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Drivers of early career success for UK undergraduates

An analysis of graduate destinations surveys

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Summary

This research investigates some of the possible drivers of career success for full-time undergraduate students in the UK. The analyses draw on the large-scale graduate destination surveys commissioned by the Higher Education Statistics Agency (HESA), comparing students' answers at approximately six months after graduation with their answers at 3.5 years after graduation. Our exploratory approach uses regression models to analyse career success through students' reported career satisfaction and salary outcomes during November 2016, around 3.5 years following the completion of the research cohort's undergraduate degree. The results account for aspects of students' personal background and circumstances, including prior attainment, socio-economic background, gender, age, and location.

Overall, the research finds that over 70% of graduates are positive about how well higher education has prepared them for, or helped them progress, their career aspirations - and this positivity is broadly similar across differing socio-economic backgrounds. Nonetheless, there are several factors that are shown to be particularly strong drivers of career satisfaction for those from less privileged backgrounds: the reported importance of the degree for entry to employment, whether the degree included work experience, and university support for developing transferable skills.

Eight key features of the university experience were positively associated with higher career satisfaction and higher salaries. These are: support for transferable skills; the importance of their degree grade for their current work; the importance of their degree subject; the importance of their degree type; the importance of their degree as evidence of skills; work experience within the degree course; whether the qualification was formally required for the job; and whether they gained their first job via the university.

Three further insights emerge from the detail of the analysis, contrasting the career factors against each other to identify the most striking outcomes:

- The single strongest relationship with career satisfaction was graduates feeling that higher education provided them with the ability to function highly effectively at work across eight different transferable skills.
- The job relevance of the degree subject has a stronger link to career satisfaction than degree grade or qualification type, or whether the degree was useful as evidence for skills and competencies. However, less than 50% of graduates report that their subject was important for their entry into employment.
- There are positive links to outcomes, particularly salaries, when universities help students connect with employers, both via careers services provision and via connections made through the course. Careers provision also has the potential to support outcomes via forming and pursuing a career plan, navigating subject choices, and articulating skills.

Reflecting on how these findings might inform practice in higher education and in careers services, this report provides practical examples of how universities have sought to address the employability of their students and support better graduate career outcomes.

Introduction

What is career success?

Many factors contribute to the career success of higher education (HE) graduates. In the UK, rankings and outcome measures often define success in terms of immediate graduate salary and/or whether they are in a 'graduate-level' job. Although these are important career-related outcomes of university, they are subject to limitations. For example, a lower than average graduate salary does not necessarily imply a lower quality or less desirable outcome. For instance, employees working in the public sector, or in the arts or in self-employment, may have salaries that are significantly lower than certain private sector occupations, especially in the first few years of their career. Yet this does not mean those employees have a less valuable or 'successful' career. The analyses in this report uses career satisfaction as our primary definition of success, supplemented with information on salary outcomes.

We believe that graduates should not necessarily just be aiming to earn a high salary, but that they should also feel that the work they are doing is satisfying and reflects their sense of identity and self-worth. Although difficult to define, career satisfaction can include, amongst other factors, the nature and environment of the work, its level of challenge, and prospects for progression (Shiyani, 2020). The measure we use is self-reported by the graduates themselves - we suggest graduates' overall assessment of their career is one of the best ways of integrating the diverse aspects that might contribute to personal success. We consider outcomes at 3.5 years after graduation, focusing just on those students who went into work after their first full-time undergraduate degree. Three and a half years allows for some volatility in the initial entry into the job market, although it is important to recognise that some career pathways typically have slower progression in their early years compared to others, with more rapid progression after 5-10 years. For instance, some indicative analyses of career trajectories following BA-degrees compared to BSc-degrees have identified a longer-term acceleration among BA-degree-holders, taking 5-15 years to manifest (Emolument, 2015).

What can lead to successful careers?

