

Onwards and Upwards? Final report for leaders and policymakers on the Aurora longitudinal study

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Most of all we thank the nearly 4000 women who have given their time to participate in this project. Obviously, without their participation, this project would not have got off the ground. Many of these women diligently completed our quite lengthy questionnaires up to four times, and/or participated in up to three interviews or contributed several diary entries. We hope that their generous contributions will be repaid by increased understanding and improved management of their experiences and development at work.

Executive summary

The aims of this five-year study, commissioned in July 2015, were fourfold:

- + to track and analyse the career pathways of Aurora participants
- + to explore Aurora participants' perspectives on (and engagement with) leadership roles, activities and achievements
- + to explore perceptions of confidence, aspirations, role and professional development, work-life balance, opportunities and challenges
- + to assess the commitment of women to role, discipline, higher education, institution and their own professional development.

The context of women in leadership in higher education (outside of the Aurora programme) underscores the findings included throughout the report.

The study developed a mixed-methods longitudinal research design, incorporating online surveys, semi-structured interviews and diaries at set time points with different groups of women who participated in Aurora. A comparison group of women who work in higher education (HE) but have not participated in Aurora were also surveyed. In total 3796 women contributed to the survey data, of whom 3423 participated in Aurora either before or during the study. Of the participants, 47% were professional services and 53% academics. Over the course of the study a total of 79 interviews were conducted with 30 women who had completed Aurora and 16 of their Aurora mentors; nine Aurorans completed diaries.

The unusual scope and scale of the study makes it an authoritative source of information and insight about the leadership and career experiences of academic and professional services women working in HE in the UK and the Republic of Ireland, as well as detailing the impact of the Aurora programme on these experiences.

This final report makes full use of the longitudinal data. There are also three interim reports from earlier years of the study which expand on some issues discussed in this report, in addition to issues not covered in this version. They can be found here: www.advance-he.ac.uk/programmes-events/aurora/aurora-longitudinal-study.

Findings

The Aurora programme had clear effects on the women who undertook it, most notably increased interest and confidence in leadership roles, confidence to put themselves forward for career advancement, challenging gendered or other unfair practices, and enacting assertive leadership.

The following findings highlight the impact of Aurora on individuals, in comparison to participants who did not undertake the programme:

- + Aurorans were significantly more likely to report receiving a promotion or salary increment than the comparison group. Three to six months after Aurora, 18.6% of Aurorans said they had been promoted in the last 12 months, compared with 7.1% of the comparison group. Similarly, 25.1% of Aurorans reported receiving an accelerated or discretionary increment compared with 16.1% of the comparison group.
- + In general, all respondents (Aurorans and the comparison group) rated their leadership skills and engagement highly. In comparison, between Time 1 (pre-Aurora) and Time 2 (post-Aurora), Aurorans' self-rated leadership skills increased compared with those who had not attended Aurora, especially regarding assertive leadership.
- + The perceived effects of Aurora did not significantly decline over the three years after completing Aurora. In the context of their employing institutions, Aurorans most consistently noted the impact of Aurora on their ability to 'seek out leadership roles' as well as 'demonstrating the people skills needed for leadership roles' as time went on (68% and 67% of participants respectively, three years post-Aurora).
- + Findings related to Black, Asian and minority ethnic (BAME) participants were also positive. At both three to six months and 15-18 months after Aurora, BAME respondents were significantly more likely than other ethnic identity groups to say Aurora had led them to challenge the workplace systems and/or culture.
- + There were slight differences between academic and professional services staff who took part in Aurora, with academics more likely to report effects on personal career management and advancement, while professional services staff were more likely to say that Aurora had led them to engage more in leadership that was not a part of their job description.

The following findings relate to the context of women in leadership more generally, and includes feedback from all participants (Aurorans and the comparison group). While the impact of Aurora painted an overall positive picture, the findings on women in leadership roles are more mixed:

- + Perceptions of a collaborative and developmental workplace culture were more negative than positive. Additionally, respondents reported low perceptions of gender equality in their workplace. Positive attitudes to the employing organisation were influenced most strongly by a collaborative and developmental workplace culture (often not perceived to be present) and a supportive line manager (more commonly perceived to be present).

- + Based on analysis of the relatively small numbers who responded at all of Times 1, 2 and 3, academic women's perceptions of a collaborative and developmental workplace culture improved substantially over time if the university held a silver Athena Swan award. In contrast, their perceptions declined slightly if the university held a bronze Athena Swan award. Holding a departmental or university award made no difference to perceptions of gender equality, but it was associated with perceptions of flexible working opportunities, especially at silver level.
- + The impact and importance of workplace culture was seen in regard to promotions, where a more collaborative and developmental workplace culture led to more successful promotions for women and a less positive workplace culture led to more failed promotions.
- + Ambition to rise to a senior position, being of service to the organisation and/or being a leading expert in their field were important to many respondents, but yet more important on average, even for the ambitious, was job security.
- + Part-time working and caring responsibilities did not preclude a desire to take on leadership roles. However, while respondents had fairly positive views of workplace flexibility, they reported high levels of work impacting on home life. Perceptions of others' leadership was often substantially different from how women perceived their own leadership practice.
- + A third of respondents agreed with the statement "I have been placed in leadership situations where success has been almost impossible to achieve".

Recommendations

These results have significant implications for HE leaders and policymakers. Considering the findings, the research team have developed a set of recommendations for higher education institutions structured around promotions; workload and leadership; and workplace culture, diversity and inclusion. These include:

- + encourage all women to consider leadership roles
- + as such, encourage and value the development of leadership capability, for example by participating in initiatives such as Aurora
- + expand promotion criteria to affirm the value of a broader range of contributions
- + take the initiative in establishing leadership roles in part-time and job share positions
- + develop an institutional environment that is hospitable (not hostile) to women's leadership alongside encouragement.

Introduction

Since the original call for study proposals in 2013, much has changed in regard to Aurora – for the higher education (HE) sector, for the Leadership Foundation for Higher Education (now Advance HE), for the women in this study and for us as researchers.

However, the underlying concerns raised in 2013 about gender inequalities in the HE sector remain as pertinent now as then. The impact of a world-wide pandemic on the way we work, the way we study and on existing structural vulnerabilities in higher education organisations form the backdrop of what has been described as a re-assertion of gender inequalities in academia. Reports have shown that submissions to journals from women academics have fallen significantly during lockdown and the fallacy of the meritocratic academy has been laid bare. The unavailability of formal or informal care provision has had severe impacts on those with caring responsibilities as universities have de facto moved our place of work to our homes. At the same time, professional services women face increased workloads as new processes are introduced. This crisis has exacerbated the issues that already existed, and that have been highlighted by the academic and professional services women who participated in this study over the last five years.

In 2018/19, 42% of UK academic staff and 63% non-academic staff were women (HESA, 2020). However, women are poorly represented in senior roles despite having a strong presence in the HE sector as a whole. Across the sector only 27.5% of academic managers and 20.5% of professors are women. Women now form 29% of all vice-chancellors, 37% of all executive team members and 31% of heads in the top tier of the academic structure (Advance HE, 2020). Some progress has been made with regards to representation of women in HEI governing bodies (41.9%) (Advance HE, 2020) and although the proportion of women in executive roles has improved, women have not gained a higher share of heads of faculty or schools (Jarboe, 2018).

To address this, some have argued that a focus on leadership development is the most effective way of enhancing leadership capacity (Redmond et al, 2017). However, others point out that the issue is not women's leadership capacity but the gender-related attitudes of those appointing to leadership roles (De Vries and Webb, 2005; Burkinshaw and White, 2017). These can impede women's progress into leadership, and/or impose masculine expectations for how women will enact the leadership roles, with the extra catch that if they do exhibit such masculine approaches, they will be interpreted more negatively than if a man exhibited them.

Taking the 'women's leadership capacity' approach, the Aurora leadership programme was initiated in response to a stimulus paper, *Women and Higher Education: Absences and Aspiration* (Morley, 2013), which showed there were fewer women in the most senior positions in HE than 10 years previously. The paper identified features that should be addressed to promote change including: gendered divisions of labour (Lynch, 2010); gender bias and misrecognition (Bardoel et al, 2011); management and masculinity (Billing 2011); and greedy organisations and work/life balance challenges (Currie et al, 2002; Guillaume and Pochic, 2009).

Since the launch of the programme in 2013, around 6,000 professional services and faculty women have taken part in Aurora. Just over half have taken part in this study in one way or another.

Aurora is targeted at women up to tenured associate professor level or professional services equivalent working in a university, college or related organisation to develop and explore issues relating to personal leadership roles and responsibilities.

Literature on women's careers in HE

Academic careers tend to follow a similar pattern (Manfredi et al, 2014) whereby post-doctoral researchers progress through increasingly senior academic roles. Becoming a professor is, for some academics, the beginning of a leadership journey through head of department, followed by head or dean of school and pro-vice-chancellor to vice-chancellor. Fixed term, rotating and internal management positions provide aspiring academics with management experience, but in pre-1992 UK universities and in some research-intensive institutions outside of the UK, these do not necessarily lead to career progression (Deem, 2003).

Acker (2014) found that women who accepted fixed-term administrative posts in Canadian universities lost valuable research time and did not move on to full management roles. This shows that different routes to management confer different worth. In post-1992 UK universities, positions from head of department upwards tend to be externally advertised and permanent. This practice provides more structured career pathways for manager-academics than in pre-1992 institutions (Deem, 2003).

There are issues around how different forms of work are valued in higher education institutions (HEIs). Hanasono et al's (2019, page 85) study shows that “**task-oriented forms of service tend to be more visible and valued than relationally oriented service**”, once again showing that leadership-type activities are not perceived as equal in terms of career development. Although not specific to the HE sector, it has also been found that women are more likely than men to be offered particularly challenging senior positions, involving high levels of stress and low likelihood of successful outcomes (Haslam and Ryan, 2008). This has implications for career progression in the longer term.

Manfredi et al (2014) found that women are overrepresented in the professional services group, possibly because such roles offered a more varied range of career paths than academic ones. Progression through professional services roles allows for specialism within or outside academia, or cross-boundary roles by developing more than one specialism (Whitchurch, 2008). Caring responsibilities, constraints on geographical mobility and lack of internal opportunities disproportionately affect women (Ford et al, 2014). As academic careers require mobility if internal opportunities for progression are not available, the need for extended travel or relocation may prevent women with family responsibilities from applying or increase the stress they experience in roles where travel time is considerable (Berg et al, 2012). Therefore, a career in professional services is relatively attractive to women. It is also argued that middle, rather than senior, management may offer a route more compatible with family life (Deem, 2003; Fitzgerald, 2013). Historically, the norm has been that those in leadership positions work full-time, leading to a perception that it is not possible to be a part-time leader, which places senior roles out of the reach of a significant group of women. To combat this, Watton et al (2019) suggest that job sharing offers a way of encouraging more women into senior management roles in the HE sector.

