Mind the (Graduate Gender Pay) Gap

Bethan Cornell, Rachel Hewitt and Bahram Bekhradnia
About the authors

Bethan Cornell is a former PhD Intern at HEPI and a current PhD student at King’s College London.¹

Rachel Hewitt is HEPI’s Director of Policy and Advocacy.

Bahram Bekhradnia is HEPI’s President and Founder.

¹ As well as being a PhD student, Bethan also works for the Department for Education. This work was undertaken during Bethan’s time as an employee of HEPI, before she joined the Civil Service. Therefore, it is in no way associated with, or reflects the views of, the Department for Education.
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Executive summary

There is a gender pay gap for graduates. Male graduates earn more on average than female graduates, are more likely to be in highly skilled employment and less likely to be in part-time employment. However, male graduates are more likely to be unemployed. This report draws together new and existing data and literature to try and understand these differences.

Based on this evidence, we find:

• The overall graduate gender pay gap is not accounted for by subject of study, type of university attended, prior attainment, social background or ethnicity. Men appear to be more willing to be geographically mobile, which is likely to enhance their career prospects, but it is unlikely that increasing the mobility of women would significantly reduce the difference in pay.

• Men appear to be more focused on their career search than women: they begin their career planning earlier during their time at university, make more applications and are less likely to give up once they have begun an application. They also display more confidence – perhaps overconfidence – and are more speculative in the jobs they apply for.

• On the other hand, women are more likely to be offered a job once interviewed and are less likely to be unemployed on leaving university. This may in part be because they are more efficient in their job seeking, but it could equally reflect the fact that they are less ambitious in the jobs they apply for.

• Women are more likely to work in part-time employment, both during and immediately after their degree than men,
whereas men are more likely to undertake an internship during their degree, possibly providing them with an advantage when applying for jobs.

- There are differences in attitudes to employment. For a higher proportion of men than women, a high salary is the mark of a good job. On the other hand, women are more likely to look for job security, work-life balance, a good company culture and a job which enables them to contribute to a cause they believe is meaningful.

- Men and women are equally satisfied in their work, despite women being less well paid on average.

- Women expect lower salaries than men.

We recommend that higher education institutions should:

- promote information about the graduate gender pay gap so students are empowered in their career planning to make the best decisions for their circumstances;

- provide support to improve the confidence of female students during the job application process;

- provide career planning support, particularly aimed at male students, to understand the different aspects of a fulfilling career beyond high pay;

- make particular efforts to help female students undertake internships; and that

- Russell Group and specialist institutions should investigate the reasons for the especially large disparity between the earnings of male and female graduates from their institutions and take appropriate action to address it.
To employers, we recommend that:

• employers’ organisations should alert their members to the findings of this report, and in particular the possibility of unconscious bias in recruitment practices and encourage them where possible to undertake name-blind recruitment and

• employers, working within current equal opportunities legislation, should make particular efforts to provide internship and networking opportunities for women.

To ranking bodies, we recommend that:

• the relative pay of male and female graduates should be included among their indicators.

And finally, we also recommend that, given the gendered impact, the Government, ranking compilers and others should not use comparative earnings as a measure of the worth of programmes or the quality of institutions.
Background and introduction

It is well understood that there are differences in the achievement of men and women on entering higher education, their performance during their higher education and their grades on leaving higher education. At the time of HEPI’s 2010 report on this question, *Male and female participation and progression in Higher Education: further analysis*, we concluded that only 44% of entrants into higher education were accounted for by men; although at that time men accounted for 51.3% of the 18-year old population. Furthermore, we showed that women were less likely to drop out of higher education and were also more likely to gain better degrees.¹ In our 2016 report, *Boys to men: the underachievement of young men in higher education – and how to start tackling it*, we showed that young men continued to be much less likely to enter higher education than young women and that, when they did, they remained more likely to drop out and less likely to get a highly graded degree.²

The most recent data show that, in 2018/19, women accounted for 58% of undergraduate entrants and men only 42%; yet men now account for 51.5% of the 18-year old age group.³ The relative underperformance of men is marked, enduring and growing.

Nevertheless, despite having outperformed men all the way through the education system, on leaving higher education, women are likely to be earning less than men on average.⁴ On the other hand, our 2010 report also showed women were less likely to be unemployed and there was some evidence they were more satisfied with the employment they had, despite the differences in pay. However, these issues were not explored further.
This report aims to identify and explore factors that may contribute to these apparent differences in the employment experiences of male and female graduates, especially differences in pay. There is no suggestion, though, that pay is the only or even the most important consideration in employment. There are many ways in which career success can be defined and measured and we do not conflate earnings with success.
Methodology

Throughout this document we refer to patterns of male and female behaviour. These are averages and should not be taken to mean all men or all women. Furthermore, we focus here on undergraduate students – postgraduates are generally excluded from our data analysis.

New data analysis

This report draws on information from a number of different data sources. These include the Longitudinal Educational Outcomes (LEO) dataset for 2017/2018, which uses data from HM Revenue and Customs (HMRC), the Department for Work and Pensions (DWP) and the Department for Education (DfE), to assess the employment outcomes and earnings of graduates from UK higher education providers one, three, five and 10 years post-graduation. Since the LEO data are based on tax-records they cover the earnings of all graduates based in the UK throughout their lifetime, providing a large and accurate dataset that can be relied on with a great deal of confidence.