Multiple factors drive a graduate's ability to move into and succeed in the job market. Family background has been identified as a key influence (e.g. Britton et al., 2019), along with other social capital factors (Clarke, 2018). However, universities play a key role in helping to level this playing field by supporting their students develop a set of attributes that are deemed necessary for employability. Although consensus has been hard to obtain, researchers such as Bridgstock (2009) have defined attributes important in gaining employment, including; the knowledge and skills specific to the chosen degree, and a set of generic or transferable skills, dispositions and attributes that can competently translate across many occupations and workplace sectors (see also Small et al., 2018).

From the employer's perspective, attitude and aptitudes for work ranks consistently higher than any other factor when considering graduate recruitment – far above factors such as the university attended or their degree subject (CBI/Pearson, 2019). In practice, this suggests that one fundamental aspect of the university experience should be nurturing and developing such attitudes and aptitudes, to ensure students are prepared for the workplace. Insights from students give an indication of how universities could be doing this, particularly in a post-Covid world. For example, the recent Pearson/WonkHE Student Expectations Survey (2020) found that over 60% of students believe independent learning skills should be prioritised by universities. Furthermore, 49% feel less confident that they are ready to progress to the next step in their education or career (compared to how they felt pre-Covid-19), suggesting the need to build confidence in this area.

Research focus

This research investigates the drivers of early graduate career success through analyses of large-scale graduate destination surveys. The research focuses on career-related factors which the higher education system has the potential to influence, whether directly or indirectly. These include factors such as support for developing transferable skills; the degree subject and type; work experience within the degree; and whether the first job was gained via university. For instance, universities can run activities targeted at developing transferable skills, emphasise the language and links to transferable skills in students' work, and provide support to students in articulating and evidencing their skills. Degree curricula can be grounded more explicitly in career requirements and support provided to articulate subject relevancy. Work experience could be included, extended or diversified as part of degree programmes and higher education provision more generally. Also, the work of careers services can be expanded and made more visible to the students. In the discussion we explore the findings further through linking them to wider qualitative case study examples, in order to demonstrate what the findings could mean in practice.

Methodology

Survey datasets and sampling

This research draws on the large-scale graduate destinations surveys commissioned by HESA, comparing students' answers at approximately six months after graduation ("the Early DLHE survey") with their answers at approximately 3.5 years after graduation ("the Longitudinal DLHE survey").

The student cohort analysed is those who completed a full-time undergraduate degree in the UK at the end of 2012/13. For this cohort, the six-month survey was distributed at the end of 2013 and early 2014, led by individual higher education providers as a census survey, seeking as complete a coverage as possible across all eligible graduates. The longitudinal follow-up fieldwork, targeting a sample of respondents who had not opted-out, took place between November 2016 and May 2017, asking respondents to think about their activity as of November 2016. The analyses are weighted to reflect response rates and over-sampling from the longitudinal survey. Full details on sampling, response rates and weighting can be found in HESA's Technical Report (2017).[1]

In order to focus on the career progression of those in the labour market, our analysis covers those graduates who went directly into the labour market after their first degree, being in full-time employment at both six months and 3.5 years after graduation - the most common graduation pathway for full-time undergraduates. The core sample size among those with a full set of responses to the questions and control variables used in the analysis is around 7,400 for most analyses, depending on how many respondents were able to answer each question for the relevant career factors.

Relevant career factors of higher education provision

The regression analyses relate eight key aspects[2] of graduates' reported university experience and degree relevance to their career outcomes, termed here as "career factors" and described in Table 1.

Each of the career factors reported in Table 1 represents elements that the higher education system has some capacity to enhance, either indirectly or directly, in that they could prioritise initiatives that would have the potential to enable more graduates to report that their higher education experience was useful or important for their work in that particular aspect. Before universities and career services decide how much emphasis to place on these career factors that might enhance graduates' experiences, and given the diverse calls on universities resources and their individual contexts, it is reasonable to examine which aspects support career outcomes for early graduates and the extent to which graduates report benefitting from them already.

[1] The technical report is available at: https://www.hesa.ac.uk/files/LongDLHE_1213_TechnicalReport_HESA_IFF.pdf

[2] The eight aspects are entered as independent variables in eight separate models, given covariance among the aspects and our focus on the implications of each aspect as a whole, including activities commonly associated with it.