In a study of women HE leaders in Australia, Redmond et al (2017) found that participants had a strong work ethic, resilience and aspirations but their career planning was minimal. Therefore, it might be argued that initiatives to address gender imbalances at senior levels should incorporate proactive career planning as a feature. Some women are inhibited in seeking promotion and engaging in other proactive career behaviours by self-limiting beliefs, low confidence and interpreting setbacks as threats to self (Acker, 2010). Women tend to rate themselves as lower in ability relative to how men rate themselves (Paustian-Underdahl et al, 2014), under-rate their bosses' predictions of their leadership potential (Sturm, 2014) and believe that other people regard them as less qualified than they perceive themselves to be. Such self-perceptions are, to some extent, a result of living in a gendered society.

Women's leadership in HE

For some, leadership in HE does not appear attractive or welcoming. Senior positions are regarded as dull, associated with sexism, aggression, authority, exclusive male networks (Ford et al, 2014) and esteem factors such as publications in top journals and large research grants (Aiston, 2014). In addition, the nuances of gendered power positions (O'Connor et al, 2019) and institutional politics represent particular challenges to those in leadership positions (Lumby, 2019; Shields, 2005). Such perceptions conflict with women's commitment to research in general, teaching and the application of knowledge and their values of creativity, health and wellbeing (Morley, 2014), signalling a distaste for organisational politics (Mackenzie Davey, 2008) and lower power motivation than men (Schuh et al, 2014). With love of subject, the academic environment, flexibility and autonomy as key motivators (Coate and Kandiko, 2015), women tend to choose meaningful, enjoyable work or attain senior roles serendipitously, rather than aspiring to leadership roles (Fitzgerald, 2013; Cheung and Halpern, 2010).

It has been found that women experience difficulty in institutional level management positions (Fitzgerald, 2013), despite having the same career aspirations, trajectories and plans as their male counterparts (Manfredi et al, 2014). In senior positions, women feel like outsiders, having to negotiate their managerial and gender identities in a culture dominated by male values, behaviours and power. Being proactive and displaying agentic behaviour enables them to advance, but also generates approbation, particularly in female dominated environments, where women are judged as violating gender norms (Aiston, 2011; Fitzgerald, 2014; Isaac, 2011). Women who adapt to hierarchical contexts find their leadership style inhibited, particularly their capacity to engage in collaborative practices, even as adaptive approaches to leadership are theorised as crucial in the global context (Mwagiru, 2019). As a result, women in senior leadership roles may be defeated by the frustrations of the job, excessive workload, pressure or poor managers (Acker, 2014) and for academics the lack of time and energy to undertake prestigious academic work.

Leadership, mentoring and sponsorship programmes are commonly recommended as a method of addressing barriers (Morley, 2013; Cheung and Halpern, 2010; Manfredi et al, 2014; Coate and Kandiko, 2015). Being selected to participate in formal leadership programmes raises women's

visibility among senior staff and helps them to feel valued (Berg et al, 2012). Peterson's (2019) study of a women-only leadership programme in Swedish HE found that the approach adopted was successful in terms of supporting individuals to put themselves forward for leadership positions and was perceived to have contributed to a transformation of the gender balance at senior levels. Programmes providing opportunities for reflection and networking raise women's awareness of their potential as leaders, introduce them to a wider range of transformational leadership models (Dahlgren and Longman, 2010) and offer opportunities to strengthen their resilience (Christman and McClellan, 2008). However, these advantages are not always translated into progression in the workplace (Berg et al, 2012).

In developing leadership programmes, recommendations include promoting women's motivation to gain power (Schuh et al, 2014) and emphasising discussion of gender, gender role self-concept and assertiveness (Wolfram and Gratton, 2014) to foster women as agents for cultural and structural change (Wroblewski, 2019). As many interventions are aimed at modifying women's attitudes and behaviours, barriers also need to be addressed at an institutional level through policy and practice. Researchers recommend that institutions recognise different leadership styles (Ford et al, 2014) and mainstream gender, and policies and practices that promote gender equality (Morley, 2013; Aiston, 2011).

Summary of literature and rationale for this study

The literature on women's careers and leadership in HE contexts shows a complex relationship between individual attitudes and behaviours and women's responses to the structural and cultural contexts in which they work. The underrepresentation of women at the highest levels in the sector reflects historical and cultural discourses that claim that women do not wish to become or are not suited to being leaders. This argument is underpinned by gender stereotyping and continuing cultural issues around not only work but attitudes to work and how this relates to non-work life.

Some research has shown that leadership development programmes aimed at women may counter some of the issues found. The literature suggests that formal and informal development may be the key to undoing gendered organisations in practice. Part of this is the attempt to move away from a 'fix the women' approach, with more emphasis on how ideas about leadership are fluid and open to change, and how to survive, prosper and challenge discrimination in a masculine environment (Lawton Smith and Meschitti, 2015; Burkinshaw and White, 2017). However, the issue of addressing those exhibiting discriminatory behaviour, rather those subject to discrimination, is a less prevalent idea in relation to sexism than it is with racism, for example.

The Aurora programme does not define leadership or promote a particular model. Participants are encouraged to think in terms of leadership behaviours and characteristics, to construct their own meaning of the concept and to enact leadership in whatever way they choose. This could be through existing roles as well as, or instead of, through senior and managerial posts. The approach taken by Aurora and the scale of the programme presents a unique opportunity to explore the experiences of women in higher education over the mid-term.

About the study

The overall aim was to describe and understand the leadership and career experiences, and the institutional and personal influences on those experiences, of women working in academic and professional services roles in HEIs in the UK and Republic of Ireland, together with practical implications for HEIs and individuals.

The specific aims of the study were to track and analyse the career pathways of Aurora participants; explore Aurora participants' perspectives on (and engagement with) leadership roles, activities and achievements; and explore perceptions of confidence, aspirations, role and professional development, work-life balance, opportunities and challenges. In addition, we assessed the commitment of women to role, discipline, higher education, institution and their own professional development. We also examined experiences and perceived impacts of the Aurora leadership development programme.

The study developed a mixed-methods longitudinal research design, incorporating online surveys, semi-structured interviews, and diaries at set time points with different groups of women who participated in Aurora. In addition to this core set of data, a number of semi-structured interviews with Aurora mentors were conducted, and a comparison group of women who worked in HE but had not participated in Aurora were also surveyed.

The surveys with women who had participated in Aurora and the comparison group focused on perceptions of organisational cultures and practices, hopes (in advance) and perceived effects (afterwards) of Aurora, the perceptions of own leadership skills, attitudes and approaches and the nature of leadership opportunities/requirements in the respondent's own work. Questions were also asked about roles and responsibilities outside work, and perceptions of the interface between work and non-work, stress, activities to promote and manage one's own career and obtain leadership activities and attitudes and values regarding one's own career priorities. In addition, text boxes allowed survey respondents to answer open questions about their experiences of impossible situations, what they thought needed to change, actions they had taken to address barriers, and if there was anything else they would like to add.

The semi-structured interviews focused on selected aspects of the following topics: the leadership activities interviewees engage in and their experiences of leadership; leadership styles, those they practised and those they had encountered; their leadership skills, both strengths and areas for development; changes in their perception of leadership, themselves as leaders and their work/careers; what enabled and hindered their engagement in leadership; how they addressed the challenges they encountered and took advantage of opportunities; and their plans for future engagement in leadership.

Mentor interviews were conducted, linked to interviews conducted with Aurora participants, to explore the experience of the Aurora mentor process from both perspectives. Mentors were asked about the process, their motivations and the content of the conversations they had with their mentees. Both the mentor and the interviewer strictly observed confidentiality, since both had personal information about the Auroran, including some which she may not have wished to be disclosed.

In addition to the interviews, the diaries explored visibility and comfort with leadership activities and reflections on learning; changes in career attitudes, impacts of work-life balance and reflections on identity change.

Survey respondents

In total, 3796 women contributed to the survey data, of whom 3423 participated in Aurora either before or during the study. A comparison group of non-Aurora women was also recruited to the online survey through snowball sampling: the participants and local Aurora champions shared the survey with colleagues in their institution who had not been on the programme.

The identification data we requested from participants proved less than perfect, so it was not possible in some cases to confidently match time n with time n-1 responses. This reduced our usable response rate over the duration of the study, though, of course, straightforward non-response was the more common reason for participant attrition, despite our extensive use of reminders. Including only the respondents we were able to match over multiple time points, resulted in the sample for analyses (outlined in Table 1):

Table 1: Number of women who took part in the study at each timepoint

Cohort No.	Aurora date	Time 1 (pre-Aurora)	Time 2 3-6 months post-Aurora)	Time 3 (15-18 months post Aurora)	Time 4 (3+ years after Aurora)
1	2013-14	–	–	195	
2	2014-15	–	408	172	75
3	2015-16	667	262	123	85
4	2016-17	597	192	126	–
5	2017-18	658	234	133	–
6	2018-19	898	280	–	–
Comparison*	N/A	373	124	–	55
Totals		3193	1500	749	215

*These respondents were not intending to participate in Aurora at Time 1, though a small number did so in later years. The time frames indicated in the column headings therefore strictly speaking do not apply to them. For them, Times 2 and 4 were 1 year and 4 years after first questionnaire completion.

Of the 3796 respondents, 47% were professional services and 53% academics and 86% worked full-time. Median earnings were about £43,500 or the equivalent in Euros. 64.3% of respondents worked in England, 17.4% in Scotland, 8.8% in Republic of Ireland, 4.2% in Wales and 1.5% in

Northern Ireland. The remainder were either unknown or working elsewhere. 22.1% worked in Russell Group universities, 32.7% in other pre-1992 universities, 33.3% in post-1992 universities, and 8% in Republic of Ireland universities. 58% had worked for five years or less outside HE, and another 39% between five and 15 years. Within HE, median years worked was nine.

21.5% had worked in HE for five years or less; 21.6% for over 15 years. Median age was about 42, with 20.8% under 35, and just 5.4% 55 or older. 6.7% identified as LGBT. Over half had never taken maternity or adoption leave, and only 15% had taken more than 12 months for maternity or adoption leave. 60% reported that they had primary responsibility for managing a household of two or more people. 16.5% had caring responsibilities for one or more pre-school children. Figures for primary school, secondary school and adults were 26.2%, 18.5% and 15.8% respectively. 7.5% reported caring for both children and adults. 65.4% described themselves as white UK or one of its constituent countries, 9.4% white Irish, 15.5% other white and 9.1% BAME. Although BAME is a term that combines a number of distinctive groups we use it here for analytical purposes to create a subset of respondents large enough for statistical data analysis. 7.8% considered themselves to have a disability or health impairment.

Retention from Time 1 to Time 2 was 34.2%. Time 2 to Time 3 was 50.5%. Time 3 to Time 4 (T2-T4 for comparison group) was 51.3%. These attrition rates are higher than ideal, especially between Time 1 and Time 2. However, dropouts were on average no more or less positive about Aurora than those who stayed in the study. More general analysis of attrition showed that, between Time 1 and Time 2, BAME respondents and those who considered that they had a disability or health impairment were more likely to drop out of the study than others. There was also a tendency for those with low career satisfaction but high confidence to be more likely to drop out. From Time 2 onward, academics and respondents outside England were more likely to drop out of the study than others, as were those higher in stress and more active in career self-management. Throughout the study, those with more conflict between home and work, and those with more negative perceptions of workplace culture and practices, were more likely to drop out than the less conflicted and more positive. However, most of these differences, while statistically significant, were small in magnitude, and on many other variables (eg part time vs full time, age, sexual orientation, caring responsibilities outside work, self-rated leadership skills) there was no differential dropout.