In addition, we also draw on data from the Higher Education Statistics Agency (HESA)'s most recent Destination of Leavers from Higher Education (DLHE) survey, collected six months after the graduation of the 2016/17 cohort and published in June 2018. DLHE was criticised on the basis that six months was not an appropriate length of time after graduation to reach conclusions about graduate outcomes. Therefore, it has recently been replaced by a new HESA survey, Graduate Outcomes. Graduate Outcomes uses data of leavers from higher education 15 months after their graduation, and was first collected in 2019 (from the 2017/18 graduating cohort). The results were first published in June and July 2020 and we also
draw on these data.ii We also draw on the Longitudinal DLHE survey, which surveyed graduates three-and-a-half years after they left university. The most recent Longitudinal DLHE survey was conducted in 2016.

Although the DLHE, Longitudinal DLHE and Graduate Outcomes surveys rely substantially on self-reporting, it is possible to crosscheck some of the information provided against the LEO data and establish a degree of confidence in the results. While there are some differences between the salary data in LEO (at one-year post-graduation) and Graduate Outcomes, these are marginal and may be explained by the difference in timeframe and / or issues with self-reporting, such as those with lower salaries being less likely to complete the survey.

In each case, some of the statistics are freely available online but most were obtained via datasets which we specially commissioned from Jisc, who provide bespoke analyses of data collected by HESA.

The Office for National Statistics have also looked at the question of the pay differences between men and women, but have not looked separately at graduate pay by gender. In addition, their studies are concerned with hourly earnings, whereas LEO, DLHE and Graduate Outcomes provide information about annual earnings – so the ONS data are not directly comparable to the data used in this report.

iiWhere appropriate, we use both the DLHE and Graduate Outcomes datasets to draw comparisons between the six-month and 15-month timeframes. However, it needs to be borne in mind that the two surveys represent different populations – the same people are not being surveyed six months and 15 months after graduation. While this may make a difference in tracking movement over time for the entire population, it is thought likely that differences between the genders, the subject of this study, are unlikely to change significantly over the small period of time between the two surveys. However, the different populations need to be kept in mind where comparisons are made through this report.
Data are also drawn from the HEPI Policy Note *Open for business? Students’ views on entering the labour market*. This used results from Wave 8 of the HEPI / YouthSight Monitor, which was answered by a representative sample of 1,039 full-time undergraduate students between 27 March – 1 April 2020.iii

*Data drawn on from previous surveys*

To support conclusions and provide context, this report draws on a number of other sources of information about gender and employment. Where conclusions are drawn from such surveys, attention is drawn to their limitations in methodology and representativeness.

The Bright Network, an organisation for students engaged in finding a career, surveyed 3,109 of its members, and some 157 graduate employers, pre-graduation in January 2018, to assess their attitudes towards employment in its study *What do Graduates Want?* (hereafter called the Bright survey).8 The students surveyed were in different stages of their career pathway and mostly went to research-intensive universities.

In March 2019, LinkedIn published their *Gender Insights Report*, a multi-faceted analysis of its members’ attitudes towards careers.9 The report considered behavioural data from millions of members. It supported this with two supplementary, more detailed, surveys of 6,536 LinkedIn members across over 20 countries, collected in April 2017, and 376 members from LinkedIn’s Insight Community panel, collected in April 2018.

iii Weights were used to ensure the sample was representative by age, gender and university type. The margin of error is + / – 3% for students. This is calculated at a 95% confidence level. Respondents received a £1.50 Bonus Bond gift voucher for answering these questions and others on a different topic.
While not specifically limited to graduates, the report provides a detailed analysis of the differences between men and women when searching for jobs.

In 2016, the Oxford Careers Service produced a report exploring the reasons why, at that time, fewer female than male graduates secured graduate-level jobs. The report was published in the *Oxford Review of Education* and based its conclusions on a combination of 2012/13 DLHE data, a survey of graduates at seven research-intensive universities and a further survey of Oxford students.

*Futuretrack* is a longitudinal study of the employment outcomes of 138,000 UCAS applicants in 2005/06, conducted by the Institute for Employment Research at the University of Warwick. The survey was run over five stages, surveying the same cohort. In this study, we use information from stage four of the survey, which was conducted in 2011/12.

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iv It should be noted that the focus on research-intensive institutions and Oxford students may limit the representativeness of this research.
Employment experiences of male and female graduates

The difference in male and female earnings

Figure 1 – The difference in full-time and part-time employed male and female median earnings one, three, five and 10 years post-graduation

Data from LEO set. Base for female: 163,270 (one year), 165,665 (three years), 152,350 (five years) and 131,230 (10 years). Base for male 119,580 (one year), 123,805 (three years), 112,190 (five years) and 98,720 (10 years).

Figure 1 shows the median earnings of male and female graduates, obtained from the LEO data, one (2014/15 cohort), three (2012/13 cohort), five (2010/11 cohort) and 10 (2005/06 cohort) years post-graduation. Regardless of length of time
post-graduation, men out-earn women on average. These are overall average figures (hereafter called the ‘overall pay gap’) and take no account of things like the subject of study, ethnicity, prior attainment and so on.

This report focuses on the employment outcomes of graduates in the period immediately following graduation, but we here provide data 10 years into their careers to show that, as the years pass, the gap between male and female graduate earnings widens. The graduate gender pay gap is clear and enduring.

