59%) and Panel C (52%) had undertaken public engagement activities than in the overall sample, while the proportions in Panels A (44%) and B (37%) were considerably lower.

There were also differences by gender with 46% of female and 41% of male respondents reporting they had undertaken public engagement activities. There were slightly higher proportions of female respondents than males in Panels A and B having undertaken public engagement activity, while there were no gender differences for Panels C or D. There were also, perhaps understandably, differences with age or experience, with the proportion who had undertaken public engagement broadly rising with age or length of experience as a researcher. Around one third of those with up to two years' research experience had undertaken public engagement activity, rising to 43% for those with 3-9 years' experience and just over 50% amongst those with over ten years' experience.The slight increase in participation between 2013 and 2015 was evident in all sub-groups analysed.

The majority of respondents (63%) were not aware of the Concordat for Engaging the Public with Research, with only 11% claiming to have an understanding of this and a further 26% unaware that it existed. These figures represent some increase on CROS 2013 when 69% had not heard of this Concordat. Amongst those who reported that they participated in public engagement activities, the level of awareness was higher, but only slightly.

By REF Panel, the level of awareness of this Concordat was lowest amongst respondents in Panel D (25% awareness), despite this group being the most active in public engagement. Awareness was highest amongst Panel A respondents (43%). Within each of the REF Panels, male respondents were slightly less aware of this Concordat than females. The figures did not vary greatly with domicile.

Fewer still were aware of the National Coordinating Centre for Public Engagement (NCCPE), with 79% of respondents claiming never to have heard of the Centre. This varied only very slightly with subject specialism, although there was a consistent slight difference by gender, with slightly more females aware of it than males.

Amongst those who were actively involved in public engagement, 62% felt recognised for this work, and 27% did not (and the remainder did not know).

22% of all respondents reported that they had undertaken training or CPD activity relating to public engagement, which was slightly higher than the 19% in 2013 (Figure 10). 50% of respondents said they would like to undertake training and 28% were not interested (30% in 2013). Amongst those who actively participated in public engagement, 39% reported that they had undertaken training in this area.

The proportion who had undertaken training in this area was highest amongst Panel D respondents (28%) and lowest amongst Panel B (19%). Fewer Panel D respondents said they were not interested in training in this area (20%), while Panel B respondents were the least interested in training (34%). The proportion stating that they would like training in this area was highest amongst Panel C respondents.

More female respondents (25%), irrespective of REF Panel, had undertaken training in public engagement than males (18%). On the other hand, the appetite for training in this area did not differ significantly with gender. Although slightly more UK respondents had undertaken training in this area than those from outside the UK, the latter were slightly more likely

Figure 10 Proportion of CROS respondents of different types who had undertaken or were interested in training or CPD activity in public engagement

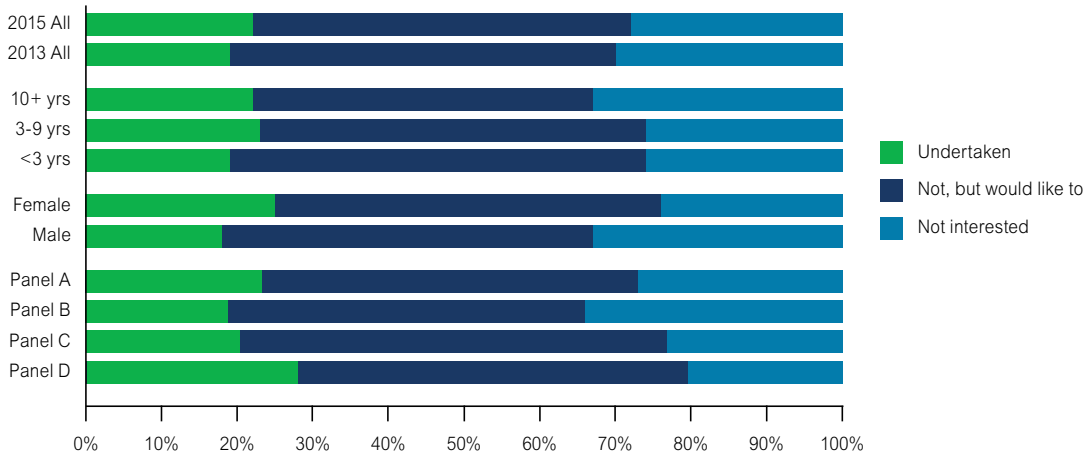
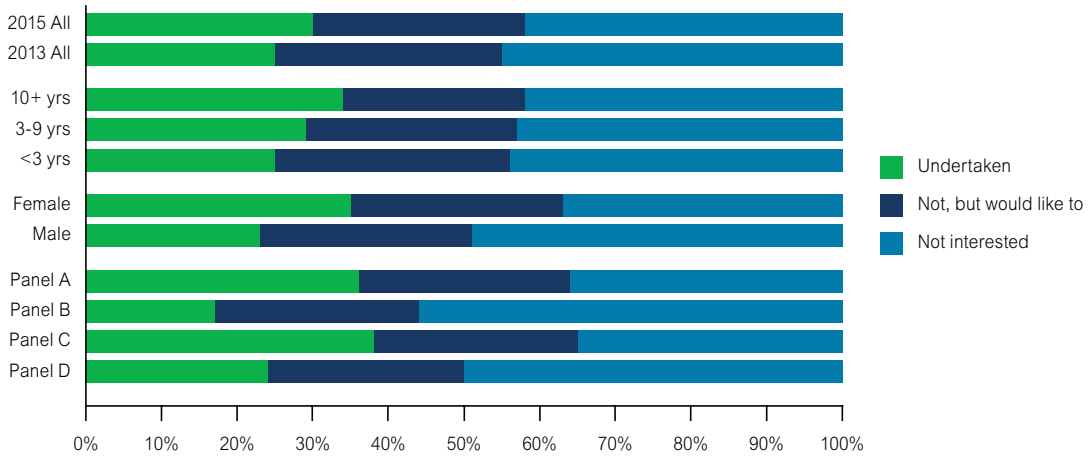


Figure 11 Proportion of CROS respondents of different types who had undertaken or were interested in training or CPD activity in ethical research conduct



to wish to do so. Length of experience did not seem to affect the proportion that had been trained in public engagement. However, more of the least experienced respondents were keen to have training than those amongst the longest-serving research staff.

The slight increase in participation in training in public engagement persisted in all sub-groups analysed, although was slightly stronger for Panel D respondents.

3.3.2 Research integrity

In 2012 the Concordat to Support Research Integrity was published with the aim of providing a national framework for good research conduct and its governance. In supporting research integrity, it seeks the highest standards of rigour and integrity in all aspects of research, to ensure that research is conducted according to appropriate ethical, legal and professional standards and to support a research environment that is underpinned by a culture of integrity. Within PIRLS[13] maintaining the highest standards of conduct and integrity in research has been identified as the most important behaviour exemplifying excellent research leadership, by principal investigators and research leaders.

CROS provides an insight into how research staff are engaging in this agenda. 27% of CROS 2015 respondents reported that they were aware of this Concordat, compared with 22% in CROS 2013, although the majority of these respondents did not have an understanding of its detail.

Awareness was somewhat higher amongst Panel A respondents (30%) and lowest for Panel D respondents, of whom only 19% had heard of this Concordat. There was little variation between the levels of awareness with gender or nationality of respondent, but it was somewhat better known amongst the most experienced respondents (33% with 10 or more years' experience were aware of its existence).

Since 2013, there has been an increase in the proportion of CROS respondents who have undertaken training or CPD activity in ethical research conduct (30%, compared with 25% in 2013), while a further 28% have not undergone training but would like to do so (Figure 11). Marked variations were seen by REF Panel, with as few as 17% of Panel B respondents having undergone training, with more than double that proportion amongst Panel A (36%) and Panel C (38%) respondents. The proportions that reported that they were not interested

[13] Principal Investigators and Research Leaders Survey (PIRLS) UK aggregate results 2015 www.vitae.ac.uk/pirls

in training in this area were also much higher in Panels B and D (which was where least training was reported). These differences could possibly reflect varying interpretations of the meaning of ethical research conduct, with Panels A and C more likely to be engaged in research which involves humans or animals.