Table 1: Key career factors explored in this research and their definitions

Aspect	Definition and survey questions
Great Transferable Skills Support (0%-100%)	Students were asked 3.5 years after graduation whether their HE experience enabled them to function effectively at work across eight different transferable skills, whether to a great extent, to some extent or not at all. This factor scores the percentage of skills where the student reported a "great extent" of support from HE out of all skills the student was able to comment on. The full question phrasing is: "Still considering your HE experience, which includes the course you completed in 2012/13 as well as any extra-curricular activities and work placements you undertook in this time, to what extent has your HE experience enabled you to…: (i) Communicate effectively in your work; (ii) Make good decisions in your workplace; (iii) Make effective use of information and communication technology in your work; (iv) Be innovative in the workplace; (v) Work effectively with numbers; (vi) Take initiative and personal responsibility in your work; (vii) Solve problems in your work; (viii) Work effectively with others?"
Degree Grade Important (Yes/No)	Students were asked 3.5 years after graduation "As far as you are aware, how important were the following factors to the company you were working for on 28th November 2016 when you gained this employment?" If students reported the class or grade of their qualification as either a "formal requirement" or an "important" factor, this factor is recorded as a "Yes". Other answers are scored as a "No", i.e. "not very important but helped", "not important", or "don't know".
Degree Subject Important (Yes/No)	As above, but with reference to "the subject you studied".
Degree Type Important (Yes/No)	As above, but with reference to "the type of qualification you obtained in 2012/2013 (e.g. BA, MSc, PhD, etc). Respondents may have interpreted this as the type of qualification being a degree in general, as opposed to the specific subvariant of degree type. Using the HESA classifications, 92% of our sample were studying a "first degree with honours", 4% studying a "pre-registration first degree with honours, leading towards an eligibility for health, social care or vet registration", 3% were studying a "first degree with honours leading to teaching qualifications", 1% were doing an ordinary (non-honours) degree, and less than 1% were doing an integrated UG/PG taught masters.
Degree as Evidence of Skills (Yes/No)	As above, but with reference to "Evidence of skills and competencies", asked in the context of the degree subject, type and class/grade.
Work Experience in Degree (Yes/No)	Students were also asked at 3.5 years after graduation about the importance for entering their employment of "Any work experience or work placement that was part of the qualification you obtained in 2012/2013". If graduates commented on any degree of importance from such work experience, this factor scores a "Yes". If the graduate responded that they "Did not do any work experience or placement as part of the qualification", it scores a "No". If the graduate was unsure or did not answer the question, they are excluded from analyses on this factor.

Aspect	Definition and survey questions
Qualification Formally Required (Yes/No)	Students were asked 6 months after graduation whether their qualification was required for their current job, with answer options "Yes: formally required", "Yes: while the qualification was not a formal requirement it did give me an advantage", and "No: the qualification was not required." This factor contrasts those saying it was "formally required" (the reference category in the regression analysis) with those saying it provided an "advantage".
First Job via University (Yes/No)	Students were asked 6 months after graduation how they found the job they were currently in. The key option for university support was via the response "Your university/college (e.g. Careers Service, lecturer, website)", which is the reference category in the regression analysis, contrasted against "Recruitment agency/website" for defining this factor (being the most common answer given by respondents – 24% of our core sample).

Regression analysis

This research adopts an exploratory approach, exploiting regression models to analyse students' reported career satisfaction and salary outcomes during November 2016, around 3.5 years following the completion of their undergraduate degree. Career satisfaction is reported on a four-point scale from "Not at all satisfied" to "Very satisfied" in response to the question "Given what you have told us so far, how satisfied or dissatisfied are you with your career to date?"

Since salary is likely to be a contributing factor to career satisfaction for a reasonable proportion of graduates, we present a picture of salary effect sizes alongside career satisfaction effect sizes, including a set of controls for their salary and salary progression.[3] This means we can be confident that the gains associated with career satisfaction represent benefits on top of anything that might be supported by higher salary.

In order to ensure results are not a mask for students' personal background and circumstances, a set of variables are used as control variables in the regression analyses: their A-level or equivalent tariff score on entry to university; parental socio-economic status by occupation; gender; age; and the region of the UK in which they were working at 3.5 years after graduation (excluding those working outside the UK).