Interview and diary participants

Over the course of the study a total of 79 interviews were conducted with 30 women who had completed Aurora and 16 of their Aurora mentors. Nine Aurorans completed sets of diary entries resulting in rich data from those who took part in the diary element of the study. The interview participants were equally split between academic and professional services women. The majority were white British or white from outside the UK. The age of the interview participants ranged from 30 to 55, with the majority being between the ages of 35 and 45. Seventeen of the women interviewed had some kind of caring responsibility.

Our approach to analysing the data for this report

The data collected during the study represents an intricate patchwork of different types of information from different individuals, at different time points. The quantitative data was brought together into one SPSS file to allow for comprehensive statistical analyses. The main datafile was structured by time pre and post Aurora rather than date of data collection. This enabled us to bring together data from different cohorts at the same point in their Aurora experience. As shown in Table 1, the Aurora Cohort 3 provided survey data on no fewer than four occasions. Cohorts 2, 4 and 5 and the comparison group provided data on three occasions, Cohort 6 on two, and Cohort 1 just once. Data was organised so that individual as well as collective change over time could be tracked ie we can compare the same individuals at different time points, not just the overall cohort. A range of statistical analyses were conducted to meet the aims of the project and obtain maximum value from the data. These ranged from simple frequency and distribution analyses through to much more complex analyses such as analyses of variance examining change over two or more time points for different subgroups of respondents.

The analysis of qualitative data presented in this report focuses on themes related to practices and cultures in HE organisations, careers and leadership. Interviews are interpreted as an act of self-presentation or a performance. This presentation is labelled as a leadership ‘discourse’ rather than the more commonly used term, ‘leader style’ to reflect how interviewees talked about their leadership and what they chose to focus on. The quantitative and qualitative data for interview participants has been synthesised into a selection of anonymised case studies, two of which are referred to in this report and four in the appendices for those interested in a broader range of in-depth cases from the study. The case studies seek to explore how interviewees present their careers unfolding over time and how they present themselves as leaders.

Limitations of the study

Although we have an unusually strong design in terms of timescale, comparisons between participants and others, and the volume and diversity of our data, there are inevitable limitations. We cannot be sure that the participants are typical of women working in HE in the United Kingdom and Republic of Ireland. There are variations in recruitment to Aurora across universities: from volunteers to highly selective processes. Aurorans could already be seen as the ‘chosen or favoured ones’ for career progression or those with already secure networks.

We also do not know whether participants who have contributed data to our study are typical of all women who have completed the Aurora programme. Initial response rates were good but there are plenty of women who have not taken part even though invited to, and many more who dropped out during the study. There is a wide age range, but a high proportion of the participants can be described as mid-career, which again may mean that our findings are different from what would be obtained from a random or representative sample of women working in the sector.

It would be a reasonable hypothesis that those participating in Aurora, and this study, are relatively inclined to see themselves as potential leaders, and more interested in attaining leadership roles, than other women in academic and professional services roles. Given that the survey follow-up response rates were lower than ideal, despite reminders and carefully worded requests for continued participation, this potential self-selection effect may have become more marked over data collection waves.

Finally, we acknowledge that all our data apart from a small number of mentor interviews are self-perceptions. We think it is viable to assume that respondents were trying to report accurately, but whether they were always successful is a different matter. There is evidence that what people say about themselves in a work context does not necessarily show up in the behavioural choices they make (eg Rynes, Gerhart and Minette, 2004). Nevertheless, if for example a woman perceives that she lacks leadership skills, even if others think otherwise, that perception can be expected to influence how she interprets and responds to events in her workplace (Nicholson, 1984).

Practices and cultures in higher education

Perceptions of a collaborative and developmental workplace

Respondents were asked a series of questions about their perceptions of their workplace culture. Generally, average scores for viewing the workplace as collaborative and developmental were low over the study period (average score of 2.89 for academic women and 3.18 for professional services women on a 1-5 scale).

Academic women were less likely to perceive their workplace as collaborative and developmental compared with professional services women and this was the case at all time points. However, perceptions of line manager support were more positive, with average scores across the study of 4.0 for academic women and 4.20 for professional services women. Again, academic women perceived lower line manager support than professional services women with no significant change over the study period.

Perceptions of workplace culture were more positive at Time 2 if academic women had been promoted in last 12 months at Time 1 only. In contrast, negative perceptions of workplace culture as being collaborative and developmental were linked to failed promotions at all study time points. Similarly, line manager support was viewed more negatively the more failed promotions women reported at Times 1 and 2.

For academic women, their university or department holding an Athena Swan award did not influence views of line manager support. However, holding a departmental Silver award was associated with positive views of workplace culture at all time points, especially Time 1. Perceptions of workplace culture improved over time if the university held a Silver award and declined if the university held a Bronze award. For professional services women, holding a university or departmental Athena Swan award made no difference to their perceptions of line manager support or workplace culture.

The less collaborative and developmental academic and professional services women perceived their workplace culture to be, the higher their stress levels at all time points. Respondents were also more likely to try to change their job for a more congenial work environment at Time 2 (ie first follow-up post Aurora) if they viewed their workplace culture as not being collaborative and developmental. At later time points, there were no further indications of changes in job for a more congenial work environment, which suggests that most women who were looking to change their job had either been successful or had stopped trying to change jobs. In contrast, the more negatively respondents viewed line manager support the more likely they were to try to change their job for a more congenial work environment or for better job security at all post-Aurora time-points.

When examining demographics, white Irish groups (and, linked to this, women working in universities in the Republic of Ireland and to a lesser extent Northern Ireland) had more negative perceptions of workplace culture than any other ethnic group at Times 1 and 2. While there were no differences between white and BAME groups on perceptions of workplace culture at the first two data collection points, by Time 3 BAME respondents had significantly lower perceptions of their workplace culture being collaborative and developmental compared with the other ethnicity groups.

Many respondents used survey open-text boxes to comment on their institutions' structure, practices and culture that inhibited their careers or engagement in leadership, some of which they considered to be typical of the HE sector. The most commonly identified barriers were promotion and career opportunities; family and part-time working; gendered attitudes and practices; and the interaction between these. Other issues included: workload, lack of support, the professional services-academic divide and inadequate diversity.

A few respondents referred to lack of support, either from their institution or at line manager level.

"I feel quite bitter about my previous management experiences as there were times when I felt let down and unsupported by the system. I knew I needed support but didn't have the time or support to seek out the right training and development. I really enjoyed most of my leadership role but other parts were horrendous, I felt so let down by my line manager and senior management team."

"Hugely frustrated at the level of autonomy that a head of section can have – to the detriment of individual career developments with no accountability to be supportive of the development of others."

This affected their wellbeing, especially when bullying was involved.

"I have experienced workplace bullying, stress and poor wellbeing. It generally needs addressing across HE institutions."

Some referred to the lack of support to develop and others who had taken on leadership roles lacked support and training to undertake those roles.

"Once given a leadership role, staff are often left to fend for themselves and little or no support is offered."

In addition to gender discrimination, respondents identified three issues affecting promotion and development opportunities. Academics were concerned with promotion criteria, professional service staff with lack of opportunities. Both groups were concerned about unfair access to opportunity and the impact this had on opportunities for different groups. In particular, respondents in academic positions found the promotion criteria unclear, lacking transparency and limiting in scope:

"I am an all-rounder type of academic. I carry out good research, I am a good and dedicated teacher, and I have held many admin positions. I feel that this sort of profile is not valued in academia as much as someone who locks their door and produces vast amounts of highly ranked, international publications. But without the likes of me the dept would actually fall apart!"

"...I feel that the university (and higher level institutions in general) should place a higher value on things other than research than they in fact do. They may give lip service to doing so, but my view, from having sat on several interview boards, is that the main thing is in fact research outputs."

Opaque promotion processes were thought of by academics as being open to favouritism within friendship groups at work and allow those who ‘fit’ or can ‘talk the talk, but not walk the walk’ rise to the top. The picture was rather different for professional services women. Lack of opportunities for career progression and the difficulty of moving department or institution were identified, especially by those in professional services.

“Opportunities at a higher level for professional services staff rarely come up at my institution. I am happy working here and don’t particularly want to leave, which is hindering my progression.”

“I am very keen to progress my career and have been studying part-time for the last five years to help me to do this. The main issue is the lack of progression opportunities in my organisation. Once you reach the top of your grade you are stuck there with nowhere to go until a suitable role comes up. In an organisation where staff turnover is low, these opportunities are few and far between.”

A few professional services women responded by leaving HE or considering a move into academia, although doing so presented multiple challenges. The availability of opportunities was not always attributed to institutional practices: some women recognised the effect of economic pressures, restructuring and institutional or departmental contraction or expansion.

A few respondents in administrative roles articulated a real difference between their situation with that of academics, referencing disparities in status and working hours between the two groups:

“In my institution, there is a clear divide between respect for academics and respect for administrators; administrators are second class citizens. Academics behave like freelancers and come and go as they please, whereas administrators are expected to stick to rigid working hours. The opinions of (even senior) administrators are rarely viewed as equivalent to those of academics (including academics on grades more junior to senior administrators).”

Perceptions of gender equality

Both academic and professional services women reported predominantly negative perceptions of gender equality with average scores across the study of 2.63 for academic and 2.98 for professional services women on a 1-5 scale across the study period. These scores indicate that more respondents disagreed than agreed with statements about gender equality in their workplace. This was particularly the case for academic women. One small piece of good news is that, over time, there was a small but statistically significant increase in perceptions of gender equality for both groups of women (average response score of 2.8 at Time 1 and 2.9 at Time 3 and Time 4).

For both groups of women, the more positively line manager support was viewed, the more positively gender equality was also viewed, and vice versa. Unsurprisingly, positive perceptions of a developmental and collaborative workplace culture were associated with positive views of gender

equality for both groups of women over the study period. Over time, there was a small but statistically significant increase in perceptions of gender equality for both groups of women (average response score of 2.8 at Time 1 and 2.9 at Time 3 and Time 4).

Gender equality was more likely to be viewed negatively by academic women if they worked part-time hours. The more failed promotions reported by academic women at Times 1 and 2, the more negative their perceptions of gender equality by Times 3 and 4. Perceptions of gender equality improved over time for academic women if their university held at least a Bronze Athena Swan award. Holding a departmental award made no difference to gender equality. For professional services women, holding a university Athena Swan award or a departmental award made no difference to their perceptions of gender equality.

The more gender inequality academic and professional services women perceived there to be, the higher their stress levels at all time points. For professional services women, perceptions of gender inequality did not influence their decisions to try to change their job for a more congenial work environment or for better job security. However, for academic women, at Time 2 the more gender inequality they perceived, the more likely they were to try to change their job for a more congenial work environment. Again, similar to the findings with workplace culture, there were no associations with later time points, indicating that most academic women who were looking to change their job had either been successful or had stopped trying to change jobs.

Women working in post-1992 universities tended to hold more positive perceptions of gender equality than others, especially those working in 'new' universities in the Republic of Ireland. In terms of demographics, BAME academic women perceived greater gender equality at Time 2 but significantly lower gender equality by Time 3 compared with the other ethnicity groups. For professional services women, gender equality was viewed more positively at all time points if they were white British.