Significantly more females than males reported that they had been trained in ethical research conduct. This difference was seen within all REF Panels, with a larger difference for Panel A respondents. 40% of female Panel A respondents reported that they had been trained in this topic, compared with 28% of male Panel A respondents. There was also a slight correlation with extent of research experience. The overall increase in participation in this area of training was evident in all of the sub-groups analysed.

It was notable that the proportions of respondents who reported that they were not interested in training were higher for ethical research conduct than for any other theme questioned, although at a similar level as for equality and diversity. This is possibly because many research staff believe they already have a good inherent understanding of research ethics, even without formal training, rather than indicating that they are not committed to ethical conduct.

3.3.3 Knowledge exchange and research impact

Translating research into innovation and impact is seen as essential in increasing economic growth, improving public services and policy making, and enhancing the nation's health. Demonstrating the impact of research is embedded in the UK Funding Bodies Research Excellence Framework (REF) and the Research Councils Pathways to Impact. CROS provides insight into how research staff are engaging in knowledge exchange activities.

Almost 44% of CROS 2015 respondents reported they collaborated with businesses or other non-academic research users, and a further 40% felt that they would like to do so.

Figure 12 Proportions of respondents of different types reporting that they had undertaken collaborative research with businesses or other non-academic research users

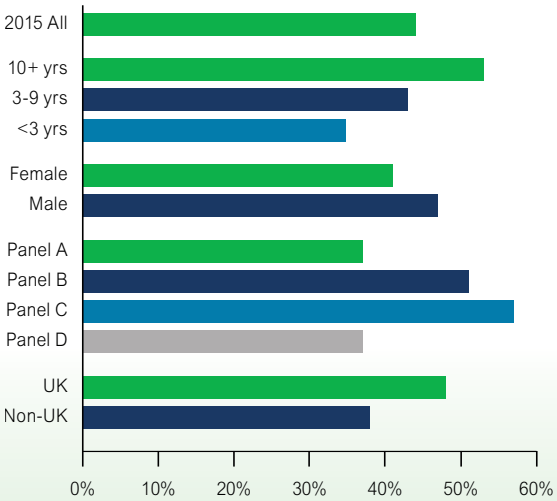
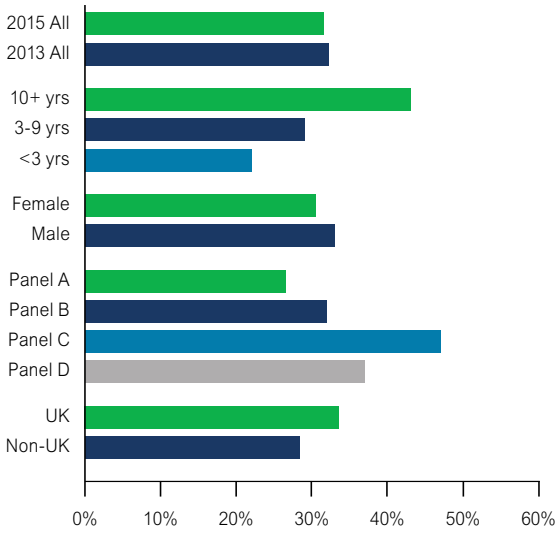


Figure 13 Proportions of respondents of different types reporting that they had undertaken knowledge exchange activities



Such collaborative research was most commonly reported by respondents working in Panel C, especially, and Panel B (Figure 12), and less common amongst Panels D and A. It was somewhat more commonly reported by male respondents, UK domicile and those with more research experience. There was no fully comparable question in 2013.

Exploring other activities, a somewhat lower proportion of respondents (32%) had undertaken knowledge exchange activities and slightly fewer (28%) had engaged with policymakers and end users. These proportions were similar to or fractionally lower than recorded in 2013, however, the proportions who wished to undertake these activities were very slightly higher in 2015.

By REF Panel, a greater proportion of respondents working in Panel C had undertaken knowledge exchange (47%) than amongst those in other Panels (Figure 13), with the lowest proportion amongst Panel A respondents.

Although slightly more male respondents reported that they had participated in knowledge exchange than females, overall, the extent to which this was the case was different in the four Panels. On the other hand, far more respondents with long experience had participated (43%) than those in their first two years as research staff (23%). Somewhat more UK domiciled respondents tended to have participated in knowledge exchange than amongst non-UK respondents.

Extremely similar trends to these were seen for engagement with policymakers and end users, although with a slightly more pronounced difference for respondents in Panel C subjects (56% of whom had participated in such engagement, double the overall figure, and much higher than the 23% proportion amongst Panels A and B respondents).

Amongst those who reported that they participated in knowledge exchange, 52% felt recognised and valued for their contribution, while 24% did not, and the others did not know.

Figure 14 Proportion of CROS respondents of different types who had undertaken or were interested in training or CPD activity in knowledge exchange

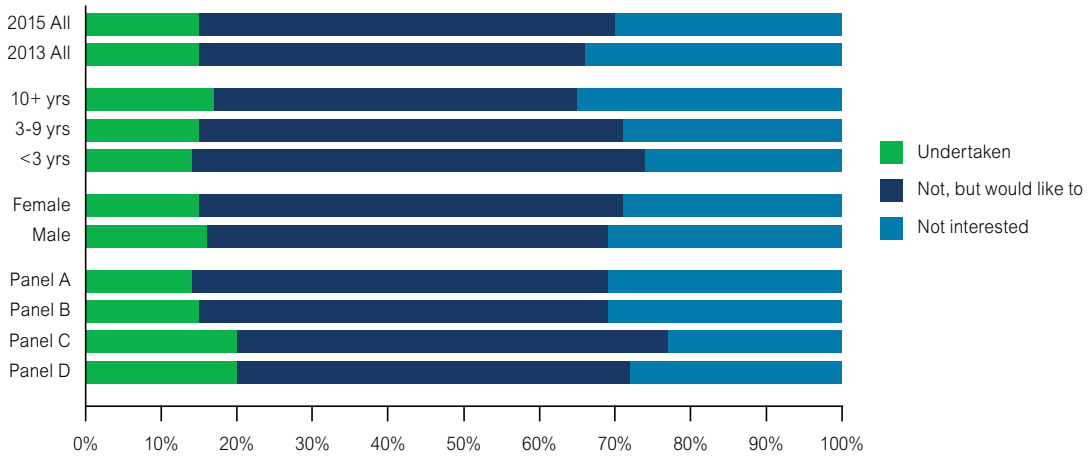
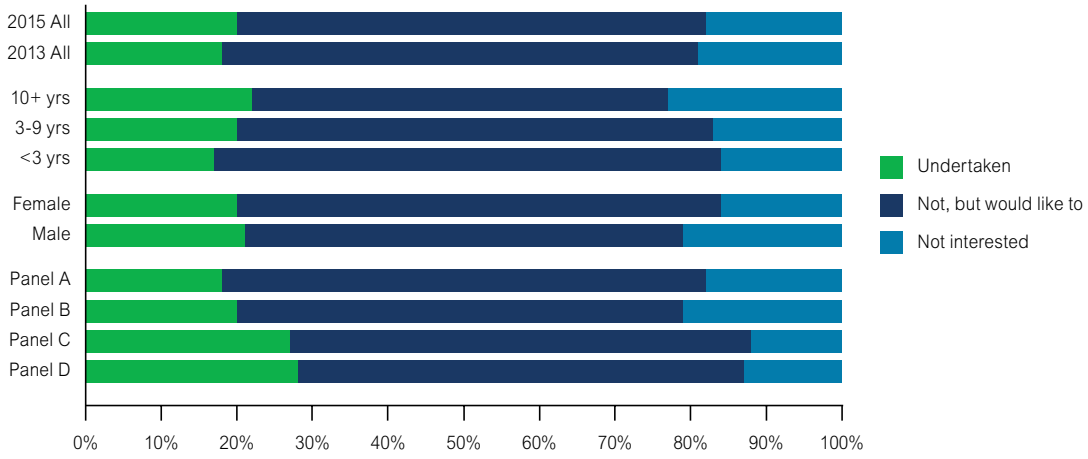


Figure 15 Proportion of CROS respondents of different types who had undertaken or were interested in training or CPD activity in research impact