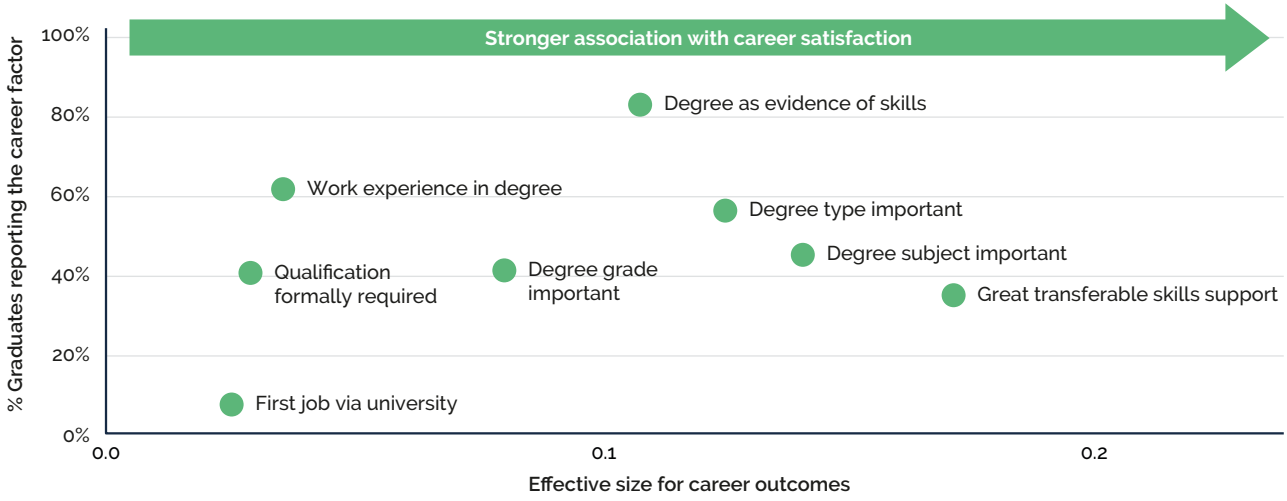
As with all survey data of this type, it is important to emphasise that these reflect respondents' views with the benefit of hindsight, a construction of their past inevitably influenced by their experiences since and in the present – both a strength and a limitation for interpreting what the results might mean for higher education providers. The surveys inevitably also refer to practice in the past, in this case the 2012/13 graduating cohort, since we wish to examine long term outcomes. The most important caveat is that we are identifying associations – rather than causal relationships – between career outcomes and graduates' reflections on their higher education experience. While the presence of a statistically significant correlation in a multivariate model makes it more likely that a causal relationship exists, particularly if underpinned by a theory of change, than if there is no such correlation, it cannot guarantee it.

[3] Using a basket of six salary related variables: salary at 6 months post-graduation, salary at 3.5 years post-graduation, the percentage increase in salary between those two periods, along with their squared terms.

Findings and discussion

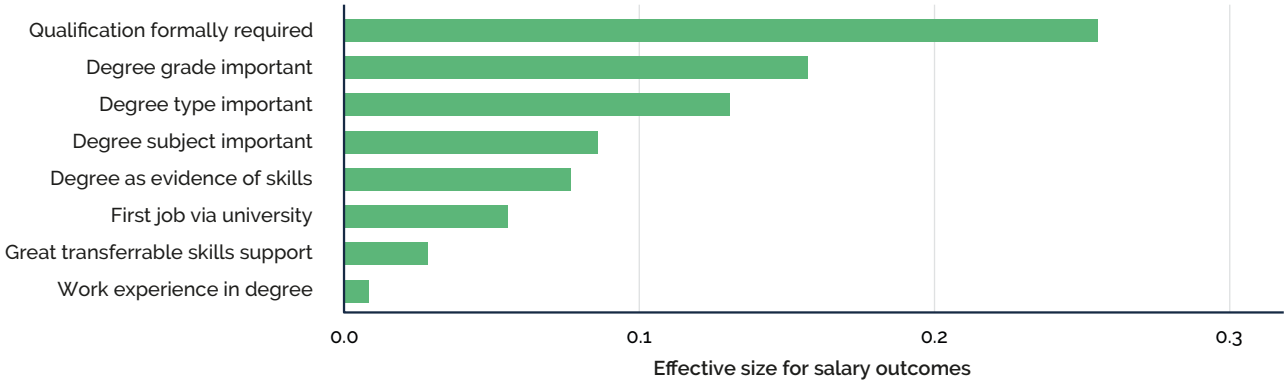
The core results are presented in Figure 1, which relates the standardised effect size4 of each aspect of graduates' higher education career factors on career satisfaction (x-axis), to how much graduates reported, on average, benefitting from that aspect with respect to their employment outcomes (y-axis). This gives us an indication of the potential for each aspect to contribute to career satisfaction alongside how frequently it appears in our sample. Figure 2 relates each aspect to the graduates' salary outcomes at 3.5 years after graduation.