From the survey open-text boxes, many respondents commented that they felt the HE sector was a male-dominated environment and gender discrimination was seen to affect work allocation, leadership activities and women's progression.

"From what I have seen, the leadership roles in my own school tend to be focused on recruitment/Athena Swan related activities, with nearly every other leadership role (finance, research, teaching, etc) allocated to male members of staff (and have been for the duration of the nearly 10 years I have worked in the school). This would mirror things I have seen in other schools and universities with what appear to be leadership roles that appear to be more heavily identified as 'female'."

Within the same institution discriminatory practices might differ between subsections:

“There are areas of the university that have better gender equality in their management teams than others. I work in hospitality and there are several female managers. I do feel that this is symptomatic of the fact that women seem to have more chance of progressing in the less well-regarded areas of the university. I feel that I have been typecast as a catering manager, an area seen as ‘soft’ and that I am not taken seriously in other areas of the university.

Not all women had experienced gender discrimination. A few reported positive gender practices or observed that gender discrimination was not always directed at women. A few respondents referred to the diversity practices and the need to address discrimination arising from age, ethnicity or disability or health as well as gender.

“I think HE has a long way to go to improve diversity in any way, not just for women/gender.”

Work-life balance and its impact on women

Both academic and professional services women reported fairly positive views of workplace flexibility with average scores of 3.40 for academic and 3.67 for professional services women across the study period. Home life interfering with work was perceived to be low across the study for both professional services women (average score of 2.11 across the study) and academic women (average score of 2.57 across the study). In contrast, however, work interfering with home life was perceived to be high for professional services women (average score of 3.44 across the study period) and academic women (average score of 3.87 across the study period).

Perceptions of workplace flexibility were less positive for academic women compared with professional women over the study period. Academic women also held more negative perceptions of work-life balance than professional women, with work interfering with home life, and home life interfering with work, across all time points. Both work flexibility and work interfering with home life were more negatively viewed by academic women working part-time than those working full-time across the three data collection points.

For academic women, holding a departmental silver Athena Swan award, and to a lesser extent a bronze award, influenced positive views of work flexibility throughout the study. For professional services women, positive views of work flexibility were influenced by the university holding at least a bronze award. However, the Time 1 data suggested that professional services women experienced more stress if their department had a bronze or silver Athena Swan award than if it had no award.

Academic women reported increasing levels of stress the more hours they worked and the more they viewed their work as interfering with their home life. For professional services women, there were no associations between working hours and levels of stress. However, the more they felt that work interfered with their home life, the higher their stress levels across all four time points. For both groups of women there were no associations between work-life balance and attempts to change job for a more congenial work environment or for job security.

Women working in Russell Group universities tended to report more positive perceptions of workplace flexibility than others, especially those in the Republic of Ireland. Among academic women, while there were no differences between white and BAME groups on perceptions of work flexibility at the first two data collection points, by Time 3 BAME respondents had significantly less positive perceptions of workplace flexibility compared to the other ethnicity groups. In contrast, BAME professional services women on average reported the highest perceptions of work flexibility at the second and third data collection compared to the other ethnicity groups.

From the survey open-text boxes, many respondents commented that working part-time as an academic was seen as a disadvantage because of the way that promotion criteria are applied or the lack of opportunities for part-time workers.

“I do not feel that there is any real career progression or planning for career progression for part-time staff (ie part-time academic staff who accepted a fractional post when no full-time post was offered/available and have gotten stuck therein), bar moving to another institution.”

Many respondents referred to working part-time, primarily for family reasons and most wrote about the challenges of combining work with childcare, the effect of doing so on opportunities and progression, and the lack of access to leadership or management roles for part-time workers. Institutions did not always help: some lacked family-friendly policies or did not implement them. In other cases, women faced practical and attitudinal barriers to taking advantage of family-friendly practices. Institutions are not perceived to see part-time working as compatible with leadership and management roles. Furthermore, respondents felt that taking time out for maternity or working part-time was not adequately taken into account in the allocation of work and had a detrimental effect on career progression, promotion and pay.

“A further point is the difficulty of how part-time working is taken into account for things like allocation of departmental duties and especially for promotion. I have been told that part-time working is taken into account, but this seems to be in a completely ad hoc way and my experience on promotion panels myself is that a lot of people still do not understand how this should be taken into account. I think some guidance on exactly how to take part-time working into account when evaluating academic career progress is needed. This needs to happen at the level of individual institutions, but it would be great if there was some kind of national initiative around this too, or if it could be included explicitly in the Athena Swan evaluation.”

Women who were able to combine management with part-time working and those who worked full-time in any capacity, found doing so challenging, even with support. On the other hand, a few respondents who were single or who did not have children commented that they felt disadvantaged in relation to those with family responsibilities who they perceived to receive preferential treatment.

Farzana: A story of frustrated career development after initial progress in her professional services career

Farzana, a young Asian woman, is a member of professional services staff. At her first interview, Farzana worked in a research unit and provided research admin support to academic staff by managing research budgets and postgraduate students. She found herself crafting her job to make the most of opportunities and to increase her visibility. One example of job crafting was leading on areas not within her remit such as identifying funding sources for two academics and encouraging them to apply for grants, as her job security depended on such funding.

During the first interview she identified her mother, who ran a business, as a role model. At work she identified her supportive (male) boss and inspiring women academics as career enablers. She helped herself through identifying opportunities and making herself visible and through self-advocacy.

Key hindrances at work were the lack of progression and job security for administrators within HE. Farzana talked about needing job security and was unsure how she could progress in professional services. At the time, Farzana did not feel her gender or ethnicity hindered her career. However, she felt irritated by colleagues' attitudes and comments towards her choosing not to have children.

By the second interview one year later, Farzana had moved into central administrative services at a higher grade. She attributed Aurora for giving her the confidence to make this move. She felt that while her university was working very hard to make women visible, some males were voicing that there were now too many women in some teams. Her own team was comprised mainly of women, was bureaucratic, the environment was antagonistic and communication poor. She felt this was due to some personalities within the team, internal politics and pressures to deliver rapidly, rather than to do with gender.

In the final interview a year after her second interview, Farzana had been in a manager role for two years. She felt frustrated that while she had honed her leadership skills, she felt stuck in her role with nowhere to go next. Despite moving up the spine scale, her job title had not changed, and she felt she remained invisible to others in terms of what she could do. She gave an example of taking the initiative to run a university-wide event for women which was well-received by her pro-vice-chancellor, who is female. Despite this leading to another project, she was turned down for a pay reward by senior management as "running the event was not within my job description".

"Although you move a spine point on the pay scale, having the same title means people outside perceive you differently compared to where you perceived yourself in your leadership journey. And this year I have really struggled with that as I have done a lot of work around the university that has a contribution to the organisation's development as a whole and not necessarily just for my workplace".

Farzana felt there was no scope for progression in her team because of the lack of posts between manager and head of department or director. She thought that for most women it is difficult to climb the ladder and to attract better pay without moving to another organisation.

Farzana's case illustrates some of the problems professional services staff can face in identifying a career path and equipping themselves for it, and indeed achieving security in the present job (the latter in particular also applying to casualised academic work). It is also another demonstration of the sometimes capricious and even perverse nature of university promotion and development processes. Informal 'below the radar' work, including leadership, which women frequently report doing, often goes unrewarded and unrecognised.

Women's careers in higher education

In this section we examine women's career values, attitudes, and mobility. We also draw out implications for those managing HE institutions.

Career values and attitudes

Work values. We asked respondents about how much they wanted to (i) rise to a very senior position, (ii) be a leading expert in their field, (iii) be of service to their employing organisation, and (iv) have job security. All four values were important to a lot of respondents, with rising to a very senior position less so than the others. The most important, and with an increasing lead over the others as time went on, was **job security** (mean of around 4.5 on a 1-5 scale). It was uniformly high across different subgroups of respondents and time. Aurorans were more likely to report wanting to rise to a very senior position than the comparison group. The case study of Michelle (below) shows how being of service and being a leading expert can be in tension, with rewards for academics being more for the latter than the former. The case study of Farzana already described shows how service to the organisation by professional services staff can also go unrewarded.

Career satisfaction. At all four time points, around two thirds of respondents agreed or strongly agreed that they were overall satisfied with the way their career was going. About a quarter disagreed or strongly disagreed. There was a small but statistically significant increase in mean score from 3.39 to 3.52 between Time 1 and Time 2. Scores were remarkably stable after that.

Career confidence is a composite of three questions regarding the respondent's confidence to put oneself forward for positions of responsibility, career advancement and salary increase. Between Time 1 and Time 2 the mean level increased from 3.52 to 3.78. This is attributable to participating in Aurora. At Times 3 and 4 it remained stable or dropped slightly (3.75 and 3.70). An example of how Aurora boosted confidence related to career: "...it definitely gave me the confidence to stand up for myself in the face of unfair promotion practices and more recently discriminatory pay practices".

Career self-management activities. A scale was created consisting of 12 questions about what respondents did to promote their career. Their self-reported career self-management increased significantly between Time 1 and Time 2 (3.38 to 3.56), though only for Aurorans, not the comparison group. After Time 2, mean scores remained stable. Easily the most frequently reported activity was seeking opportunities to develop skills needed for career (4.21). Easily the least engaged-in were asking people for feedback (2.82) and using social media to build and maintain a profile (2.54). An example of an active career self-manager: "I have ...revamped my CV, deliberately expanded my career social network, and watched the market". Farzana in our case study was an active career self-manager.

Career goal clarity. We asked respondents how much they agreed or disagreed with the statement "I know what I want from my career". As with some other variables, there was a small but significant rise in mean scores between Time 1 and Time 2 (3.38 to 3.51), with a more or less stable mean score after that. The rise between Times 1 and 2 was slightly more marked for Aurorans than for the comparison group. "[Aurora] has helped me refine my career goals and set myself challenges for the future".

Subgroup differences. On the whole, the white British respondents were less confident, clear, promotion-focused and active in managing their career than BAME, white Irish and other white respondents. Academics tended to report more career clarity and career self-management than professional services staff. Academics more strongly endorsed rising to a very senior position and being a leading expert than professional services staff. The reverse was true for being of service to the organisation. However, all these values were at least quite important to almost everyone. Career satisfaction declined markedly with age, especially for respondents aged 45+ in the second highest broad salary band (£45k-£55k). This applied to both academic and professional services staff. In contrast, career clarity increased with age. Respondents working part-time and those self-reporting a disability or health impairment tended to have less career confidence, satisfaction and clarity than others. For part-timers this might be a consequence of perceptions like: “I do not feel that there is any real career progression or planning for career progression for part-time staff”. Aurora helped close the perceived gap in some respects, but this was only a temporary effect.

Career mobility

At Times 2, 3 and 4 we asked respondents some questions about career moves made and attempted over the previous 12 months. Very consistently just under a fifth reported receiving a promotion, about a quarter reported receiving an accelerated or discretionary increment, and just over half reported a significant job change of some kind (this included the existing job changing markedly). Equally consistently, just under 30% reported making at least one unsuccessful attempt at a job move, and around a quarter an unsuccessful promotion attempt. Of course, some of these unsuccessful attempts were made by people who did also secure a move.