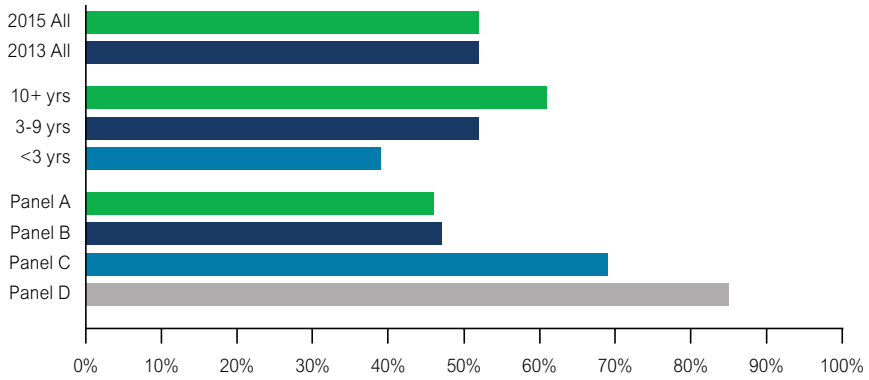
Although there had been no increase in the overall proportion of CROS 2015 respondents who had been trained in knowledge exchange (15%) compared with the position in 2013, a slightly higher proportion were interested in undergoing such development (Figure 14). There was slightly greater interest and participation in training in this area amongst Panel C and D respondents. Females and those with least experience were somewhat more interested to undergo training or support in knowledge exchange. Amongst those who reported they participated in knowledge exchange activity, the proportion that had been trained in this (32%) was roughly double that in the overall population.

20% of CROS 2015 respondents had undertaken training or CPD activity on the related theme of research impact, slightly higher than had been the case in 2013 (18%). The proportion seeking training or support in this area remained high at 62%, with only 18% not interested in development in this area.

Slightly higher proportions of respondents in Panels C and D had undertaken training on impact than amongst Panels A or B respondents, although the proportion of respondents interested in obtaining training in this area was broadly similar across all Panels. There was a rough correlation in the proportion of those who had had training in this area with length of experience, with slightly higher proportions of females and less experienced research staff keen to undertake training (Figure 15). A higher proportion of those with more than 10 years' service as research staff reported that they were not interested in development in relation to research impact, perhaps because they felt confident in this area already. The slight increase in levels of participation in training on this theme was evident for all sub-groups that were analysed.

A rise was seen in the level of awareness of RCUK's Pathways to Impact since 2013, with 59% of 2015 respondents aware of this (compared with 47% in 2013) and 65% of UK-domiciled respondents. This varied quite strongly with REF Panel: 68% of Panels C and D respondents were aware of Pathways to Impact, whereas this was 62% of Panel B respondents and 53% in Panel A. There were significantly higher levels of awareness (63%) and, especially, understanding (30%) of the initiative amongst those with long experience (i.e. ten years or more) as researchers, than amongst recently appointed research staff (49% and 15%, respectively).

Figure 16 Proportion of CROS 2015 respondents of different types who have participated in teaching and lecturing



3.3.4 Participation in teaching

Although the target population for CROS are research staff, i.e. primarily employed to or engaged in research, many are involved in teaching and other wider activities. CROS provides insight into the views and experiences of research staff who engage in teaching.

Over half of CROS 2015 respondents reported that they participate in teaching or lecturing (52%), almost exactly the extent reported in 2013, with a further 40% keen to do so. However, this overall figure masked strong variations by REF Panel (Figure 16). While under half of respondents in Panels A and B participated in teaching, this increased to 69% amongst Panel C and 85% of Panel D respondents. There was no significant variation by gender, but some correlation with length of research experience, rising from a level of around 40% amongst those with two years or less of research experience.

The proportion of respondents who reported that they had undertaken training in teaching was lower at 31% of all CROS 2015 respondents, with a further 46% wishing to do so. This varied from 27% amongst Panels A and B respondents to more than double (56%) amongst Panel D respondents.

The proportion of respondents who felt recognised and valued for their contributions to teaching and lecturing was 52%, (excluding not applicable respondents) while 36% reported that they did not feel valued for this work.

Normalising for non-applicable responses, the proportions who felt they were not valued for their teaching work were 40% amongst Panel A, 33% for Panels B and C, and 26% for Panel D respondents. Overall recognition is generally higher amongst the REF Panels where teaching activity is more widespread amongst respondents.

More than half of CROS 2015 respondents (58%) supervised undergraduate students or postgraduate researchers, and a further 31% wished to do so. Around 30% had undertaken training in such supervision. However, 32% did not feel that they were recognised or valued for this work (of those reporting that this was applicable to them). These proportions were all relatively similar to those recorded in 2013. Just under 40% mentored other researchers, although this was markedly lower than the 47% that had reported doing this in CROS 2013.

3.4 Equality and diversity

3.4.1 Awareness and training

In the last few years there has been considerable attention to equality and diversity issues in the HE research environment, with a number of major initiatives relating to the employment and development of researchers, including the Athena Swan Charter and its extension the Gender Equality Charter Mark. CROS 2015 provides a perspective on the level of awareness of equality and diversity within the research staff community.

Awareness of Athena Swan has risen markedly since 2013 amongst CROS respondents. Over 80% of CROS 2015 respondents reported that they were aware of it (compared with 55% in 2013), with 48% reporting some understanding of the initiative.

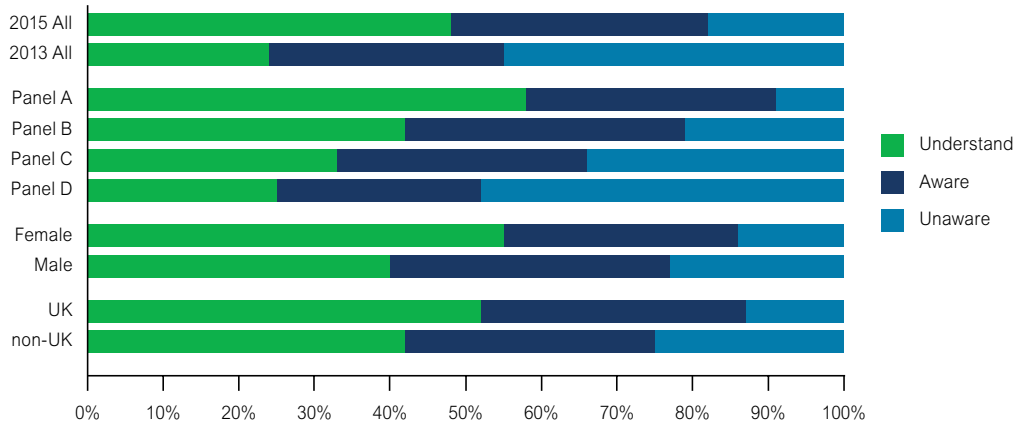
This overall growth in awareness masks quite a varied picture amongst different sub-groups (Figure 17). As the initiative was launched specifically in relation to women in science, it is not surprising that the highest understanding and awareness were amongst Panel A especially and Panel B respondents, while only just over half of Panel D respondents were aware of it. Understandably, there was also a higher awareness amongst female respondents than males, although not dramatically so. This is likely to account for some of the differential between Panels A and B, which have substantially different compositions by gender.

Detailed analysis showed that there was higher awareness amongst females than males in all REF Panels; for example, 41% of females in Panel D had not heard of the initiative whereas this was the case for 55% of males in Panel D.

Differences between age groupings were very small, but rather more UK respondents were aware of Athena Swan than those of other domiciles. Overall, the growth in awareness and understanding of the initiative was evident in every sub-group analysed.

A higher proportion of CROS respondents in 2015 (38%) have undertaken training or other CPD activity on equality and diversity compared with 27% in 2013, while the proportion stating that such training was not of interest to them was lower (43%, compared with 52% in 2013). These shifts are likely to reflect the recent focus on equality and diversity within the

Figure 17 Extent of awareness and understanding of Athena Swan amongst CROS 2015 respondents of different types



sector. The proportions undertaking training were relatively similar (40-43%) across the REF Panels, other than in Panel B where this was lower (31%). In all Panels, a lower proportion of males had undertaken training than females, and this was most pronounced within Panel B where it was 28% of males, compared with 38% of females. There was also a broad correlation with length of experience as a researcher.