In fact, the median salaries of men who are three- and five-years post-graduation are higher than those of women who are five- and 10-years post-graduation respectively. For example, a man five-years post-graduation, earning the median income for his gender, receives £28,800 on average. A woman 10-years post-graduation, earning the median income for a female, earns £27,400 on average, £1,400 less. Likewise, the median income for men three-years post-graduation is £25,600 and for women five-years post-graduation it is £25,200, £400 less.

This illustrates the importance of understanding the graduate gender pay gap because it seems to act as a springboard for long-term differences in pay between men and women.

*Full-time and part-time employment*

It is important to note that the LEO data are calculated from the salaries of those both in full-time and part-time employment, and are based on administrative data. In comparison, the

*It should be noted that LEO data do not distinguish between full-time and part-time work and therefore women’s average earnings will be reduced by the fact more women are in part-time work.*
Graduate Outcomes and DLHE data exclude part-time salaries, as is standard for HESA’s salary dissemination policy and are self-reported. The different surveys also use different reference points, so the Graduate Outcomes and LEO data are not directly comparable. Table 1 shows the differences in the respective gender pay gaps revealed in the surveys. This shows a 7.1% pay gap for part-time and full-time combined and an 8% pay gap for full-time alone.

Table 1 – Median salaries

<table>
<thead>
<tr>
<th></th>
<th>LEO: 1 year post-graduation (full-time and part-time employment)</th>
<th>Graduate Outcomes: 15 months post-graduation (full-time employment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>£21,200</td>
<td>£25,000</td>
</tr>
<tr>
<td>Women</td>
<td>£19,700</td>
<td>£23,000</td>
</tr>
</tbody>
</table>

While LEO data are calculated from the salaries of those working part-time as well as full-time, they are not able to show the proportions working full-time and part-time.

Employment and unemployment

While there are limitations in comparisons between the DLHE survey and the Graduate Outcomes survey, owing to their different populations and methodologies, it is nevertheless interesting to compare the DLHE and Graduate Outcomes data, one surveyed six months after graduation and the other 15 months after graduation. Figure 2, based on data from HESA’s DLHE survey, show that six months post-graduation:

- men are more likely to be unemployed than women;
- similar proportions of men and women are working full-time; and
• women are more likely to be working part-time than men, which accounts for the difference in unemployment between the genders.

Figure 2 – Employment and unemployment of male and female graduates six months post-graduation

![Bar chart showing employment and unemployment rates six months post-graduation for males and females.]

Data from the DLHE survey. Base: 108,069 female and 77,649 male.

Figure 3, based on Graduate Outcomes data, shows that 15-months post-graduation both male and female graduates are more likely to be working full-time. There are also smaller gaps between men and women in terms of part-time work and unemployment than at six-months post-graduation. However, women are still slightly more likely to be working part-time and men are slightly more likely to be unemployed.
Figure 3 - Employment and unemployment of male and female graduates 15-months post-graduation

Data from the Graduate Outcomes survey. Base: 75,586 female and 53,762 male.

Figure 4 shows the mean and median salaries of graduates, using the Graduate Outcomes survey data. The significance of these data lies in the fact that a small number of exceptionally high salaries will drive up the overall mean, but will have a smaller impact on median salaries. There is a 10% difference between mean salaries but an 8% difference between median salaries. The much wider gap between male median and mean salaries than female mean and median salaries – and also the greater gap between male and female mean salaries compared to median salaries – indicates that there are likely to be more exceptionally high-earning male than female graduates. The analyses in this report are based on median salaries, in order to avoid the distortions caused by this phenomenon. This is also consistent with the LEO data, which uses median salaries.
Figure 4 – The mean and median salaries of graduates

Data from the Graduate Outcomes survey. Base: 75,586 female and 53,762 male.

Graduate employment type, broken down by gender

Figure 5 shows that 15 months after graduating:

• a higher proportion of men (75%) than women (68%) are in highly-skilled work;

• more women (18%) than men (11%) are in medium-skilled work; and
• similar numbers of men (11%) and women (10%) are in low-skilled work.\textsuperscript{vi}

\textit{Figure 5 – Proportions of full-time employed male and female graduates in high, medium and low-skilled employment}

Data from the \textit{Graduate Outcomes} survey. Base: 75,586 female and 53,762 male.

\textsuperscript{vi} Jobs can be classified into groups according to concepts such as ‘skill level’ and ‘skill specialisation’, which consider aspects such as duration of training, work experience required to perform the activities and acquire the knowledge required to conduct the tasks. This classification, adopted for \textit{Graduate Outcomes}, follows that adopted in releases by the Department for Education and the Office for National Statistics. SOC (Standard Occupational Classification) major groups 1 to 3 are classified as high skill, major groups 4 to 6 are classified as medium skill and major groups 7 to 9 are classified as low skill.
Looking at the Longitudinal DLHE survey, which was conducted 3.5 years after graduates left higher education, we can see very similar levels of job satisfaction between men and women.\textsuperscript{vii} Women were slightly more likely to say they were very satisfied in their job than men, but the differences were marginal – although, as the sample size for the survey is over 100,000 graduates, it is likely these are real differences rather than within a margin of error.\textsuperscript{12} It is interesting to see the similar levels of satisfaction, given female graduates, on average, earned less than male graduates.