The incidence of promotion and salary increment awards did not systematically vary with ethnic affiliation, (dis)ability, or sexual orientation. However, between Times 1 and 2, having more caring duties outside work and being an Auroran were both associated with more promotions and other job moves. See the section on the impact of Aurora for more on this.

Low career satisfaction was a strong trigger for attempted job moves. If successful, they led to a big increase in career satisfaction. If unsuccessful, career satisfaction was not denuded further. The biggest increases in satisfaction tended to be for those who both failed and succeeded during that 12 months. Perhaps a failure made eventual success all the sweeter, and/or triggered positive developments:

“I applied for a role two grades above my current position as I felt ready to further advance my career. I am open about my ambition with my manager, and since applying for the new role (for which I was unsuccessful) much effort has been made to promote me within the team I’m in.”

High career confidence and career self-management predicted attempts to move, successful or not. Being unsuccessful did not lead to a reduction in confidence or self-management. Perhaps surprisingly, clarity about one's career goals was not a predictor or outcome of attempting job moves.

We used a long list of options and respondents could report more than one motive for attempting a job move in the last 12 months. Results were very consistent throughout the study. Four motives were a long way ahead of the rest: to develop career-relevant skills (35%), more seniority (31%), more responsibility (29%) and more money (23%). The next highest, down at about 9%, was a change in career direction: still, this means in any given year almost one in ten wanted to adjust the direction their career was taking. Non-work motives were less common: only about 8% reported one or more of family/relationship, health or lifestyle as motives.

Predictors of engagement with the employing organisation

We examined a selected range of predictors to determine what personal and organisational factors might affect (i) career satisfaction, (ii) valuing being of service to the organisation, and (iii) intending to seek a new job in the next year [our data indicates that intention translated into attempts to change job]. To maximise confidence in the findings, we tested these predictors in competition with each other, and their ability to predict changes over time in each outcome variable.

For all three outcomes, perceptions of the collaborative and developmental workplace culture mattered a lot. This is a combination of four questionnaire items to do with collaboration, consultation, clarity about HR processes and effective staff development. Note that this is partly about the general treatment of people, not just about the HR function. As noted elsewhere in this report, perceptions in these areas were on average markedly negative. For example: “The culture in my department is dominated by a friendship group. Opportunities, promotions and the ability to work collegially is dependent on being part of the group/in crowd”.

It is noteworthy that two other HR-related phenomena (the availability of flexible working arrangements and gender equality in the workplace) did not add much to the prediction of the three positive attitudes over and above collaborative and developmental workplace culture.

The other perception that mattered a lot is line manager support. This is an amalgam of two questionnaire items: “My line manager supports my development” and “My line manager backs me up when I need him/her to do so”. High line manager support was a strong predictor of increases in career satisfaction and decreases in intention to seek a new job in the next year. The good news here is that, on the whole, perceptions of line manager support were positive, especially for Aurorans.

The case study of Farzana illustrates how the perceived absence of a developmental work culture but having a supportive line manager can work in opposite directions in affecting whether a person stays or leaves her employer.

Michelle: A career story of changing from academic administration to focus on career-enhancing research and publishing

Michelle is an academic in a STEM discipline in her late 30s with no caring responsibilities. During the first interview, Michelle talked about her work setting up and running a new research lab, her activities supporting students and membership of various institutional committees.

Michelle identified her leadership skills as communicating and organising. She talked about how Aurora gave her confidence, as did undertaking leadership activities in her institution. Her head of school gave her opportunities that she made the most of. Having a mentor at the university, collaborating with external contacts and winning awards outside of the university and being a perfectionist had helped Michelle progress her career. However, she felt hindered by lack of knowledge of the country's HE system, by the academic workload and setting up the lab, which had reduced the time available to publish.

A year later Michelle had reduced the time she spent on some activities such as committee work to focus on research, applying for grants and writing for publication, with a view of furthering her promotion prospects. She felt she still had a long way to go until she was in her desired leadership role. To achieve this, Michelle targeted research management roles that helped her to engage in leadership while staying close to her research agenda.

Michelle's career story illustrates how academics come to perceive that progression into leadership is built on research successes. Institutional managers recognise the contributions that can be made by people like Michelle. However, important institutional activities and service take time and energy away from research work, which is key for promotion chances. Wanting to be of service to the organisation and to be a leading expert can be in tension, with rewards for academics being more for the latter than the former. Michelle understood this and adjusted her focus accordingly.

Women and leadership in higher education

Women as leaders

Respondents were asked 18 questions about their perceptions of their leadership skills and activities. Many of those questions coalesced into two clusters which we have called 'relational leadership' (eg "I encourage a team attitude and spirit") and 'assertive leadership' (eg "I challenge others to think about old problems in new ways"). In general, the respondents rated their leadership highly, with a mean score per question of about 4 on the 1-5 scale. However, relational leadership scored substantially higher than assertive Leadership on average (around 4.3 vs 3.7).

Between Time 1 and Time 2, self-rated leadership skills increased slightly, especially the assertive ones (which somewhat closed the gap on relational skills) and especially for Aurorans as opposed to the comparison group. However, at Time 3, the self-rated leadership skills scores remained largely unchanged on average. There was a further small rise in assertive leadership skills for Time 4 respondents.

Wanting to rise to a very senior position motivated women to seek out leadership positions, which was in turn associated with both assertive and relational self-rated leadership skills. Wanting to be of service to the organisation was more strongly associated with relational than assertive leadership skills, and valuing job security was positively associated with high relational leadership skills and low assertive ones. This suggests that if HEIs want to change leadership cultures, those who want to be of service to the organisation could be pivotal in a move away from assertive towards more relational models of leadership.

Our analysis of the survey data shows that part-time working and caring responsibilities did not preclude the desire to take on leadership roles. Part-time working respondents were much less likely to say that leadership was a major part of their job duties at Time 1, but the gap closed somewhat after that. There were only small differences between full-timers and part-timers in the extent to which they sought out leadership roles and responsibilities, and the leadership skills they thought they possessed. Those with a lot of caring responsibilities were slightly more likely to say they expected their circumstances in five years to be compatible with taking on leadership roles.

This suggests that HEIs are not making the most of those working part-time or with caring responsibilities, even when those women have the desire and skills to take on those roles.

How women talk about leadership

Self-reported leadership was explored in-depth through the diaries and interviews. Diarists frequently chose to write about activities that might be categorised as traditional management of, or participation in, a process rather than coordinating and influencing others. These activities ranged in level from workgroup, module or programme to strategic level committees at department, school and institutional level. External facing activities included working with another university, placement visits and reporting to HE monitoring bodies.

Drawing on academic sources, especially Macfarlane (2011), we identified leadership discourses that women used in interviews. By discourses we mean patterns of thinking and talking about leadership. More detailed information about these appears in our third interim report. Briefly, the discourses identified are relationship builder, people developer, influencer/change agent, knowledge producer, professional role model, adaptive leader and powerholder. Many interviewees used more than one. Having more than one discourse may indicate breadth and adaptability and/or their exploration of leadership and the development of their understanding and perception of self as a leader. Easily the most commonly used discourse was relationship builder, with people developer and influencer/change agent equal and rather distant second, though influencer became more common in the second and third interviews with an individual than the first.

The interviewees may have developed their perception of the importance and value of relationships over time, or simply through experience and reflection. The relationship builder discourse includes the leader's relationships with her own superiors as well as with her own team.

“A big change in the last 18 months is that I have had real conversations with our DVC and dean which I never had before. The institution is more interested in people now.”

“It can be a bit lonely but I am encouraged to consult senior management. You have to support people and there is a lot of responsibility.”

The people developer discourse was also commonly found in interviews:

“People come to me and ask things eg about how to get enrolled and what would be a good PhD.”

“Leadership to me means managing, pulling things together, pulling people along and helping them to develop.”

The second of these quotes illustrates how discourses can be intertwined because it reflects both influencer and people developer. The increased use of the influencer discourse may have been shaped by taking on new roles or an increased awareness of their capability as influencers and their association of influencing with leadership.

Only one interviewee used the powerholder discourse, which may reflect the organisational level of women recruited to the Aurora programme, interviewees' perceptions of their relative power or their views of the appropriateness of using power to lead. This discourse stresses the importance of status and hierarchical position as a definition and validation of leadership. Many women felt it was prevalent in their workplace and distanced themselves from it.

Some of the learning from Aurora illustrates the growing use of assertive and influencing leadership, often via increased self-confidence and awareness of gender inequalities in the women's workplaces:

"In committee meetings, men repeated the same points that I had just made. It probably happened before, but I did not notice...One of the guys I spoke to had no insight into what he had done. I have gained confidence in challenging behaviours, even of seniors."

One respondent reported that she discovered that colleagues saw her as the driving force for change in situations where she had seen herself as just one of many players. Another had a 'light bulb moment' on Aurora when someone said that the best learning comes from making mistakes. As a result, she no longer put herself under so much pressure to try to be perfect all the time.

Perceptions of others' leadership at work

Participants talked about how important their managers were in terms of supporting them and modelling positive leadership styles. One academic respondent said her line manager had an autocratic, micro-management style, but was trying to adopt a more coaching approach. In her experience senior managers were 'parental' and dismissive when their ideas were challenged. Women sometimes used negative experiences with others as a spur to do better. Another academic respondent co-chaired a university-wide gender taskforce to address structural barriers to women's careers. Witnessing the poor handling of a gender bullying episode underpinned her proactive approach in this case.

However, it was not always perceived as possible to take such initiatives. Amanda, who worked in professional services, stated that the new leaders at the university were commercial, target and solution-focused and not interested in consultation. Debate had been closed down and workloads were unmanageable. Julie (professional services) said her engagement in leadership was limited by not being heard in meetings by managers who are used to getting their own way and by the lack of stable leadership. Observations of a perceived deterioration in leadership were commonplace, usually attributed to the dominance of 'top-down' managerialism. Negative examples seemed to have a ripple effect in institutions.

Toni (academic) talked about witnessing transactional leadership, which she described as a member of staff being treated insensitively. This is a good example of the potential for a mismatch between how women talk about their own leadership practice and the leadership cultures they experience in the sector. However, she had also experienced (and valued) transformational leadership when a senior academic helped her to develop, which mirrors the finding that building relationships and developing people were key characteristics of leadership for the women in this study.

As women progressed, institutional politics came to the fore. Elizabeth's (academic, teaching focused) narratives on her developing leadership revolved around learning how to engage in politics. In contrast, an interview with Helen's (academic, teaching focused) mentor suggested that institutional politics had been experienced as development-limiting factors.

Leadership in HE as a difficult place to be a woman

Many survey respondents and interview participants experienced HE as a male-dominated environment. Gender discrimination was seen to affect work allocation, leadership activities and women's progression.

“Our university still operates a ‘jobs for the boys’ system which decides on who will get a job without advert, interviews or opportunities for anyone other than the pre-selected candidate. The agreement on whose role it is, is then followed by a sham advert and interview.”