3.4.2 Personal perceptions and experiences

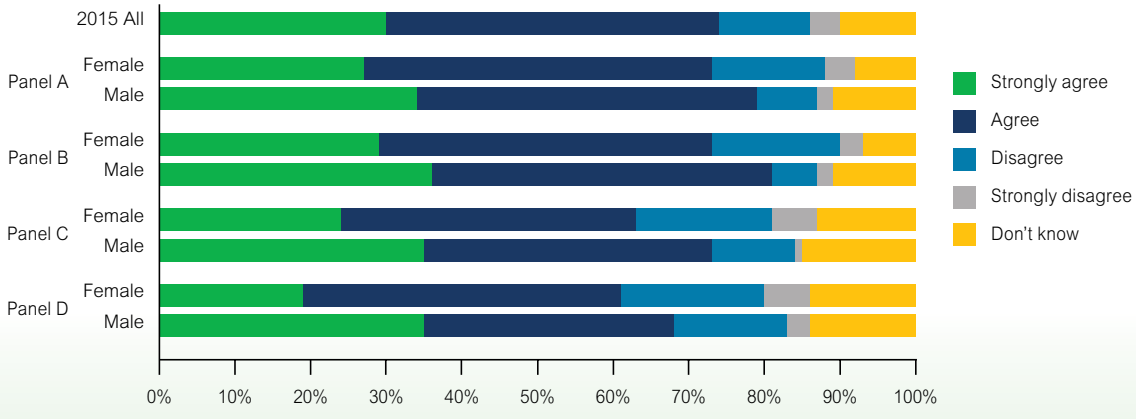
The great majority of CROS 2015 respondents believed that their institution is committed to equality and diversity (86%, with 9% dissenting from this view and 5% uncertain). This overall perception has remained very consistent since CROS 2011, as has the proportion who report that they have ever felt that they have been discriminated against personally (10%).

The majority (over 75%) also believed that staff in their institution are treated fairly irrespective of their personal ('protected') characteristics such as gender, age or ethnicity. Although the overall picture was very similar to that observed in 2013, slightly lower proportions agreed strongly that this was the case, while slightly larger minorities were not sure. For example, in relation to age, 30% strongly agreed that there was fair treatment (compared with 32% in 2013), while 12% did not know (10% in 2013). Fewer than 5% disagreed that there was fair treatment irrespective of disability, ethnicity, gender identity, religion or belief, and sexual orientation, rising to 7% for nationality, 11% in relation to age and 12% for pregnancy/maternity. The level of disagreement was highest in relation to gender, where 16% disagreed that there was fair treatment, which was higher than the 14% recorded in 2013 (and 11% in 2011). These slightly raised levels could be evidence of increased awareness of these issues amongst research staff.

When analysed by gender, 20% of female respondents disagreed that there was fair treatment irrespective of gender, which was slightly higher than had been the case in 2013 (18%) and considerably higher than the 10% of males who disagreed (8% in 2013). A slightly higher proportion of females also disagreed that there was fair treatment irrespective of pregnancy/maternity (16%, compared with 12% overall). These trends tended to increase slightly amongst older respondents.

Analysis by REF Panel and gender, revealed that there were some varying perceptions in different Panels (Figure 18). Female respondents in Panels C and D were less sanguine about their institution's fairness of treatment in relation to gender, with 25% of female Panel D respondents perceiving unfairness. Interestingly the trend by Panel was also visible, broadly, for male respondents, with more of those in Panel D, especially, perceiving unfair treatment by gender.

Figure 18 Proportions of CROS 2015 respondents of different types agreeing that their institution treats staff fairly irrespective of gender



The CROS 2013 aggregate report demonstrated that perceptions that institutions did not treat staff fairly, regardless of personal characteristics, were expressed more strongly in relation to career progression/promotion, reward and participation in decision-making, than in relation to recruitment, access to training or day-to-day treatment at work. This pattern was replicated within CROS 2015 responses, with 22% of all respondents disagreeing that there was fairness in relation to career progression, 21% in relation to participation in decision-making and 18% reward. Slightly lower proportions agreed strongly that there was fair treatment, and slightly more were uncertain, than reported in 2013, while the proportions actively disagreeing were similar to those observed in 2013.

As had been the case in 2013, higher proportions of female respondents than males perceived unfairness in staff treatment in relation to progression, reward and participation in decision-making. For example, 25% of female respondents disagreed that there was fairness in relation to progression, compared with 22% overall. This was exacerbated for respondents in Panel D in particular, amongst whom the comparable proportion was 31%, in comparison, for example, with 24% amongst Panel A respondents). Results for day-to-day treatment at work and recruitment and selection showed broadly similar trends with subject specialism, but to a much lower extent.

The 2015 results also confirmed previous observations that perceptions of unfair treatment are more common among respondents who had been research staff for a long period and, especially, those who had had five or more contracts with their current institution. For example, 30% of respondents who had been research staff for more than 10 years disagreed that there was fairness in relation to career progression, and 26% in relation to reward, whereas the comparable figures for those in their first two years were 14% and 11% respectively. Amongst those who had had five or more contracts with their institution, 35% disagreed that the institution treated all staff fairly in relation to career progression, and 31% in relation to reward. For those on their first contract, the proportions were 18% and 15%, respectively.

Just under 70% of respondents indicated that they were satisfied with their work/life balance, very similar to CROS 2013 and 2011. A new question in 2015 revealed that 51% of respondents believed that their institution promoted better health and well-being at work, while 33% disagreed (and 16% did not know).

4 Conclusions

The CROS 2015 aggregate results present what is believed to be a representative view across the UK higher education sector of the attitudes and activities of research staff, recorded through 8,964 responses and from 72 institutions, more than have previously participated. CROS 2015 respondents comprise up to a quarter of all research staff in the UK and provide a robust and illuminating insight into the UK's progress in achieving the vision of the Concordat to Support the Career Development of Researchers.

CROS is now strongly established as an important evaluation mechanism for UK institutions reviewing their implementation of the Concordat principles and seeking evidence for their submissions to the HR Excellence in Research Award and the Athena Swan Charter. Comparison of institutional results with the CROS aggregate figures will be valuable to assess the extent of local progress, while further benefit may arise from identification of pockets of stronger practice and progress within institutions, or of poorer performance. Identifying and learning from these may be valuable in understanding how to make further increases to progress in Concordat implementation locally and overall. It is likely that use of responses to open-ended and local questions will be helpful in doing this.

Comparison of the CROS 2015 aggregate results with CROS 2013, 2011 and 2009 demonstrate that progress has been made in the sector on many of the Concordat principles. The extent of progress varies across the range of principles, but there is remarkable consistency in many results and in some areas, progress has reached a plateau. This depiction of overall progress reflects the progress made by individual institutions, particularly in relation to recruitment and support, support and career development, and some aspects of recognition and value, for which institutions should be commended, although the results within individual institutions are likely to be more varied.

Recruitment and selection

Generally, UK institutions operate open and transparent recruitment and selection processes, and continue to improve in this area. Higher proportions, recruited in the last two years, were supplied with job descriptions and other employment-related information when they applied for their current role. Very slightly more were offered inductions when they started.

Three-quarters of research staff are employed on fixed-term contracts, with only a small reduction since 2013. However, this was considerably higher for research staff in their first position in the institution, amongst whom 91% were employed on fixed-term contracts, and to some extent higher for female research staff. There was evidence to suggest a slight decrease in the use of very short contracts since 2013, although these remained common for research staff without open-ended contract who had had five or more contracts with their institution.

Recommendation

1. Institutions should review their use of fixed-term contracts, including amongst different groups, and only use them where fair and appropriate.

Support and career development

Participation in appraisal or staff review within the last two years has continued to increase, to two-thirds overall, although this was higher for research staff on open contracts. The proportion of respondents claiming that they have not been invited to undertake appraisal has also fallen further. Perceived levels of usefulness of these appraisals, at 61% overall, have been maintained at similar levels or very slightly increased; an achievement in the context of an increasing extent of appraisal.

CROS 2015 results largely confirm the previous picture where positive attitudes are held by most respondents in terms of integration within their research and other communities and feeling recognised and valued by their institution for their research activity. On the other hand, perceptions of feeling recognised and valued for wider contributions beyond research remain at a lower level for certain activities and have not risen since 2013.