\textit{Figure 6 – Job satisfaction}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6}
\caption*{Data from the Longitudinal DLHE survey. Base: 58,405 female and 41,345 male.}
\end{figure}

\textsuperscript{vii} This information is taken from the 2012 Longitudinal DLHE, which is the last that asked this question. Although it is possible that the absolute figures may have changed in the intervening years, it is less likely that differences between men and women have done so.
**Contributory factors**

**Subject choice**

The most significant factor in pay differences, within gender as well as between genders, is the subject of study. It is well known that different subjects of study command different pay levels on average. By looking at the median salaries by subject, Figure 7 shows that a graduate of Mathematics, for example, will on average earn 18% more post-graduation than a graduate of History.

*Figure 7 – Median salaries of graduates in full-time employment by subject*

Data from the *Graduate Outcomes* survey. Base: 75,586 female and 53,762 male.

www.hepi.ac.uk
It is also well established that subject choices are heavily influenced by gender. Figure 8 shows the number of male and female students studying different subjects. It shows a dominance of men in Engineering, Computing, Mathematics, Architecture and Physical Sciences, which tend (other than for Medicine and Veterinary Science where numbers are relatively small) to be the highest-paying subjects. Therefore, it can be expected that on average female graduates will earn less than males overall.

*Figure 8 - Distribution of genders by subject*

Data from the *Graduate Outcomes* survey. Base: 75,586 female and 53,762 male.
However, different subject choices do not tell the whole story. Figure 9 shows the median earnings of men and women graduating in the same subject, as revealed in HESA’s *Graduate Outcomes* survey. Even within a subject, and almost without exception, women earn less than men. The differences in subject choices between men and women, relevant though they are, account for only part of the difference in salaries between men and women on graduation.

*Figure 9* - *Median salary differences between male and female graduates in full-time work, studying the same subject*

![Graph showing median salary differences between male and female graduates in various subjects.](image)

Data from the *Graduate Outcomes* survey. Base: 75,586 female and 53,762 male.
Prior attainment

The pay gap is not accounted for by the prior academic attainment of males. Earlier studies have anyway shown that the achievements of male students are on average less than those of females; and Figure 10 shows that, regardless of prior attainment, male students out-earn female students in the graduate jobs market. Male students achieving both low and high numbers of UCAS points in all cases out-earn female students who obtain the same number of points (we have taken UCAS Tariff points as the measure of academic attainment rather than degree class because of doubts about comparability of degree standards.\textsuperscript{viii} However, on average women obtain higher degrees, so the outcome is likely to be similar. In 2018/19 79\% of women achieved first-class or upper second-class degrees, compared to 73\% of men.\textsuperscript{13}

Figure 10 – Male and female graduate full- and part-time median earnings one year after graduating (2015/16 cohort) based on previous attainment, as assessed via UCAS points

Data from LEO set. Base: 80,140 female and 60,900 male.

\textsuperscript{viii} UCAS Tariff points translate qualifications and grades into a numerical value. Many qualifications (but not all) have a UCAS Tariff value which will vary dependent on the qualification size and the grade achieved. An A* or A grade is equivalent to 120 points, a B grade 100 points, a C grade 80 points, a D grade 60 points and an E grade 40 points.
Postgraduate education

Although we focus our analysis on undergraduates, it is worth exploring whether the gender pay gap is impacted by the number of graduates going on to postgraduate study. A previous HEPI report, *Postgraduate Education in the UK*, explored the postgraduate landscape, including gender differences. A higher proportion of female students than male go on to postgraduate study (60:40 in 2017/18, compared to 57:43 at undergraduate level). Figure 11 shows the median salaries for male and female undergraduates and taught postgraduates and demonstrates that, like undergraduates, female postgraduates earn less than male postgraduates.

*Figure 11: Full-time median salaries of undergraduate and taught postgraduate leavers (excluding ITT) six months after qualifying, 2016/17*

Data from the DLHE survey. Base: 233,670 female and 167,105 male.
### Ethnicity

Figure 12 is of interest for two reasons. First it shows significant differences in the earnings of different ethnic groups, for both men and women. It shows, for example, that the median earnings of male graduates of Indian background are higher than those of any other ethnic group.

**Figure 12 – Median full-time and part-time earnings of male and female graduates of different ethnicities one-year post-graduation**

![Bar chart showing median earnings by gender and ethnicity](chart.png)

However, for the purposes of this report, the most important fact illustrated in Figure 12 is that in the case of all ethnic groups, males earn more than females within the same ethnic group. This fact is elaborated further in Figure 13, which shows also that, while in all ethnic groups there is a male-female gap, it is very much greater in some ethnic groups than in others. For example, the gap in median earnings between males and females of Other Asian backgrounds is just 3.4%, whereas for those of Bangladeshi ethnic origin it is over 17% and for those of Indian and Pakistani ethnic backgrounds it is over 10%.

While it would clearly make a difference to the overall pay gap if those very large differences were eliminated or even reduced, the number of students of Bangladeshi, Pakistani and Indian backgrounds – where the differences are the greatest – are so small that this would make little difference to the overall picture, and as stated above, because in all ethnic groups, males earn more than females, the earnings gap would remain.

In part, the differences between the ethnic groups reflect different subject choices – for example, Indian men are more likely to pursue Medicine and Dentistry than white men and Bangladeshi women are more likely to pursue Social Studies than white women. Differences in subject choices also provide part of the explanation – though not the entire explanation – for the greater differences between the earnings of men and women in some ethnic groups than others. Overall, however, a significant gap between the earnings of men and women remains regardless of subject choices, whatever ethnic group is considered.
Figure 13 – Percentage difference between male and female earnings for different ethnic backgrounds

![Chart showing percentage differences in earnings for different ethnic backgrounds.](image)


**Higher education provider type**

Figure 14 shows that female graduates from Russell Group institutions have the greatest gender pay gap by provider type, earning around 17% less than male graduates from Russell Group institutions. However, in all provider types women earn less than men: in other pre-92 institutions the difference is 9% and in specialist institutions the difference is 16%. The smallest
gender pay gap is seen in graduates from post-92 institutions, where the difference is 5%.