At the same time, women were encouraged into roles that do not enable career or leadership progression but distract from crucial activities that would foster progression (such as publications for academic women). Some referred to the lack of support to develop and others who had taken on leadership roles lacked support and training to undertake those roles.

“Once given a leadership role, staff are often left to fend for themselves and little or no support is offered.

As indicated in our year 3 report, in this longitudinal study we have found that at Time 1 almost 40% of respondents agreed or strongly agreed with the statement “I have been placed in leadership situations where success has been almost impossible to achieve”, usually in relation to internal team management or institutional level leadership roles. Common causes attributed by participants were uncooperative colleagues, a lack of authority or issues with their line manager. The survey data indicates that the experience of being in a near-impossible leadership situation increased stress, and decreased career confidence and satisfaction. However, it did not appear to diminish women's self-rated leadership skills, or their willingness to put themselves forward for leadership roles subsequently.

For some diarists in the study, the practicalities of incorporating leadership roles into already busy schedules, and the perception that institutional systems are built around an expectation of availability, were difficult to manage. Catherine, an academic working part-time on a teaching contract, said:

“The university expects us to do all these extra activities but does not count it in our workload or reorganise our workload accordingly [...] I am working many more hours than I am paid for.”

Combined with greater precarity and less time for developing research, Catherine’s diary evidenced a range of barriers to leadership roles, despite the competence and desire to be involved in these kinds of activities. A broader issue of lack of recognition of informal leadership was also raised.

Impacts of Aurora

About Aurora

Aurora is open to women up to tenured associate professor level or professional services equivalent who would like to develop and explore issues relating to leadership roles and responsibilities. It is delivered primarily through a series of day events. Women keynote speakers and 'role models' are important contributors to these days. The topics focused on are: Identity, Impact and Voice; Power and Politics; Core Leadership Skills; Adaptive Leadership Skills. Readings and materials are made available online to feed into and extend the foci and support the development of 'action learning sets': small groups of women that focus on individual issues and experiences.

Three sources of data contribute to our understanding of the role of Aurora respondents' development in the context of their employing institutions. First, we asked respondents directly what effects they thought Aurora had had on them. Second, Aurorans were compared with the comparison group on various quantitative measures to assess whether changes over time differed for the two groups. Third, statements made in response to open-ended questions on the questionnaire, and interviews and diaries, often expanded upon and/or corroborated the self-assessed effects.

On average the participants reported increases in five or six of the original 12 items (see Table 2). The strongest perceived effects of Aurora concerned the motivation to seek leadership, the social skills of leadership, and proactive career management. There were less strong, but still significant, perceived effects in the more task-oriented elements of leadership, the way the Auroran interacted with her workplace culture/systems, and the extent to which the participant thought that other people saw her as a leader. Effects on the interface between work and non-work were the least commonly reported. Only very small numbers reported **reductions** attributable to Aurora – never more than 3% and in most cases less than 1%.

Table 2: Perceived effects of Aurora

% of respondents saying that Aurora has increased the extent to which:	3-6 months post Aurora (N=1374)	15-18 months post Aurora (N=749)	3+ years post Aurora (N=160)
I seek out leadership roles	67	68	68
I demonstrate the people skills needed for leadership roles	67	66	67
I know what I want from my career	59	57	54
I put myself forward for career advancement	57	58	62
I feel comfortable in positions of authority	55	59	63
I engage in leadership at work that is not part of my job description/role	52	55	64
I actively develop my career support network	50	47	39
I act as a mentor at work	44	50	56
I communicate a clear vision of what needs to be done at work	44	41	45
I find ways of turning the systems and/or culture of my workplace to my advantage*	42	35	41
I am decisive at work	42	41	38
Other people see me as a leader	41	46	54
I openly challenge the systems and/or culture of my workplace*	32	32	36
I manage my work-life balance effectively	22	27	22

*Item added part way through the study. About two thirds of respondents answered it.

The perceived effects of Aurora did not significantly decline over the three years after completing Aurora. This is strong evidence of the long-term impact of Aurora on those who participate in it. Indeed, it appears that some effects increased slightly, most notably engagement with and confidence in leadership and mentoring roles. In contrast, developing one's career network and 'working' the culture to one's own advantage became slightly less likely to be an effect of Aurora as time went on. The durability of these perceived effects is not due to the more positive people being more likely to stay in the study.

At both three to six months and 15-18 months after Aurora, BAME respondents were significantly more likely than other ethnic identity groups to say Aurora had led them to challenge the workplace systems and/or culture. Respondents in Republic of Ireland universities reported significantly more effects of Aurora than those in various types of UK HEI. There were no significant differences between academic and professional services respondents in the total number of changes attributed to Aurora. However, academics were somewhat more likely to report effects on their attempts to advance and manage their careers, while professional services staff were more likely to say that Aurora had led them to engage more in leadership that was not part of their job description.

Comparisons on measured variables over time

Career development: three to six months after Aurora, 18.6% of Aurorans said they had been promoted in the last 12 months, compared with 7.1% of the comparison group. Similarly, 25.1% of Aurorans reported receiving an accelerated or discretionary increment compared with 16.1% of the comparison group. At 3+ years after Aurora, Aurorans were more likely to report receiving an increment in the last 12 months. Aurorans increased substantially over time in self-reported engagement in career self-management and career confidence, whereas the comparison group did not. This effect was strongest in the year ending three to six months after Aurora, but was maintained or increased thereafter. However, similar trends were not observed for career satisfaction.

Leadership: respondents' self-rated leadership skills and styles were assessed with 18 questions. Most of these reflected either relational aspects or assertive aspects of leadership. In the year ending three to six months after Aurora, Aurorans increased in their self-ratings, especially for assertive leadership, but the comparison group did not. This meant they caught up with the comparison group, having started lower. Although highly statistically significant, the increases over time were small in magnitude (assertive leadership being a partial exception), so the visible effect on respondents' behaviour is questionable. The Aurorans' gain was maintained but not increased over the subsequent three years. A similar pattern was observed for the extent to which respondents sought out leadership opportunities in their day to day work. Self-reported engagement with leadership activities, as an official or unofficial part of job duties, was higher for Aurorans than for the comparison group throughout the study. The gap between them and the comparison group did not widen during or after Aurora.

What Aurorans say about the programme's benefits and implementing their learning

For a small proportion of participants, Aurora was perceived to be a disappointment for various reasons including that it broke little new ground or focused too much on personal development and not enough on challenging the system.

However, comments made on the impact of Aurora in the questionnaire and in interviews were overwhelmingly positive. Easily the most common comment about the positive impact of Aurora concerned the increase in participants' confidence and self-awareness. Increased self-confidence was in part due to hearing that other women had similar feelings and similar experiences, so an increased sense of connection and solidarity with other women was also evident.

"Confidence has increased immeasurably. Self-awareness and an understanding we're not super-human and other individuals are feeling / experiencing the same and we just don't know it. This in itself has alleviated some of stress associated with imposter syndrome."

"I gained so much more from completing the Aurora programme and in ways I had not thought about. I am now more confident to speak up in meetings and take ownership for the work I carry out, rather than letting others take the credit."

"Aurora has enhanced my self-awareness of my abilities and capabilities and given me the self-belief in my leadership role."

As implied in the above quotes, closely linked with self-confidence was greater self-awareness and a positive evaluation of self-arising from that awareness. This sometimes broadened into revised work strategies and career aspirations.

"Aurora has enhanced my self-awareness of my abilities and capabilities and given me the self-belief in my leadership role."

"The Aurora programme helped me to think about who I was and who I wanted to be and gave me some strategies for finding a new role and maintaining/creating useful contacts and networks."

"Aurora has enabled me to clarify aspects around what's important to me in life, what I bring to my role/institution, comfort and confidence in being who I am and that I don't need to aspire to senior roles to feel successful."

The prevalence of comments like these suggests that the 14 structured questionnaire questions listed in the table above may describe things that are at least partially a by-product of increased confidence, self-awareness and knowing one is not alone. The vital role of self-confidence was readily apparent in many cases where career development was attributed to Aurora, including Farzana in one of our case studies. It is also clear that, for a minority of participants, Aurora leads them to conclude that the HE sector is not working for them. In some such cases, better and earlier recognition of potential might have produced a different outcome.

“This programme really gave me the reassurance and confidence to apply for a leadership role within my department, which I got and have been really enjoying.”

“After 10 years in my previous role I applied for a significant promotion, in a completely new direction and got the job! Having the courage to put myself forward when I didn’t really think I would get the role was a major step for me.”

“The Aurora programme has given me the confidence to ask for opportunities to enhance my career and my own personal development.”

“Aurora has helped me to recognise my ‘worth’, regain my confidence and look for a job away from HE. I applied for two jobs at much higher salary and levels of responsibility. Before Aurora I would never dare to even consider those. I got both jobs and, as a result, I am leaving my institution and HE.”

Both confidence and career development were also tied up with the impact of Aurora on women’s leadership activities and the way they construed leadership. For some women, career development equated to obtaining a leadership role. For others, Aurora led them to re-construe how they defined leadership and conclude that they could exercise it in their current role.

“I have benefited greatly from Aurora, my goal was to be promoted to Prof and I just did it this June. However, it has also encouraged me to take on leadership roles.”

“Aurora came at a good time in my career and I have taken leadership roles I never thought possible.”

“This programme has made me feel validated in my aspirations to ‘do things differently’ and be a ‘different kind of leader’. It has increased my confidence as a leader.”

“Aurora changed some of my perceptions about what leadership is and made me recognise leadership in some of my existing behaviours.”

Aurora also gave some participants new perspectives on their interactions with their workplace culture and systems. Again, increased confidence in themselves and their judgements was perceived to be at the root of this:

“I think Aurora was the starting point for me to recognise that the issues I faced were not just down to my individual situation but were structural so this gave me the confidence to be more assertive and take action.”

“Attending Aurora...helped raise my confidence and re-iterated the fact that what was happening was actually not due to my ability but due to a wider institutional culture and politics.”

Often, women's increased scrutiny of their work environment led to some frustrations in trying to implement their insights gleaned from Aurora. Although not explicit in the following quotes, part-time workers seemed to feel particularly disadvantaged, and professional services staff frequently felt a lack of career structure.

"There is a 'pale, stale, male' culture in my organisation and a civil service mentality that frowns on people, particularly women, who 'stick their heads over the parapet'."

"I feel my institution while sending people on the course is not actively supportive of it and the institutional involvement seems a bit like box-ticking."

"Leadership itself is not valued, it's seen as something you put on someone in addition to everything else. If the university really valued leadership it would adjust its expectations of people in these roles."

The findings reported in this section make it clear that HEIs can gain good and lasting benefits from supporting the participation of their staff in Aurora, via increased self-confidence, self-awareness, and skills and motivation in leadership and career management. However, HEIs must be ready to enable women who have completed Aurora to implement their learning in their workplace. This particularly implicates organisational culture, including gendered practices.

Relating our findings to the existing literature

This is, of course, a report, not an academic paper, but it is appropriate nevertheless to comment briefly on the relationship between what this study has uncovered and the extant literature.

The picture painted by this final report and the preceding reports will be broadly familiar to scholars and practitioners in this area. Women see a contrast between the prevalent leadership styles in their workplace (assertive, aggressive) and their own preferences (relational, collaborative) (Ford et al, 2014).