Recommendations

2. Institutions should consider how they can recognise more fully the contribution of researchers in areas such as teaching, supervision, knowledge exchange, impact and public engagement.

3. Institutions should identify any local sub-populations of researchers who do not feel integrated into their departmental or institutional communities and help them to explore career development strategies.

The overwhelming majority of 2015 respondents claim that they take ownership of their career development, feel encouraged to engage in career development and had spent at least some time on continuing professional development annually. A consistent half of respondents have a career development plan and over half now have a formal record of their development activity, which has risen slightly since 2013.

The take-up of training and development activities has remained broadly static compared with levels reported in 2013 and 2011. There remains significant enthusiasm for wider experiences beyond their core research activity. Analysis of CROS 2015 focused specifically on several activities that are of current interest: public engagement, research integrity, knowledge exchange activities and participation in teaching. It explored the extent to which research staff are engaged in these activities, as well as the extent to which they have been or wish to be trained, and recognised for their engagement.

Although there was fairly low awareness of the Concordat for Engaging the Public with Research, the proportions participating in public engagement and outreach were substantial, as were those participating in knowledge exchange and impact activities. However, by no means all of these research staff had been trained in this area, or felt recognised and valued for these activities. Just over a quarter of research staff were aware of the Concordat to Support Research Integrity, with almost a third having undertaken training in ethical research conduct and similar numbers wanting to do so. The extent of teaching and lecturing, other supervisory and management activity was significant and continues to offer opportunities for research staff to develop more broadly through these types of activity. The experience of undertaking an internship outside higher education research remains rare.

Recommendations

4. Institutions should explore opportunities to provide training, development or support to research staff who are already undertaking activities such as teaching, knowledge exchange and public engagement, as well as those who express an interest in doing these activities.

5. Institutions should provide opportunities for reflection and learning from these broader activities to widen career horizons and prepare research staff for a range of different career directions.

In terms of career intentions, over three quarters of research staff respondents continue to aspire to an academic career in the long term, and around two thirds expect to achieve it. These motivations are stronger in the social sciences, arts and humanities compared with the sciences. Overall, this seems to suggest that many research staff do not have realistic expectations of their long-term career prospects and have little knowledge of or value careers in other employment sectors. This is consistent with the results from the 'What do research staff do next project'[14], exploring the transition and occupations of research staff who move out of academia into other occupations. To provide research staff with concrete examples of other occupations, Vitae has published 40 career stories of research staff on how and why they made the transition into other occupations.

Recommendation

6. Institutions should encourage research staff to engage more actively in career development planning and consideration of a wider range of career options, and provide advice about career progression both within and outside higher education, including the positive experiences of those who have moved to careers outside higher education.

Equality and diversity

The vast majority of respondents continue to report that they believe that their institution is committed to diversity and equality and that staff are treated fairly by the institution in relation to recruitment, access to training and day-to-day treatment at work. There has been a significant increase in awareness of Athena Swan, which is now known to four-fifths of all respondents. Over two-thirds were satisfied with their work-life balance and half believed their institution promoted better health and well-being.

However, there are significant minorities who disagree, with around a fifth of research staff perceiving some unfairness in treatment in relation to progression and reward, in particular with gender. This has persisted in several surveys despite greater awareness of equality and diversity issues in higher education and there are two groups of research staff particularly worthy of further attention.

There is a range of evidence that indicates that female research staff may be disadvantaged, or perceive disadvantage.

- A higher percentage of female research staff were on fixed-term contracts compared to males, which was not explained by disciplinary differences, age, length of experience or mode of employment
- A fifth of female research staff were employed on a part-time basis compared with 6% of males
- Slightly more female than male research staff did not know their career aspirations or expectations
- A fifth of female research staff disagreed there was fair treatment irrespective of gender, twice that of males; this was more apparent in the social sciences, arts and humanities
- A quarter of all female research staff disagreed there was fair treatment in relation to progression, reward and participation in decision-making, increasing to 30% in the arts and humanities

Another group of research staff that bears further exploration are those who have had five or more contracts in their institution:

- A third of these respondents were employed on contracts of a year or less
- A fifth did not know what they would do in the long term
- They were more likely to perceive unfair treatment of staff regardless of other personal characteristics
- More than a third disagreed that the institution treated all staff fairly in relation to career progression, and 31% in relation to reward

[14] What do research staff do next? career stories www.vitae.ac.uk/researcher-careers/researcher-career-stories/what-do-research-staff-do-next-career-stories

Recommendation

7. Institutions should undertake detailed scrutiny of their CROS data, longitudinal trends and open-ended responses to identify any perceptions of discrimination and unjustified inequalities between different types of research staff and with other staff, in order to consistently embed improved institutional policies that are now in place.

Next steps

With the backdrop of what seems likely to be an increasingly challenging funding environment, different efforts may need to be made to achieve substantial further change in the future. Identification of how to achieve deeper cultural shifts may be assisted by more local investigation, identification of good practice and what underlies it. Institutions are strongly encouraged to analyse their own results, make comparisons with the UK aggregate, the benchmarking groups, and particularly their own longitudinal progress. Institutions should also share their results with research staff, their managers, senior managers and researcher development professionals.

The CROS/PIRLS Steering Group will continue to refine and deploy the survey to assist institutions to strive to improve their provision for research staff, enhance their provision through sharing practice and identify evidence of their progress in implementation of the Concordat principles.

Aggregate analysis of the free-text responses made by individual respondents to open-ended questions in CROS 2015 is planned for the first time on a pilot basis, which it is hoped will draw out key challenges that remain and opportunities that may exist to achieve further progress in implementation of the Concordat principles.

Recommendations

8. Institutions are encouraged to continue to participate in CROS and to utilise the data obtained to enhance their career development provision for research staff and evidence of progress for other initiatives, such as Athena Swan and the European HR Excellence in Research Award.

9. Institutions are invited to support the CROS/PIRLS Steering Group in its efforts to maximise the value obtained from the survey for institutions and the sector in providing feedback on the appropriateness of the survey, contributing case studies of practice and participating in the forthcoming pilot of an aggregated confidential analysis of responses to open-ended questions.

Appendix 1: CROS 2015 UK aggregate results

Results from CROS 2013 are shown [x] only where questions are comparable and where there was a difference between the 2015 and 2013 results. Underlined text is used to indicate where wording within a question or option was different from CROS 2013.

All results shown as percentages except N (number of responses).
n/a – not applicable

Careers in Research Online Survey CROS 2015

Section 1 – About your research career

In this section we are interested in your career as a member of research staff in higher education and your current employment. Please exclude any time studying for a doctorate, unless you did that whilst being employed as a researcher.

1. Excluding any period of doctoral study
- **A** How long have you been a researcher?
- **B** How long have you been a researcher at this institution?
- **C** How long have you been a researcher at other HE or research institutions in the UK?
- **D** How long have you been a researcher at other HE or research institutions outside the UK?
- **E** How long have you been a researcher in other employment sectors?

Years	< 1	1	2	3	4	5	6	7	8	9	10	> 10	n/a	N
A	7.9	6.3	10.3	9.4	7.3	8.3	6.5	5.6	4.7	3.5	4.7	25.1	0.3	8946
B	18.7 [20.2]	13.3 [11.3]	17.0	10.9	6.8 [8.3]	6.6	4.3	3.8	2.6	1.8	2.2	11.5	0.4	8947
C	7.2	5.6	6.7	6.1	4.7	3.6	2.4	2.0	1.6	1.0	1.3	7.0	50.9	8922
D	5.0	4.8	5.2 [3.9]	4.3	3.3	3.0	1.8	1.5	1.1	0.6	0.8	2.1	66.4 [68.4]	8897
E	4.0	4.0	3.8	2.3	1.1	1.4	0.5	0.5	0.4	0.2	0.5	1.7	79.7 [82.0]	8886

2. How many individual contracts of employment as a researcher have you had with your current institution? N=8927

0	2.1
1	47.6
2	20.0
3	11.9
4	6.2
5 or more	12.2

3. Are you currently employed… N=8902

Full-time?	86.3
Part-time?	13.7

4. What is the nature of your current contract? N=8963

Fixed-term	74.3 [77.0]
Open-ended (can be known as 'permanent')	23.8 [21.4]
Casual/hourly-paid	0.6
Not sure	1.3