Figure 1. Student views on Higher Education career factors vs subsequent career satisfaction



Notes: The definition of each career factor is given in Table 1. Analyses are linear regressions, with controls for salary levels and growth post-graduation, gender, age, prior academic attainment, SES and region. A typical sample size is 7,411, with an R2 of 0.13 ("Great Transferable Skills Support"). All coefficients are significant at the 1% level, except "First Job via University".

Figure 2. Average effect size of Higher Education career factors on salary outcomes



Notes: The definition of each career factor is given in Table 1. Analyses are linear regressions, including controls for gender, age, prior academic attainment, SES and region. A typical sample size is 9,740, with an R2 of 0.22 ("Great Transferable Skills Support"). All coefficients are statistically significant at the 1% level or better, except "Work Experience in Degree".

[4] The (standardised) effect size is the regression coefficient for the relevant dependent variable multiplied by the standard deviation of that variable in the sample, divided by the standard deviation of the outcome variable (e.g. career satisfaction or salary level).

Overall patterns: the positive career factors linked to higher education

Each of the eight aspects analysed (see Table 1) is positively associated with salaries 3.5 years after graduation, with a range of controls in place for prior attainment, socio-economic background and demographics. Further to any career satisfaction benefits associated with higher salaries, each aspect is also additionally positively associated with career satisfaction. In all but two of the sixteen models, these associations are statistically significant at the 1% level – having work experience as part of the degree is not statistically significant for salaries and finding work through the university is not statistically significant for career satisfaction.

These relationships typically have a meaningful effect size, with one standard deviation shift in the aspect related to around a 10% to 20% boost for career satisfaction in standard deviation terms – the equivalent of one in fifteen or twenty respondents reporting being "very satisfied" as opposed to "fairly satisfied". For salaries, the relationships are similarly meaningful. For instance, those who indicated the subject of their degree was important or a formal requirement for getting into their job were typically earning £1.6k more per year than those who said it was merely helpful or not important.

In addition to these inferred links between reported HE experience and career satisfaction, graduates are positive when asked directly about how well higher education has helped with their career aspirations. With over three years of hindsight as well as time spent in employment, 23.1% said their time in higher education prepared them for, or helped them progress, their career aspirations very well and a further 50.4% said it supported them quite well (n=9,702; core analytical subsample). Still a fifth (20.2%) said higher education supported them "not very well", with the remaining 6.4% saying "not at all", showing there is still progress that could be made.

Variation by socio-economic background

General positivity about higher education is broadly stable across three groups differentiated by parental socio-economic background.[5] This suggests that higher education is perceived by both advantaged and less advantaged groups to be similarly beneficial for their careers – although of course it is possible that different groups have different average expectations and standards for success.

In general, the links between the HE career factors in this report and career outcomes, as captured in Figures 1 and 2, are stronger for those from less privileged backgrounds. Particularly strong drivers of career satisfaction for those from less privileged backgrounds are: the reported importance of the degree for entry to employment, whether the degree included work experience, and university support for developing transferable skills. Collectively this suggests that working harder on connections to employment has, on average, greater benefits for those from less privileged backgrounds.