The especially large difference in the earnings of male and female graduates from Russell Group institutions is striking. While there are some differences in subject mix between Russell Group universities and the average – there are more women studying Creative Arts, Biology and Mass Communications, for example – the differences are not sufficiently great to impact the overall finding. The disparity between male and female graduate earnings from those institutions is a surprise.

Figure 14 – Proportions of men and women earning different full-time salaries, broken down by higher education provider group – median salaries

Data from the Graduate Outcomes survey. Base: 75,586 female and 53,762 male.

So while it is the case that reducing the gender pay gap in Russell Group and specialist institutions would reduce the gap more generally, given the differences in the earnings of male and
female graduates from all institution types, differences in the performance of institution types do not explain the overall gap.

Social background

Figure 15 shows the earnings of graduates who were and were not eligible for free school meals in year 11 (the last year of compulsory schooling), which we take as a proxy for social background. From it, we find that the social background of graduates prior to entry to university cannot explain the graduate gender pay gap. Both for students who were and were not eligible for free school meals, a pay gap exists between men and women. The percentage difference between male and female pay is 7.8% for those who were eligible for free school meals and 7.2% for those who were not. However, it should be noted that free school meals are only one measure of social background and therefore cannot necessarily show the full picture of the impact of social background.

Figure 15 – Median full and part-time earnings of graduates who were eligible for free school meals in year 11, broken down by gender

Data from the LEO set. Base: 105,270 female and 79,445 male.
Values and behaviour

The analyses hitherto have considered:

• differences in subjects of study;
• prior attainment;
• ethnicity;
• nature of the university attended; and
• social background.

None provides an explanation for the overall pay gap. However, there are differences in the behaviour patterns of men and women that may help explain pay and other differences in the employment experience of male and female graduates.

Figure 16, using data from a HEPI / JobTeaser survey, shows significant differences between male and female students’ attitudes to employment. In defining a successful career:

• 18% of female students chose being happy and fulfilled in their jobs – 20% more than male students;
• 9% of women valued doing something that had a meaningful impact on the local or wider community – 30% more than men;
• 18% of women wanted work they were interested in — 13% more than men; and
• 17% of men said they valued a high salary — 42% more than women.
Figure 16 – How do you define a successful career?

- Something I enjoy
- Being happy and fulfilled
- Ability to progress
- Getting trained in a profession
- Having autonomy over my workload
- Flexible working hours
- Doing something that has a meaningful impact on your local or the wider community
- Doing something I am interested in
- Using my skills to start my own business
- Stability e.g. a permanent contract
- High salary
- Experiencing a new culture or geographic location
- Being able to stay living near my university
- Being able to live close to friends and family

Data from the HEPI / JobTeaser survey. Base: 581 female and 458 male.
However, some caution is required in interpreting this table, some of whose results are at the border of the +/- 3% margin of error of this survey. This word of caution applies in particular to the findings that women were more likely than men to prioritise being happy and fulfilled in their jobs as a principal consideration in judging a successful career, that they were more likely to prefer doing something that had a meaningful impact on the local or wider community and that they sought stability. Nevertheless, all of these findings point in the same direction, and all are consistent with other research referred to below. Women are more likely than men to be motivated by ethical and other values-based considerations. The single greatest motivator for men was found to be the salary a job commanded, though it should be noted that pay was also a strong (though nothing like as strong a) motivator for women, and that for men pay was followed by ‘stability’, ‘doing something I am interested in’ and ‘being happy and fulfilled’.

These findings are reinforced by the Bright survey which showed female students were 19% more likely than male students to cite work-life balance five years post-graduation as a marker of a successful career. It also showed female students were 21% more likely than men to believe a successful career includes contributing to a cause they believe in, and, related to this, that women were 24% more likely than men to apply for an opportunity due to a firm’s people and culture.

The Oxford Careers Service review also found women were more likely than men to cite ‘security of employment’, ‘work for a cause they feel good about’ and ‘work-life balance’ as important when considering a future job.

Similarly, previous research by HEPI / Unite Students asked students and applicants what they wished to achieve in life.
The findings showed that women rated ‘a job I’m passionate about’ more highly than men, whereas men rated ‘being wealthy’ and ‘a senior position in my career’ more highly.\textsuperscript{20}

In contrast, and consistent with these findings, the Bright survey found male students were 33\% more likely than female students to find a job opportunity attractive because of its remuneration and advancement and that men were 40\% more likely than women to believe a large salary was a marker of a successful career. In addition men were 38\% more likely to believe being in a position of leadership denoted success.\textsuperscript{21}

All the markers chosen by female students are perfectly good and rational ways to define a successful career. However, they do not necessarily lend themselves to high pay. By valuing different aspects of career success than men, women may be more likely to receive lower salaries. Nevertheless, it seems that for women, a lower salary may be an acceptable trade-off if they feel professionally and personally fulfilled.