5. What is the total length of your fixed-term contract? N=6641

6 months or less	5.1
7 - 12 months	14.2 [16.2]
13 – 24 months (1-2 years)	28.1
25 – 36 months (2-3 years)	38.1 [34.6]
37 – 48 months	6.8
49 – 60 months	6.5 [7.9]
More than 5 years	1.3

6. What is your main subject specialism (current contract)? N=8667

Panel A		
A1	Clinical Medicine	3.7
A2	Public Health, Health Services and Primary Care	9.2
A3	Allied Health Professions, Dentistry, Nursing and Pharmacy	2.5
A4	Psychology, Psychiatry and Neuroscience	8.3 [6.8]
A5	Biological Sciences	24.0
A6	Agriculture, Veterinary and Food Science	1.9
Panel B		
B7	Earth Systems and Environmental Sciences	3.9
B8	Chemistry	4.9
B9	Physics	5.6
B10	Mathematical Sciences	2.4
B11	Computer Science and Informatics	4.5
B12	Aeronautical, Mechanical, Chemical and Manufacturing Engineering	3.4
B13	Electrical and Electronic Engineering, Metallurgy and Materials	3.4
B14	Civil and Construction Engineering	0.9
B15	General Engineering	1.3
Panel C		
C16	Architecture, Built Environment and Planning	1.1
C17	Geography, Environmental Studies and Archaeology	2.5
C18	Economics and Econometrics	1.2
C19	Business and Management Studies	1.7
C20	Law	0.6
C21	Politics and International Studies	0.8
C22	Social Work and Social Policy	1.3
C23	Sociology	2.0
C24	Anthropology and Development Studies	0.5
C25	Education	1.9
C26	Sport and Exercise Sciences, Leisure and Tourism	0.7
Panel D		
D27	Area Studies	0.1
D28	Modern Languages and Linguistics	0.9
D29	English Language and Literature	0.6
D30	History	1.6
D31	Classics	0.2
D32	Philosophy	0.3
D33	Theology and Religious Studies	0.2
D34	Art and Design: History, Practice and Theory	0.6
D35	Music, Drama, Dance and Performing Arts	0.4
D36	Communication, Cultural and Media Studies, Library and Information Management	0.8

7. What is the main source of funding for your research activity? N=8922

Charity funded	17.2
EU/EC funded	13.7
Institution funded	15.6 [21.0]
UK Research Council funded	29.1 [25.6]
UK industry funded	3.1
UK government (including devolved administrations) funded	11.1
Other	10.3

8. Which Research Council is your main source of funding? N=2547

AHRC	4.8
BBSRC	16.1
EPSRC	32.7 [37.7]
ESRC	10.2 [8.2]
MRC	20.2 [18.1]
NERC	10.5 [11.7]
STFC	5.6 [3.7]

Section 2 – Recognition and Value

This is your opportunity to consider how you, as a researcher, feel valued and recognised as a member of your institution's staff.

9. To what extent do you agree that your institution both recognises and values the contributions that you make to…

	Agree strongly	Agree	Disagree	Disagree strongly	n/a	Don't know	N
a) Grant/funding applications?	11.4 [12.7]	33.6 [37.7]	14.3	7.3	22.1 [26.8]	11.3	8921
b) Knowledge transfer and commercialisation activities?	6.4 [7.6]	31.0 [36.4]	13.8	6.4	25.2 [35.1]	17.2	8909
c) Managing budgets/resources?	3.7 [4.7]	24.0 [29.7]	19.2	8.7	28.5 [36.8]	15.9	8905
d) Peer reviewing?	5.0 [6.0]	26.6 [33.0]	22.8 [25.8]	12.1 [11.0]	17.1 [24.2]	16.5	8891
e) Publications?	25.2 [27.2]	48.3 [49.5]	10.4 [12.1]	4.6	3.6 [6.2]	7.9	8907
f) Public engagement with research?	10.3	39.6 [43.0]	15.2 [17.7]	6.5	14.1 [23.1]	14.3	8895
g) Supervising/managing staff?	4.8	26.2 [29.2]	18.0 [19.7]	8.5	32.2 [37.6]	10.2	8909
h) Supervising research students?	7.5 [8.9]	33.9 [35.8]	18.6	9.2	22.5 [27.5]	8.4	8909
i) Teaching and lecturing?	6.8	28.0 [29.9]	15.7	8.4	33.0 [37.9]	8.1	8913

10. To what extent do you agree that your institution treats you (as a member of research staff) equally with other types of staff in relation to:

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	n/a	N
Access to training and development opportunities?	30.0 [33.1]	53.3 [52.3]	8.1 [6.8]	3.6	4.4	0.7	8927
Opportunities to attend conferences and external meetings?	28.2 [29.3]	49.3	11.6	5.0	4.7 [3.7]	1.2	8924
Opportunities to participate in decision-making processes (e.g. committees)?	10.1	36.1	24.8 [26.6]	12.8	11.2 [7.3]	5.0 [7.0]	8923
Opportunities for promotion and progression?	7.3	26.8 [29.0]	26.7	20.8	13.7 [9.4]	4.7 [6.1]	8919
Requests for flexible working?	27.2 [28.5]	39.6 [41.1]	5.0	2.9	13.9 [9.4]	11.4 [13.1]	8908
Terms and conditions of employment (excluding any fixed-term nature of contract)?	13.7	40.5 [45.5]	11.6	7.6 [6.6]	16.5 [11.2]	10.0 [11.0]	8906
Visibility on websites and staff directories?	21.7	52.0	10.9	6.0	7.7 [5.6]	1.7	8911

11. To what extent do you agree that…

	Agree strongly	Agree	Disagree	Disagree strongly	N
a) You are integrated into your department's research community?	25.0 [26.3]	52.1	17.6	5.2	8926
b) You are integrated into your institution's research community?	13.3	46.7 [48.0]	32.6	7.4 [6.2]	8921
c) You are integrated into your wider disciplinary community?	17.4	50.3 [51.4]	27.3	5.0	8904

12. Over the past two years (or since taking up your current position if that is more recent) have you participated in staff appraisal/review N=8964

Yes	67.0 [59.5]
No	33.0 [40.5]

13. You have not participated in appraisal because: N=2951

You are on probation?	9.0 [10.9]
You've only recently been appointed?	30.9 [29.7]
You haven't been invited to do so?	37.2
You haven't arranged this?	11.6 [6.0]
You are not eligible?	4.1 [5.2]
Other	7.2 [10.4]

14. How would you rate the usefulness of your institution's staff review/appraisal scheme:

	Very useful	Useful	Not very useful	Not at all useful	n/a	N
a) Overall?	10.5 [8.2]	50.7 [35.9]	28.0 [21.6]	10.3 [9.2]	0.5 [25.0]	5957
b) For you to highlight issues?	12.1 [8.7]	54.1 [39.9]	23.3 [17.9]	8.9 [7.6]	1.7 [25.8]	5949
c) In helping you focus on your career aspirations and how these are met by your current role?	12.9 [9.4]	44.9 [32.5]	29.1 [21.9]	12.0 [10.8]	1.1 [25.5]	5975
d) In identifying your strengths and achievements?	11.7 [9.0]	51.6 [36.5]	26.2 [21.0]	9.8 [8.5]	0.8 [25.1]	5974
e) In leading to training or other continuing professional development opportunities?	9.5 [6.8]	42.6 [29.2]	33.3 [26.8]	13.2 [11.2]	1.3 [26.0]	5977
f) In leading to changes in work practices?	4.7 [3.1]	26.7 [19.7]	41.9 [31.5]	21.3 [16.4]	5.4 [29.2]	5975
g) In reviewing your personal progress?	13.6 [9.5]	55.5 [40.8]	21.1 [16.4]	9.1 [8.1]	0.7 [25.2]	5974