If they go with their preferences, they risk ending up in the less prestigious and visible leadership roles (Hanasono et al, 2019), and indeed they frequently observe that happening around them. Emphasising relational leadership styles as a strength for women relies on gender stereotypes best avoided (Randsley de Moura et al, 2018). Perhaps the answer here is to hold in mind that being relational and assertive are not mutually exclusive, and that increases in assertiveness increase the repertoire of the person.

Women report that their home and caring responsibilities constrain their mobility and somewhat impinge on their work. These and other issues, such as long hours, are less prevalent for professional services than academic staff. This supports Fitzgerald (2013) in arguing that the HE jobs and career opportunities available to professional services women may be limited but are easier to reconcile with their lives outside work than is the case for academics. Over a third of respondents report that they have experienced being in near-impossible leadership situations. While we do not have a male comparison, this does chime with Haslam and Ryan (2008) among others, who suggest that women tend to occupy high-risk leadership roles. How and why exactly they get there is less clear.

The workplace culture is seen, on the whole, as being unsupportive of development, fairness and gender equality, possibly as a consequence of gendered organisations (Acker, 1990; Lumby, 2019). The women in this study are interested in attaining senior positions, but on average less interested than in being of service to their organisation and (especially) having job security. This aligns with Fitzgerald's (2013) observations that many women are reluctant to aspire to the most senior positions as they are currently configured. As discussed by Acker (2010), many women in this study referred in interviews and open-ended questionnaire comments to their lack of confidence, and the importance of having it in order to prosper in their workplace. In the questionnaire data, their confidence about putting themselves forward for rewards was considerably lower than that for putting themselves forward for leadership responsibilities, perhaps risking exploitation of their goodwill via placement in relatively low-profile roles (Coate and Howson, 2016).

Nevertheless, there is plenty in the data to suggest that the picture is quite nuanced. Despite the prominence of confidence problems in women's discourses, they self-report high leadership abilities and engagement, and this is not confined to those who want to make it to the top. On the whole, respondents report having supportive colleagues, including line managers. Their self-reported career self-management activity is greater than Redmond et al's (2017) work might suggest, especially for academics. Women who report more engagement with leadership are, on average, no more stressed than others, and those who have significant home and caring commitments do not lose interest in leadership.

There is clear evidence that the Aurora leadership programme helps to empower women to seek leadership roles and feel equipped to undertake them, in line with Peterson (2013). A crucial part of initiatives such as Aurora is to encourage women to step beyond socialised roles which make them uncomfortable sometimes in dealing with power and assertion.

Despite the concerns of Berg et al (2012), there is also evidence that participation in the programme does translate into career progression. Aurora enhances women's sense of themselves as assertive leaders more than relational ones. This might suggest that women become more able to 'look after themselves' without resorting to what they see as stereotypically masculine aggression and autocracy. As in many leadership development programmes, participation can also support a realisation that other women have similar experiences and feel the same way. This can lead to a sense of common cause and shared strategies for re-balancing their gendered organisations (cf Madsen et al, 2012). There are, of course, limitations to this approach and standalone programmes cannot be expected to lead the way for systemic changes in HE. A crucial aspect for programmes like Aurora is the linkage between aspirations of development and the realities of working practices.

We must bear in mind that most of the respondents in this study undertook the Aurora programme and therefore may, on average, be more interested in and confident about leadership than other academic and professional services women. Nevertheless, the large number of women who undertake Aurora may give grounds to hope that a critical mass will be achieved that enables a change in HE work cultures.

Recommendations for managers, institutions and policymakers

It is clear from the findings presented in this report that a number of policies and practices make it harder for women staff to flourish and contribute fully on an equal footing with men in their HEIs. The study findings point to a range of actions that could be adopted at different levels in the sector to build a more inclusive working environment for women in HE. A set of recommendations for women working in HE is also included in the appendices.

Level	Recommendation	Description
All	Develop more inclusive workplace cultures	In order to encourage loyalty, commitment and career satisfaction, high priority should be given to human resource and other practices that foster teamwork, consultation, supportive line management, and clear promotion and career development processes competently and fairly delivered. Significant improvement is needed in some of those areas. Expect ever closer scrutiny from women academic and professional services staff of potentially discriminatory and gendered workplace practices and improve them accordingly.
All	Value women leaders	Develop and implement the inclusion dimension of any diversity and inclusion policy, acknowledging and valuing the different styles of leadership women bring to the sector.
Policy makers	Monitor progress in the sector	Develop more detailed and nuanced data analysis of representation of women that publicly monitors progress towards specific targets. This might also include programmes to combat sexism, rather in the way that there are diversity programmes addressing issues of racism in HE, which are not for the group experiencing discrimination so much as those exhibiting it.
Institution leaders and policymakers	Prioritise equality, diversity and inclusion	Institutions should use engagement with Athena Swan to make a real difference and not as a tick box exercise, as engaging with it does not always lead to positive systemic outcomes for women. Institutions should hold themselves accountable for promoting and supporting gender equality, going beyond simplified targets for representation at senior levels. The ambitions of minorities (not just BAME) and the less positive career experiences and self-concepts of women with a disability or health impairment, women working part-time, and women in mid/late career on moderate incomes, all point to a continuing need to make strenuous efforts in the area of equality, diversity and inclusion. Review the fairness, implementation and effectiveness of all equal opportunities policies and practices, with attention to indirect discrimination and unintended disadvantage to particular groups. Unconscious bias in workload allocation and promotion may need specific attention

Level	Recommendation	Description
Institution leaders and managers	Make the most of Aurora	Support, or continue to support, Aurora by sponsoring women academics and professional services staff to participate. Institutions should consider strategies of how they can integrate the learning, new skills, confidence and ambitions that women who participate in Aurora bring back to their institutions. Many will seek to move to new roles or enact existing roles in a different way.
HR and institution leaders	Broaden criteria for promotions	To expand the promotion criteria for academic staff to include and give equal weight to contributions such as leadership, teaching, administration, citizenship and service as well as research and publication, taking appropriate account of part-time working and career breaks. Either expand criteria so they are applicable to professional services or develop equivalences. Ensure that criteria are known, and implementation carefully monitored. Professional services staff may also value support with career planning and clear career pathways. Institutions should work together to achieve a more similar approach to promotion criteria which affirm the value of different kinds of contribution.
HR and managers	Widen access to senior roles	As institutions adopt employment contracts for leadership, actively encourage those working part-time or with caring responsibilities to put themselves forward for leadership roles. Encourage and support women to apply for roles where they aren't sure they have all the necessary attributes but where there is a realistic chance of their appointment. Consider incorporating more leadership into job share and part-time roles because many women who work part-time or have caring responsibilities want leadership. Develop special projects and secondments for professional services women who are keen to develop but have no new jobs to go to.

Level	Recommendation	Description
HR and academic management	Evaluate gendered aspects of work practices	Reform workload models so that they realistically reflect time required for different responsibilities and take appropriate and clearer account of part-time working. An urgent review of the impact of increased home-working and lack of formal and informal childcare during the Covid-19 pandemic should be undertaken to pre-emptively tackle likely effects on women's careers. Those institutions serious about addressing gender equality in leadership should take into account the negative effects of job precarity and job insecurity, as these matter to women regardless of their career ambitions.
HR and those developing leadership programmes	Enhance content and linkages to work in practice	Embed programme objectives into normal business of institution and link to other development programmes. Ensure emerging leaders are formally and informally supported in actions stemming from programmes. Consider various strategies for coping with the gendered workplace and its politics. Provide guidance on how to be both relational and assertive in leadership roles.

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Biographies

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Appendix 1: Supplementary case studies

Sarah: A story of learning how to ‘play the game’, develop relationships and influence upwards

Sarah is in her late 40s with children at primary school and works in professional services in an official leadership position based in an academic school. She enjoys her job and was positive about her leadership skills: understanding how the school works, having responsibility and solving problems.

In the first interview Sarah talked about her line management responsibilities, and how she encouraged a good work ethic in her team and engagement in opportunities that build skills and confidence. She saw herself as approachable and reflected on her practice. Despite not being comfortable about speaking in front of a lot of people, she challenged herself to do this. Previous and current bosses encouraged her to take advantage of challenging opportunities and valued her input. When prompted, she acknowledged that her attributes must have played a part in her being invited to do things. She felt she could ‘read’ other people and spot what they wanted. She believed that good relationships and data are important. She used charm if she could, but if that failed, she became more forceful.

She engaged in some career management activities but was not clear what she wanted from her career. Sarah wanted to be an expert and of service to her organisation. She was confident about asking for more responsibility, but not about asking for career advancement or a pay rise.

Despite not being very positive about gender equality in her survey responses she believed Athena Swan had made a difference to women’s position in her school, with changes in the recruitment process having a positive effect on the percentage of women academics recruited. Her personal experience was that work interfered significantly with her home life.

A year later Sarah reported being more focused on building networks and forming relationships with senior colleagues. In particular she valued support and encouragement from other senior women, and how they drew attention to their skills and explored promotion opportunities together. Sarah noticed that most leaders had positive and negative qualities and she admired a leader she knew who made tough decisions but also praised and rewarded staff. From previously regarding leadership as team management, she now saw it as influencing upwards and thus requiring a different set of skills, notably knowing how to ‘play the game’ – when, where and how to speak.

She identified three key barriers. 1) Cultural differences mean that academics in some disciplines do not consider professional services staff to be leaders. 2) Those who select new staff favour applicants with experience in the same discipline, thus limiting the pool of jobs available to professional service staff. 3) The more senior jobs tend to be specialist; disadvantaging generalists like her. She planned to move to a larger university with more opportunities for internal movement.

Sarah’s story shows that having young children does not preclude a desire to challenge oneself at work. With experience, more nuanced understandings of leadership are developed, and it is possible to exert influence and use contacts without being underhand or obsequious. Confidence is built up through experience and reaching out to others for support can pay dividends. Even so, the structural and cultural features of the workplace can place limits on what can readily be achieved.

Moira: Practising leadership in academic and community settings while managing a complex career lifestyle

Moira is an academic in her early 40s with no caring responsibilities. Scarcity of jobs in her specialism in her home country led her to secure a post at a university in the UK where most of her work was undergraduate teaching. She remained resident in her home country, commuting periodically. She then won a substantial research fellowship which enabled her to be based in her home country while staying in the UK higher education system. A few years earlier, she would have lacked the courage to negotiate this combination of roles.

Despite having some difficulty identifying her leadership skills, Moira talked about her enthusiasm and helping others to find solutions. She had gained confidence through talking about her research and was developing project management skills. Her mother had been non-traditional in her culture by being very supportive of women who pursued a career. Moira's Aurora action learning set was "fantastic". Hindrances included financial problems in her home country that cut pay and increased the scarcity of jobs, along with her own rather precarious health.

A year later, her work pattern and jobs were the same but due to lack of institutional administrative support she had taken on additional responsibilities related to her project. At the same time her PhD work had attracted a lot of media and public attention. She did a little teaching at an HEI in her home country and supervised a few locally based PhD students. She wanted a job in her home country when her fellowship finished, to organise research and support women and build their confidence, especially in research. Her academic area was both niche and multidisciplinary, so secure jobs were very scarce.