\textit{Applications}

Men make more job applications than women. The LinkedIn \textit{Gender Insights} survey found (of the labour market in general) that women made 20\% fewer applications than men; and the Bright survey of undergraduates found 45\% fewer female students than male students made over 16 applications.\textsuperscript{22} In addition, the LinkedIn survey found women were 16\% less likely to apply for a job they had expressed an interest in (via LinkedIn).\textsuperscript{23} Moreover, the Bright survey found female students were more likely than males to abandon an application after starting it: 14\% more female than male students indicated they abandoned around a quarter of applications that they started.
In applying for fewer jobs, women may be more efficient than men. The LinkedIn survey found women (in the labour market in general) were 16% more likely than men to be hired for a job after being interviewed and this increased to 18% when women applied to more senior roles.24

Women may be more successful than men in their applications because, although they make fewer applications, they are more selective in the applications they do make and spend longer on them. The Bright survey found 23% more women than men said they spent over four hours on an application. By concentrating their time on fewer applications, it seems than women are more likely to succeed in gaining employment, which may go some way to explaining why 15-months post-graduation more women than men are employed.

One possible cause of the graduate pay and employment gap may be differences in the way male and female students approach job applications.

The Bright survey suggested men may be more single-minded in their job seeking and application strategy than women. For example, it showed men were more likely to give up a job offer they already held in favour of a better alternative. In particular, men were 24% more likely to give up an offer they already held in favour of a role at a more prestigious firm.25 There is not necessarily a link between the prestige of an employer and the salary it pays, nor indeed is it certain what ‘prestigious’ means to students. However, it is likely that employment at a prestigious firm would correlate with employment in a graduate-level position, possibly a well-paid one, and these data suggest that men would be more likely than women to pursue such an opportunity if they had the chance.
Although the Bright survey found women and men were equally likely (13%) to give up an offer they already held in favour of a bigger salary elsewhere, it also showed women were slightly more likely than men to give up a position they already held for a ‘more exciting role’ with 33% of women saying they would do so compared to 31% of males. This supports the growing narrative that, on average, women have different values when choosing careers. Having an exciting role could be fulfilling or satisfying but working for a prestigious firm may lead to a higher salary. While we cannot say for sure from these data whether or not this is the case, there are clear differences in the motivation and reasoning for the decisions male and female students make in their job applications and we know these lead to differences in pay.

Applications often involve more than a written process and there are many additional factors which determine whether or not a candidate will be successful and, if they are, what salary they will be offered. One of these factors is the relationship between an applicant and their potential future employer before and during the application process. Here too the data show gender differences. The Bright survey found 24% more men than women believed meeting a future employer before applying to a position was very important (36% versus 29%).

Supporting this, but with regard to the labour market more widely, the LinkedIn survey found women were 26% less likely than their male counterparts to ask for a referral.

Pay expectations

One reason why men earn more on average post-graduation may be that they simply expect more. According to the

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ix Defined on LinkedIn as sending your connections, who work at a firm advertising a job, a message requesting a recommendation for that job.
Bright survey, male students expect 13% more than women as a starting salary – considerably more than the actual pay gap – and 27% more as a salary five years post-graduation. According to these data, women expected £25,832 in their first year and £47,492 by their fifth-year post-graduation on average. For men, these expectations were £29,279 and £60,521 respectively. To some extent, given subject choices, female students are being realistic if on average they expect lower salaries, though the gap between expectation and reality suggests that men are being unrealistic. It is not clear what drives these differences in salary expectations between men and women.

Geography

Figure 17 breaks down the income for men and women based on the location of their employment. In every region, men earn more than women; however, in some places the gender pay gap is more pronounced than others. Despite women’s earnings being greatest in London, this is also where the gender gap is most pronounced, with men earning 12% more than women, compared to a 5% gender pay gap across the North of England and the East Midlands. This may suggest that for female graduates the salary gains of going to work in London are not as great, particularly given the higher costs of living in or commuting to London.
Figure 17 - Median income for men and women based on the location of their employment

Data from the Graduate Outcomes survey. Base: 75,586 female and 53,762 male.

Figure 18 shows the percentage of graduates who choose to stay in their home region to study or to work, and who stay in their university region to work. This shows that female graduates are less mobile than male graduates, as women are more likely to stay in their home or university region to study or work. There is a:

- 10% difference in those who stay in their home region to study;
• 13% difference in those who stay in their home region to work; and

• 11% difference in those who stay in their university region to work.

*Figure 18 – Percentage of graduates who stay in their home or university region*

![Bar chart showing percentage of graduates who stay in their home or university region to study and work, for male and female graduates.]

Data from the Graduate Outcomes survey. Base: 75,586 female and 53,762 male.

*Figure 19 shows the median salary of male and female graduates according to whether they stayed in their home region to work or moved to another region. The results show that in most cases, graduates earn higher salaries by moving out of their home region to work. The one exception to this is women from London, who have a better salary when they stay in London to work, which is not the case for men. Although in all other cases both men and women see greater salary returns when moving out of their home region, these returns are greater for men than women. Men, on average, gain a 15%*
increase in their salary when moving out of their home region, whereas the average increase for women is only 6%.

*Figure 19 – Average salaries for those who have moved or stayed in their home region*

Data from the *Graduate Outcomes* survey. Base: 75,586 female and 53,762 male.
The *Futuretrack* survey also indicates that where graduates live may be relevant. Stage Four of the survey, of graduates between 18 and 30 months after leaving university, found female graduates were both 13% more likely to live with their parents and 36% more likely to live in their own home than male graduates.³⁰ In either remaining with their parents or in investing in their own place, female graduates showed a greater preference towards financial security than male graduates, concurring with their greater likelihood to value stability in their careers, as shown in Figure 16. While this may be a very reasonable and wise outlook, it may limit female graduates’ mobility, which in turn may limit their ability to move to jobs with higher salaries.