15. How would you rate your knowledge and understanding of the following UK initiatives relevant to research staff?

	I have some understanding of this/these	I know these exist but I don't know the detail	I have never heard of this/ these	N
a) Athena Swan Gender Equality Charter Mark	47.9 [23.6]	33.9 [31.2]	18.2 [45.2]	8927
b) Concordat for Engaging the Public with Research	10.9 [7.9]	26.0 [22.8]	63.1 [69.4]	8918
c) Concordat to Support the Career Development of Researchers	15.4 [13.9]	23.7	60.9 [62.9]	8910
d) Concordat to Support Research Integrity	7.1 [5.0]	19.9 [17.5]	73.0 [77.5]	8898
e) European 'HR Excellence in Research' Award recognition	8.0 [6.0]	29.3 [26.4]	62.7 [67.6]	8909
f) National Co-ordinating Centre for Public Engagement (NCCPE)	3.9	16.8	79.2	8885
g) RCUK 'Pathways to Impact'	24.2 [17.9]	34.6 [28.9]	41.2 [53.1]	8863
h) Research Excellence Framework (REF)	70.2 [61.2]	19.5 [23.8]	10.3 [15.0]	8918
i) Vitae	23.7 [19.7]	28.9 [24.8]	47.4 [55.4]	8894
j) Vitae Researcher Development Framework (RDF)	19.5 [14.8]	26.2 [22.3]	54.2 [62.9]	8913

16. Please provide any additional comments on how you are recognised and valued by your institution, what more it could do to recognise and value your contributions, and your knowledge about research staff initiatives

Section 3 - Recruitment and Selection

17. Have you been recruited into your current post in the last two years? N=8964

Yes	55.7
No	44.3

18. How did you find out about your current post? (Select all that apply) N=4984

By word of mouth	31.3 [24.1]
I am the grant/fellowship holder	6.6
I saw it advertised/listed	49.3 [44.0]
I was named on the grant	7.1
I was redeployed (e.g. to avoid redundancy)	5.0 [3.0]
I don't know/can't remember	0.3
My previous contract was extended	7.7
Other (Please specify)	4.1 [5.5]

19. During the application process, which of the following were you provided with?

	Yes	No	I don't remember	N
A written description summary of what the job entailed (job description)	89.0 [86.0]	8.1 [9.5]	2.8 [4.5]	4951
Details of the qualifications required of the post-holder	89.8 [87.3]	7.5	2.8 [4.4]	4945
Details of the specialist research skills required of the post-holder	87.3 [83.2]	8.9 [11.0]	3.8 [5.7]	4941
Details of the transferable/personal/management skills required of the post-holder	72.8 [67.3]	14. 0 [17.4]	13.2 [15.3]	4938

20. When you started with your current employer how useful did you find the following?

	Very useful	Useful	Not very useful	Not at all useful	Not offered	Offered but not taken	N
a) Institutional-wide induction programmes	6.3	27.4	20.4	5.9	29.1	10.8	4930
b) Departmental/Faculty/Unit induction programme	9.8 [8.3]	33.0 [31.9]	14.8	3.7	33.9 [35.1]	4.8	4933
c) The local induction to your current role	21.0 [18.0]	41.7	9.0 [10.4]	2.2	24.0 [25.5]	2.3	4930

21. Please provide any additional comments on your experience of being appointed and inducted into your current post.

Section 4 – Support and Career Development

In this section we invite you to think about your professional development. By 'continuing professional development' (CPD) we mean an on-going and reflective approach to improving one's knowledge, attitudes and behaviours through a variety of formal and informal activities, such as developing your research techniques, presentational skills, project management skills, leadership capabilities, maintaining a record of professional development,etc.

22. To what extent do you agree that …

	Agree strongly	Agree	Disagree	Disagree strongly	N
a) You are encouraged to engage in personal and career development?	23.2 [24.3]	51.7 [49.3]	20.3	4.8	8919
b) You take ownership of your career development?	34.0	53.6 [51.9]	10.3	2.1	8909
c) You have a clear career development plan?	13.1 [14.2]	38.5	39.1	9.4 [8.4]	8887
d) You maintain a formal record of your continuing professional development activities?	13.6	42.3 [41.0]	37.0	7.0	8890
e) You use the Vitae Researcher Development Framework to support your continuing professional development activity	1.5	8.8 [7.4]	46.1	43.6 [45.2]	8855

23. In which areas have you undertaken, or would you like to undertake, training and other continuing professional development activities?

	Undertaken	Not undertaken but I would like to	This is of no interest to me currently	N
a) Career management	18.1 [19.9]	56.8 [54.0]	25.1 [26.1]	8759
b) Collaboration and teamworking	22.7 [24.6]	43.1 [41.2]	34.2	8748
c) Communication and dissemination	30.9 [31.9]	44.5 [41.3]	24.6 [26.8]	8738
d) Equality and diversity	37.6 [26.6]	19.6 [21.2]	42.8 [52.2]	8738
e) Ethical research conduct	29.8 [24.8]	27.5 [29.9]	42.7 [45.3]	8717
f) Interdisciplinary research	17.5	54.5	28.0	8715
g) Knowledge exchange	15.4	54.7 [51.3]	29.9 [34.4]	8675
h) Leadership and management	19.9	54.0	26.1 [27.5]	8757
i) Personal effectiveness	19.6 [21.0]	49.7 [47.6]	30.8	8712
j) Public engagement	21.8 [18.6]	50.1 [51.1]	28.1 [30.3]	8715
k) Research impact	20.3 [17.5]	61.5 [62.9]	18.3 [19.6]	8738
l) Research skills and techniques	40.7	40.1	19.1	8767
m) Supervision of doctoral/masters students	30.5 [28.8]	49.7 [48.8]	19.8 [22.4]	8794
n) Teaching or lecturing	30.9 [31.9]	46.4	22.7	8788
o) Being mentored	20.7	45.2	34.1	8718

24. During the past 12 months (or since taking up your current position if that is more recent) approximately how many days have you spent on training and other continuing professional development activities? N= 8816

None	16.6 [20.6]
Less than 1 day	8.6
1 day	10.4
2 days	14.7
3 days	12.3
4 days	7.2
5 days	9.7
6 days	3.1
7 days	4.3
8 days	1.7
9 days	0.5
10 days	3.1
More than 10 days	7.9

25. In what other areas would you like to undertake training or other continuing professional development activity?

26. In which area do you aspire and expect to work in the long term? (Select one option in each column)

	Aspire	Expect
Career in higher education – primarily research and teaching	42.5	33.6 [35.4]
Career in higher education – primarily research	34.4 [33.4]	25.7
Career in higher education – primarily teaching	1.7	2.4
Other role in higher education	1.5	2.3
Research career outside higher education	8.1	11.3 [10.1]
Self-employment/running your own business	2.8	1.6
Teaching career outside HE	0.2	0.6
Other occupations	3.6	7.3
Don't know	5.2	15.2 [16.3]
N	8883	8736

Which of the following have you done, or would you like to do as part of your current role?

	I have done this	I would like to do this	I currently have no interest in this	N
27. Working with others				
a) Collaborate with colleagues outside the UK	66.8	29.6	3.6	8900
b) Collaborate in research with businesses or other non-academic research users	43.8 [65.2]	39.6 [29.8]	16.5 [5.0]	8884
c) Interdisciplinary research projects	58.5	36.0	5.5	8885
d) Mentor and support other researchers	39.2 [46.8]	43. 4 [40.0]	17.4 [13.2]	8877
e) Supervise undergraduate or postgraduate research projects	59.2 [58.0]	30.8	10.1	8884
f) Undertake an internship/placement outside higher education research	8.6	43.6	47.8	8860
g) Work as part of a cross-disciplinary team	51.6 [59.3]	40.1 [33.8]	8.2 [6.9]	8880
28. Research and financial management				
a) Manage a budget	37.6	43.9 [42.9]	18.5	8870
b) Plan and manage a project	51.1	41.8	7.1	8874
c) Write a grant/funding proposal	53.4 [54.4]	38.7	7.8	8875
29. Engagement and impact				
a) Engage with policymakers and end users	28.3 [29.9]	47.0 [45.1]	24.7	8857
b) Knowledge exchange	31.6	52.1 [50.5]	16.4	8825
c) Participate in public engagement activities	43.5 [39.5]	38.7 [40.0]	17.9 [20.5]	8853
d) Teach or lecture	51.5	31.5	17.0	8869
30. Communication and dissemination				
a) Present work at a conference orally	80.7	15.8	3.5	8893
b) Write up research for publication as first author	79.1	19.3	1.6	8897

31. Please provide any comments you have about the training and career development you have undertaken or suggestions for activities you would like to have the opportunity to undertake.