In the third and final interview, Moira had published a journal article during the year, although other writing and applying for further research funding had been put on hold. She had developed her project management skills and she informally mentored two academic staff and had gained a reputation as a source of knowledge and advice. Reported changes in herself reflected greater confidence in taking the lead and managing relationships. She was positive about the role Aurora had played in her development:

"Aurora is the gift that's still giving. Understanding the processes, how universities work, where are the levers to get things done. Sometimes official channels, sometimes not. All this is totally transferable to [another] setting. Who do I need to talk to and what is the best way of doing it? Also confidence – practical stuff about managing nerves, not listening to the inner critic. I've had a conversation along those lines with several other people. Go for it even if not fully qualified".

Moirra's story illustrates the impact the lack of suitable academic positions has on an individual's ability to enact leadership. Splitting her time between different locations and different roles was not something Moirra saw as sustainable. Aurora helped Moirra gain confidence and see herself as a leader, particularly in relation to broader social impact of research. Despite that, and despite being something of a trailblazer in her achievements and work choices, it took time for her to perceive much of what she did as leadership. When she did, she wanted to use her influence to help other women develop.

Julie: A story of career success, enabled by her a senior manager, despite experiencing major stress at work

Julie works in professional services and is in her 50s with elderly parents. As an administrator, she led by influencing committees, making well-informed contributions in meetings and mentoring her team. For Julie, interpersonal relationships were key. In the first interview Julie talked about her pleasure in seeing her mentees progress and the difficulties she faced implementing staff redundancies.

Key enablers for Julie were training programmes – including Aurora – and her informal and Aurora mentors. Julie and her Aurora mentor were friends prior to Aurora. During the mentor interview, the mentor described how Julie talked about wanting to do some management learning, but the university did not fund or allow time off for administrative staff to undertake substantial learning. This issue remained a sticking point as Julie was still contemplating starting a management qualification but was unsure whether she would have the energy to take on such a commitment considering the 'exhausting' nature of her work.

Julie had experienced sexism in her current workplace but felt that by addressing the prevailing culture she risked being labelled 'a raving feminist'.

A year later, Julie had developed her career by focusing on a specialism within professional services and had taken a qualification in that specialism. Talking with her line manager about applying for a new job initiated promises of increased responsibility. Her engagement in leadership was limited by not being heard in meeting by managers who were used to getting their own way and by the lack of stable leadership. She had attempted to build relationships outside of meetings which tended to be very heated.

Before Aurora Julie was very enthusiastic about her future and could see a place for herself and what she wanted to do in her current university. In the 30 months after Aurora she moved from grade 8 to grade 10 and gained a grade 7 qualification. However, in the third and final interview, she described bullying behaviour from a senior member of staff and an atmosphere of fear at work: "[It was like]... the night of the long knives... the Handmaid's Tale. A bit dystopian". The loss of the new director who had plans for her and was the team's protector, was a blow and she thought that without a strong relationship with another department, her team would be vulnerable.

Looking to the future, she wanted to be more emotionally resilient and to gain a higher-level qualification, update her CV and look for a post in another area of professional services. She saw the need for cultural change and a shared vision across the institution. During the previous two and a half years she had learnt more about the needs of younger women who have to balance work with childcare. While the university favoured presenteeism, she broke the rules and allowed flexibility “beneath the radar” by enabling remote working. Aurora helped her to look at what people want to achieve and enabling them to do this, built her confidence, taught her ‘to fake it until you make it’ and to speak out.

Julie’s story shows evidence of resilience and vulnerability when faced with challenging circumstances. Formal educational and personal development was very important to her sense of value and worth, although institutional support for this was very limited, exemplifying the generally negative perceptions of women in this study regarding collaborative and developmental culture. The organisational system did not always align with her values, which she at times found difficult. As a member of professional services, she was acutely aware of her dependence on powerful or influential others and turbulence in leadership had severe knock-on impacts on her career development. This was partially, but only partially, buffered by good relationships with her line manager.

Elizabeth: Despite uncertain commitment to HE, learning to engage in politics, and a desire for more recognition

Elizabeth is an academic in her early 40s with children at school. She had some periods of part-time working during the study. Six months after Aurora, leadership was not part of her job but she practised leadership informally and planned for a more senior position. She led the redesign of courses and was active in supporting colleagues and doing outreach work. She saw her leadership strengths as having vision and communication skills. She influenced and persuaded people in senior positions and sold her ideas. She said she was not good at detail but found other people who were and sought money to recruit other people to make things happen: “making things bigger than me”.

She perceived some gender bias, was positive about the availability of flexible working and family friendly practices but not about the way that part-time staff were regarded. She felt supported at work, although her survey responses indicate some negative work-life interaction.

A year later, Elizabeth was stressed about work. She described negative treatment of part-time staff and attitudes towards them, and lack of support from the head of school. She was technically in the same job, but her duties had changed, which “nearly killed me”, mainly because some promised resources were not in place when needed. As a result, she had time off sick, but returned to work in a strong position, as the Aurora input on ‘courageous conversations’ helped her to negotiate a reduced teaching load. Although she found her new workload manageable, she was looking to make a change and was applying for jobs both within the HE sector and industry.

Nearly three years after Aurora, it had been a good working period for Elizabeth as she had made some changes to expand her skills and experience, for a better working environment and better lifestyle fit. A problematic senior person left, and the new dean was more collaborative in approach and the institutional leadership seem to be more interested in people now. Nevertheless, she reported feeling stressed. It would be easier to engage in leadership if she had a strategic steer about her priorities. She also wanted more recognition and formalisation of her leadership roles. Working part-time continued to be a challenge, although she could work at home one day a week and was aiming to reclaim the time she worked beyond her contracted hours. She did not have a clear career plan and was considering options within and beyond HE.

Elizabeth was active in networks to address gender equality and those that offered mutual support, inspired by Aurora. Aurora, and particularly the session on Power and Politics, raised her awareness of the need to network and raise her visibility: “... to make sure what you are trying to achieve fits with the values and mission of the organisation ... to find your key stakeholders”. In discussions with her Aurora mentor, Elizabeth talked about upward management and how to find the information she needed through contacts with people other than her manager who was unwilling to share. The mentor reported a “really noticeable change ...I don’t think she recognised how much she was changing... big leaps in how she was approaching things”.

Elizabeth’s story shows the impact different institutional leadership approaches can have on women in HE and how working part-time affects how you are perceived by colleagues and the development opportunities available. This story also illustrates how it can be a struggle to turn informal leadership activity into a focused and recognised role that has a chance of being rewarded. Aurora played an important part in helping Elizabeth address that issue, and also encouraged her to engage more in influence and visibility. Although Elizabeth had not (yet) left the HE sector, she still might, and some others in our study in similar circumstances did.

Appendix 2: Recommendations for women in higher education from the Aurorans' report

It is clear from the findings presented in this report that a number of policies and practices impede women staff from obtaining an equal footing in their higher education institutions (HEIs). Recommendations for HEIs have been outlined above. Here we focus on recommendations for women working in HE that are offered as suggestions in response to our findings. They in no way intend to blame women or 'fix' women working in HE and should be read in conjunction with our recommendations for managers, institutions and policymakers in this report.

We think it is important to acknowledge that women in this study commonly experienced barriers around a lack of promotion and career opportunities; issues with family commitments and part-time working; gendered attitudes and practices and the interaction between these. Other issues included workload, lack of support, the professional services-academic divide and inadequate diversity. Therefore, individual women experiencing these issues should be aware that they are not alone, and these should be seen as structural and cultural factors that are difficult to challenge at an individual level. As barriers experienced are commonplace these might act as talking points for women's networks in which women can work together do something about it.

Our approach of this study has been to try to reflect (i) experiences women have in coping and succeeding in higher education contexts, (ii) their recognition of unfairnesses and (iii) their experiences challenging inequalities. We try to avoid recommendations which serve only to perpetuate the hard grind of playing the game men's way, or conversely to bash one's head against a brick wall leading to no structural damage except to one's own cranium. With this in mind the following recommendations for individuals are framed around building supportive relationships, proactive career self-management, career reconnaissance and professional development.

Build supportive relationships

- + In recognition of the workplace culture reported in this study, professional services women might take more advantage of line management support and developmental opportunities. Academic women in particular might benefit from taking notice when they are not being consulted or getting their fair share of development opportunities and point it out.
- + Women might take steps to ensure that their leadership activities go beyond quietly doing their jobs well, by engaging with other people and consciously making what they are doing visible to others, including influential people.
- + It is important for women to understand the informal influencing processes as well as the formal rules of their workplace and consider engaging in them. It might help to differentiate networking and influencing from perceptions of 'dirty' politics (eg deceit). Focus on ways of doing politics that one considers ethical and tolerable.

- + Women in HE should ensure that mentors and bosses know about their achievements and successes by telling them.
- + Professional services women and academic women might pair up to co-mentor, thus using their complementary know-how (eg professional services women's knowledge of how the organisation works, and academic women's career self-management strategies).

Proactive career self-management

- + Women could regularly review whether they are doing enough and/or the best combination of things to self-manage career, especially professional services women, using the checklist in Appendix 1.
- + Professional services women who are keen to develop but have no new jobs to go to could request secondments or special projects.
- + Part-time workers can be more vocal about wanting to take on leadership roles, informally and through formal mechanisms like the performance and development review.
- + Women might make additional efforts to spot impossible leadership tasks or roles and develop strategies for dodging them. This might include proactively seeking out activities that are high status/reward to head off being 'volunteered' for low status/low reward roles.
- + Think about the range of ways to be proactive about understanding promotion criteria and opportunities for advancement. Practical ideas for this include: seeking out information on how promotion criteria are operationalised through Human Resources or other sources, asking well-informed staff to give talks in their department, talking to line managers about suitability for more senior roles/tasks, setting up alerts on jobs.ac.uk for ideal next steps, talking to people who work in the role aspired to for information/tips about making the move, and discussing these with a mentor.

Strategic career reconnaissance

- + The experiences of the women in this study suggest that there are some benefits to working in contexts that have silver Athena Swan awards. Therefore, it might be worth being aware of departments that have silver awards for potential job moves.
- + As job security is highly valued, when weighing up a job move women should take a close look at the redundancies record of their potential new employer, and its financial position, using the help of an expert to decipher the annual accounts/financial statement if necessary.
- + Be aware of the contextual factors that contribute to stress. It might be helpful to perform an informal audit of the roles and statuses of women in a workplace when applying for a job, to help inform their chances but more importantly whether they would want it if offered.
- + Women should be aware of their transferable skills and consider working outside HE if things aren't going well.

Professional development

- + Women should consider the discourses of leadership discussed in this report, to review where they think they sit, and where they would like to be.
- + Do Aurora! And keep the collective consciousness (and where possible action) going afterwards, perhaps via institution-specific Aurora 'graduate' groups.
- + Try to kick on from Aurora – it confers benefits, and these seem to endure, but they could also grow. Take particular care not to slacken off the career self-management.
- + Aside from discourses about lack of confidence, women should recognise that they have a number of skills and attributes relevant to leadership in HEIs. It might be helpful to focus on developing influencing and assertiveness, remembering that this is not the same as being autocratic and aggressive.



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