**Confidence and career readiness**

Male students work to become application-ready earlier and so are better prepared when higher-paid opportunities arise. According to the Oxford Careers service review of undergraduates, significantly more men than women in their final year considered themselves to have ‘started taking action’ on their careers with 25% of men and 16% of women stating this. This gap was wider even for those in the early years of their degrees where 12% of men and 4% of women said they had ‘started taking action’.³¹

Male students being more application-ready than female students is also a theme apparent in the Bright survey, which found that when students received an email about a job opportunity, 58% of men reported they would digest the email and apply compared to 51% of women. Furthermore, women were 47% more likely than men to report they would read the email but possibly forget to apply.³² It may be that women miss out on high-paid opportunities more often than
their male counterparts because they are less likely to be ready or motivated to apply, or lack the confidence to do so.

**Experience and skills**

The Bright survey showed female students were more likely to have been employed during their degree compared to male students (80% of women compared to 73% of males). However, this employment was likely to be part-time or casual work, whereas if men did work then it was more likely to be as part of an internship. Women were 40% more likely to have had a part-time, term-time job alongside their studies, whereas men were 19% more likely to have done an internship. It seems that, while female students are working, the work they do is less likely to prepare them for a graduate-level role than the work done by male students. If, as is likely, the part-time jobs undertaken by women while undergraduates are lower-skilled than the male internships, this suggests that female students are more likely to be working towards current financial stability, whereas male students are more likely to be preparing for their future careers.

**Bias**

According to LinkedIn, employers were also less likely to engage with female applications. Their survey found recruiters were 13% less likely to click on a woman’s LinkedIn profile when she came up in a search compared to a man’s profile. That same survey also showed that when interviewed, women were more likely than men to be offered a job, suggesting that women may face a barrier in being selected for interview, which in turn could be an indicator of – presumably unconscious – employer bias in favour of men. In order to counter possible bias towards ethnic minorities, many employers have moved
to ‘name-blind’ recruitment. The same may be appropriate more generally in order to counter any possibility of gender bias.
Conclusions and policy recommendations

There is a well-documented gender pay gap in society, and for graduates this begins from the moment of graduation. The Graduate Outcomes and LEO data all show that male graduates earn more than female graduates from one year post-graduation. This pay gap is not the result of any single cause – here we have considered whether subject studied, prior attainment, ethnicity, social background, higher education provider type or location, or location of graduate employment account for the pay gap. They do not.

In our report, we go on to explore the various possible attitudinal and behavioural reasons for the overall pay gap. First, on average, men and women approach applications differently. Women are more cautious in their applications than men, applying for fewer positions and being more likely to give up on an application – possibly owing to a lack of confidence. When they do apply, however, they take more time in the application process than men and, when interviewed, are more successful, possibly because they are less ambitious – or more realistic – in the jobs they apply for.

Men are much more willing than women to meet with future employers obtain internships and ask for referrals. It may be that by building a rapport with future employers, men are in a better position than women to gain better paid jobs, and to negotiate higher salaries. This may be exacerbated by possible unconscious employer bias against female candidates.

In the different surveys studied, we see that male and female students have different values in terms of how they view a successful career. Male students rate earning a high salary and seniority as most important, whereas female students
are more likely to identify stability, a good work-life balance, company culture and contributing to a cause they feel is worthwhile. These differences in aspiration may contribute to the pay disparities between male and female graduates.

One clear way in which differences in aspiration may lead to differences in pay is that female students simply set the bar lower in terms of pay expectations than male students. By expecting that they will earn lower salaries than men expect, women may simply demand less and not look for the highest paid roles.

The evidence suggests that male students are more confident than female students. They are more likely to network with future employers and less likely to give up on an application. This may mean female students miss out on competitive opportunities which pay well. Furthermore, female students are also less likely to be sure of their career-trajectory than male students and less likely to start their career planning early. This, combined with female students both being more likely to be in casual or part-time employment during the course of their studies and having a tendency to value job stability more than male students, may leave female students trapped in roles below their qualification level as they start looking at jobs post-graduation, and they also tend to do so later than male students.

The graduate gender pay gap may be exacerbated by female students being more inclined towards stability of location. The data suggest that female students are less mobile than male students, which may affect their ability to move to locations where they can be employed on higher salaries.

The findings of this report that women study subjects that
on average command lower salaries than those studied by men; that even within those subjects they on average earn less than men studying the same subject; and that high pay is not women’s principal consideration in judging a job – as it is for men – should give pause to any suggestion that the levels of pay earned by their graduates should be a factor in judging universities. Such a view, and any policies based on such a view, would, apart from any other considerations, disproportionately and negatively impact women.

Although here we assess the graduate gender pay gap, we stress that obtaining a high salary is not the be-all and end-all of achieving a successful career. Indeed, with a growing mental health crisis, both among students and the population at large, women’s values-based approach, centred around personal fulfilment, stability and work-life balance is a very rational approach to the job market. It is likely though to mean that later in their careers they will be in a weaker position than men to seek and obtain the best paid roles, should they wish to do so.