Section 5 – Equality and Diversity

In this section we are interested in your views on equality of opportunity and whether equality and diversity is promoted in all aspects of the recruitment and management of research staff.

32. Please indicate your level of agreement or disagreement with the following statements

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) I believe my institution is committed to equality and diversity.	37.2	49.0	6.8	1.9	5.1	8917
b) I am satisfied with my work-life balance	19.0	50.3	21.0	8.2	1.4	8916
c) My institution promotes better health and well-being at work	12.6	38.6	24.0	9.1	15.7	8907

33. I think that staff at my institution are treated fairly, regardless of personal characteristics such as age, ethnicity, disability or gender, in relation to...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) Access to training and development	34.9 [37.9]	49.6	3.9	1.3	10.3 [8.5]	8892
b) Career progression / promotion	22.9 [24.9]	38.3	16.3	6.1	16.4 [14.2]	8885
c) Day to day treatment at work	30.6 [32.9]	50.3	8.1 [7.0]	2.4	8.5 [7.1]	8873
d) Participation in decision making	22.8 [24.5]	40.3 [41.6]	15.4	5.2	16.4 [14.2]	8878
e) Recruitment and selection	24.5 [26.3]	43.6 [44.7]	10.4	3.9	17.7 [15.0]	8885
f) Reward	20.9 [22.9]	35.9 [38.5]	13.4	5.2	24.6 [20.1]	8875

34. Overall, I think that staff at my institution are treated fairly irrespective of their:

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) Age	29.9 [32.0]	47.7	8.3	2.3	11.8 [10.0]	8858
b) Disability	31.0 [33.1]	43.2	2.9	0.9	22.0 [19.4]	8853
c) Ethnicity	33.3 [36.0]	46.9	3.8	1.2	14.8 [12.8]	8847
d) Gender	30.3 [32.5]	44.0	12.1 [10.4]	3.4	10.3	8842
e) Gender identity	28.7 [30.8]	38.8 [39.9]	2.7	0.9	28.9 [26.2]	8834
f) Nationality	32.6 [35.1]	47.9	5.3	1.6	12.6 [11.0]	8846
g) Pregnancy and maternity	26.3 [28.7]	38.7 [40.2]	8.7 [6.8]	2.8	23.5 [21.7]	8844
h) Religion/belief	32.1 [34.4]	45.5	1.5	0.7	20.2 [18.6]	8839
i) Sexual orientation	31.6	43.2	1.3	0.5	23.4	8826

35. Have you ever felt that you have been discriminated against in your post? N=8770

Yes	10.1
No	89.9

If YES, please explain in what way you were discriminated against?

36. Please provide any additional comments you have about diversity and equality.

[Institution-specific questions here]

Section 6 – About You

37. What is your age? N=8884

25 and under	1.9
26 – 30	22.9
31 – 35	31.2
36 - 40	18.0 [16.9]
41 – 45	10.1
46 - 50	7.1
51 – 55	4.8
56 – 60	2.5
61 or older	1.5

38. What is your gender? N=8765

Female	54.3
Male	45.7

39. Do you consider yourself disabled? N= 8840

Yes	2.5
No	95.0
Prefer not to answer	2.5

40. What is your nationality? N=8963

UK/British national	59.8 [63.3]
National of another European Union member state (not the UK)	25.6 [22.0]
National of a country outside of the European Union	14.6

41. As a UK/British national, how would you classify your ethnic group and cultural background? N=5311

White	
White British	63.3 [43.1]
White English	9.8 [8.5]
White Scottish	7.5 [4.8]
White Welsh	2.8
White Irish	1.1
Any other White background	4.7 [20.6]
Mixed	
Mixed White and Black Caribbean	0.2
Mixed White and Black African	0.2
Mixed White and Asian	0.8
Any other Mixed background	0.7
Asian	
Asian, Asian British, Asian English, Asian Scottish or Asian Welsh Indian	1.7
Asian, Asian British, Asian English, Asian Scottish or Asian Welsh Pakistani	0.6
Asian, Asian British, Asian English, Asian Scottish or Asian Welsh Bangladeshi	0.1
Any other Asian background	0.5 [1.6]
Black	
Black, Black British, Black English, Black Scottish, or Black Welsh Caribbean	0.3
Black, Black British, Black English, Black Scottish, or Black Welsh African	0.3
Any other Black background	0
Chinese, Chinese British, Chinese English, Chinese Scottish, Chinese Welsh	1.2 [4.1]
Rather not say	3.3
Other	1.0 [3.0]

Appendix 2: CROS/PIRLS Steering Group

The Careers in Research Online Survey and Principal Investigators and Research Leaders Survey (CROS/PIRLS) Steering Group exists to ensure the appropriateness and sustainability of CROS and PIRLS and their associated activities in collecting and reporting the views and experiences of researcher staff, principal investigators and research leaders employed in higher education.

Terms of reference

1. Ensure that CROS meets the needs of the HE sector in collecting research staff iews of their career development needs and opportunities and in making these views available to the sector.
2. Ensure that PIRLS meets the needs of the HE sector in collecting the views and experiences of principal investigators in developing research leaders in HE and in making these views available to the sector.
3. Provide sector and key stakeholder input to the on-going development of CROS and PIRLS, consulting with the sector where appropriate.
4. Promote the value of CROS and PIRLS to the sector, encouraging institutional engagement and the sharing of practice.
5. Responsible for the control and coordination of CROS and PIRLS, including the timings and frequency of operation.
6. Work with the Institute of Learning and Research Technology (ILRT), a department of the University of Bristol and Vitae, to ensure the availability of sufficient resources, administrative support and appropriate protection of the CROS and PIRLS data.
7. Be the custodian of the CROS and PIRLS data, including overseeing the specification and production of any reports of the aggregate CROS and aggregate PIRLS results by Vitae and responding appropriately to requests for access to the results.
8. Work with Vitae to ensure appropriate links with the implementation of the Concordat principles and other relevant policy developments.

Current membership

Mascia Amici, UKRSA, University of Bristol

Ian Archer, Aberystwyth University

Lisa Burman, University of Coventry

Frank Chambers, University of Gloucestershire

Darren Colquhoun, University of Bristol

Richard Freeman, Institute of Education, University College London

Patricia Gray, University of Leeds

Laura Hodsdon, University of Oxford

Sarabjaya Kumar, London School of Economics

Alison McCleery, Edinburgh Napier University

Janet Metcalfe, Vitae

Christos Petichakis, University of Liverpool

Rui Pires Martins, University of London

Anna Price, Queen Mary University of London

Simon Price, University of Bristol

Bonnie Steves, Glasgow Caledonian University

Meg Tait, University of Cambridge

Meera Warrier, University of Leicester

vitae
realising
the potential
of researchers

The Careers in Research Online Survey (CROS) aims to anonymously gather data about working conditions, career aspirations and career development opportunities for research staff employed in higher education (HE). It was relaunched in 2009 with a new question set to reflect the principles of the Concordat to Support the Career Development of Researchers.

The CROS/PIRLS Steering Group exists to ensure the appropriateness and sustainability of CROS and its associated activities, ensuring that CROS meets the needs of the higher education sector in collecting research staff views and in making these views available to the sector.

Vitae provides administrative support and resources for the CROS/PIRLS Steering Group. It has analysed the CROS 2015 results and produced this publication on behalf of and under the guidance of the CROS/PIRLS Steering Group.

CROS is hosted on the Bristol Online Survey (BOS) tool provided by the Institute of Learning and Research Technology (ILRT), based at the University of Bristol. BOS provides a secure web environment for the design, delivery, administration and analysis of online surveys. www.cros.ac.uk

Vitae, is an international programme led and managed by CRAC, a not-for-profit registered UK charity dedicated to active career learning and development. Working in the UK since 1968, when we ran our first project to support transitions of doctoral researchers to industry, Vitae has great expertise at enhancing the skills and career impact of researchers locally, within a global context.

We work in partnership with UK and international higher education institutions, research organisations, funders, and national bodies to meet society's need for high-level skills and innovation.

Vitae aims:

- **Influence effective policy** development and implementation relating to researcher development to build human capital
- **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 for researchers

Further information on our activities with HEIs, researchers and employers may be found on www.vitae.ac.uk

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