It will be clear from the above that the lower pay of women is multifaceted. The most significant single contribution to the pay gap is the choices made by men and women in the subjects that they study (though, as has been seen, even when subject choice is allowed for differences remain; and subject choice itself may be limited by expectations and constraints elsewhere in the educations system and society more widely. Different values and personal wishes that men and women exercise in making decisions about career choices also contribute to the pay gap.

We do not suggest here that the exercise of such choices or the pursuit of such values is in any way mistaken – on the part either of women or men. However, we do believe the
exercise of choices should be made in the full knowledge of their consequences – and this too applies both to men and women. It would be intolerable – as perhaps is the case at the moment – if the relatively lower pay of female graduates were an accidental and unwanted by-product of external constraints and a lack of awareness which could be reversed with better advice and the availability of a wider range of choices. And of course we have not begun to address – nor are we competent to address – societal and other external factors that may lead to the different choices and values of male and female students and graduates. Nor have we considered the reasons why jobs which tend to be undertaken by women are less valued financially in society.

Our recommendations that follow are consequent upon these observations and analyses; and our principal conclusion is that every effort must be made to ensure that men and women are enabled to exercise their choices as freely as possible, with full knowledge of the implications of those choices, and in ways which ensure outcomes that are best for them. Equality of choice, opportunity and outcomes in employment must become a reality.

*Policy recommendations*

Although we do not suggest that female students who aspire to other measures of career success should change their focus towards improving their salary prospects, we do believe that higher education institutions should do whatever they can to ensure that all graduates have an equal opportunity to achieve the career outcomes that best meet their aspirations and potential.
To higher education institutions, we therefore recommend the following.

First, **institutional careers services should disseminate data on the graduate gender pay gap to all students.** Better understanding of the market into which they are entering will empower students, either to stand firm in their convictions or to re-think their career strategy.

Secondly, **institutions should provide specialist sessions aimed at improving the confidence of female students in the job application process.** This might help those who would otherwise have given up on applications to high-paid roles to continue and possibly succeed. Examples could include supporting female-only networking sessions, to help provide less confident female students with the tools they need to build successful connections which may, in their turn, lead to a better rapport with employers and higher pay. Careers services could also run career-planning workshops for female-only groups, to help female students plan and prepare for their future careers.

Thirdly, given that women’s approach to career satisfaction may be more rational than the pursuit of a high salary at all costs, **institutional careers teams should run workshops for male students about future careers satisfaction.** This may broaden the horizons of male students and help them to consider whether prioritising high pay is the best option for them. It may well be, but if some male students do re-think their plans and opt for a better work-life balance and fulfilment in preference to higher pay, this will go some way towards reducing the pay gap.

One thing that has come through clearly in this study is that
male students appear to consider their career search earlier than female students, and in particular that they are more likely to undertake internships – something that has become more difficult in the context of COVID-19. That itself is likely to make a difference to their career outcomes when they graduate. In order to ensure that women are as strongly placed as men to achieve the best career outcomes possible, careers services should alert all female undergraduates to this fact, and should make particular efforts to help them undertake internships.

There appears to be a particularly large male / female salary difference for graduates of Russell Group and specialist institutions, which does not result from differences in subject choices. The institutions concerned should investigate the reasons for this disparity and take appropriate action to address it.

For employers, we make the following recommendations.

Given the evidence that women’s applications are more likely to be overlooked, whereas once interviewed for a post they are more likely to be recruited, we recommend that employers’ organisations should alert their members to the findings of this report, and in particular, the possibility of unconscious bias in recruitment practices and encourage them where possible to undertake name-blind recruitment.

Considering the fact that the academic achievement of women is on average higher than men’s, it will only be to the benefit of employers themselves if they succeed in recruiting a greater number of women to more senior and better paid roles. We therefore also recommend that employers, to the extent permitted by current equal opportunities legislation, should make particular efforts to provide internships and networking opportunities for women.
To ranking bodies, we recommend the following.

National university rankings, while suffering from some of the same problems as international rankings, are nevertheless more multi-dimensional and in general are based on comparable and validated data. Gender equality should be regarded as a measure of the performance of institutions. **We therefore recommend that compilers of rankings should include the relative pay of male and female graduates among their indicators.**

To government, we recommend the following.

Given our findings about the lower pay of female graduates – even within the same subject – and some of the contributory causes, **the Government, ranking compilers and others should not use comparative earnings as a measure of the worth of programmes or the quality of institutions.**
Endnotes


2. Nick Hillman and Nicholas Robinson, *From Boys to Men: The underachievement of young men in higher education – and how to start tackling it*, 12 May 2016, [https://www.hepi.ac.uk/2016/05/12/3317/](https://www.hepi.ac.uk/2016/05/12/3317/)


Mind the (Graduate Gender Pay) Gap


13 HESA, What are HE students’ progression rates and qualifications?, 2020, https://www.hesa.ac.uk/data-and-analysis/students/outcomes


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This report looks at the scale of the gender pay gap between male and female graduates and the factors that may influence this. It finds the overall graduate gender pay gap is not wholly accounted for by subject of study, type of university attended, prior attainment, social background or ethnicity. It also explores differences in approaches and attitudes to careers by male and female students.

The report makes a series of recommendations, including better informing students about the existence of the gender pay gap, running specialist sessions to strengthen the approach of both genders to support their future careers, using name-blind recruitment processes to reduce unconscious bias and to stop using earnings data to judge the quality of higher education institutions.