[5] Split into three categories: privileged socio-economic background, being those whose parents are from "higher managerial and professional occupations"; a less privileged group being those categorised as "lower supervisory & technical occupations", "semi-routine occupations", "routine occupations", or "never worked & long-term unemployed"; and a middle group comprising the remainder (excl. those who could not be classified or were unknown).

Self-employment and entrepreneurship

There is an important exception to this broadly favourable report on career aspirations, which concerns the distinction between preparation for being self-employed, freelance or starting up their own business and preparation for working for an employer. When asked to distinguish between these two forms of work at six months after graduation, 83.0% were favourable or very favourable about higher education as preparation for employment, but only 46.4% were favourable about higher education as preparation for self-employment or entrepreneurship (n=5,531, having excluded the 33.4% of young people who said they "can't tell", most likely because they had never seriously explored such a pathway).

With less than half of graduates satisfied with how universities supported them with self-employment or entrepreneurship, it suggests that more could be done to broaden students' skills and confidence in this area. Growth in self-employment has been a key feature of the UK economy over the last two decades, and now makes up 15% of the workforce (Blundell, 2020). Competencies such as flexibility, self-management, creativity, determination and resilience are particularly important in less structured working environments, such as those characterised by entrepreneurship or self-employment.

In addition to the skills and competencies needed for entrepreneurship, universities could be supporting students with the practical advice and guidance needed for running their own business, as well as allowing them opportunities to practice and leverage their ideas. For instance, the University of Oxford developed the Oxford Foundry6 to meet these needs amongst their students. The aim of the Oxford Foundry is to support students and alumni of the university to build a new generation of ventures that better society, and seeks to nurture more ethical leaders. It does this by offering students opportunities to co-create, collaborate and build solutions to global challenges, whilst providing co-working space and supporting global networks. It also delivers practical learning opportunities to build tech skills and understanding in areas such as coding, blockchain and AI. In the two years since the Foundry has opened it has accelerated 32 start-ups, with 13 of these actively engaging in the fight against Covid-19.

Career factor insights: distinctions across career factors shed light on what works

The analyses point to three further insights that emerge from the detail of contrasting the eight career factors:

- **Insight 1:** While each career factor is positively associated with higher career satisfaction, support for transferable skills development had the strongest relationship with career satisfaction.
- **Insight 2:** The job relevance of the degree subject has a stronger link to career satisfaction than degree grade or qualification type, or whether the degree served as evidence for skills. However, less than 50% of graduates report that their subject was important for their entry into employment.
- **Insight 3:** There are positive links to outcomes, particularly salaries, when universities help students connect with employers, both via careers services provision and via connections made through degree content and delivery. Careers provision also has the potential to support outcomes via forming and pursuing a career plan, navigating subject choices, and articulating skills.

[6] https://www.oxfordfoundry.ox.ac.uk/what-oxford-foundry

Insight 1: support with transferable skills has the strongest link to career satisfaction

The strongest driver of career satisfaction among the eight career factors analysed is the number of transferable skills that the graduates said had been enhanced to a great extent by their HE experiences. A one standard deviation increase in this aspect, the equivalent of a graduate reporting two to three more skills benefitted to a great extent (out of the eight skills queried), is associated with – for instance - just over one in ten more graduates reporting being "fairly satisfied" with their career as opposed to "not very satisfied".

As shown by numerous pieces of research on employers' perspectives on 'what employers want' from graduates, transferable skills are a key driver of success in employment (e.g. Open University's Business Barometer, CBI/Pearson's Education & Skills Survey). What this current research shows is that when graduates are more positive about gaining transferable skills through university, they are not just more likely to be successful at work (based on employers' perspectives), they are also more likely to report higher levels of career satisfaction. This highlights the case for transferable skills being fully integrated and articulated into the degree content and delivery, in addition to being part of the wider university experience. Key transferable skills that have been particularly highlighted by employers include interpersonal and communication skills (written and oral), analytical skills, and management and leadership skills (e.g. Matthews, 2016; DfE, 2017). The Skills Builder Partnership[7] has developed a universal framework of essential skills for educators and employers in order to provide a common language for building skills in both students and employees.

Many universities develop practices that ensure students' skills development is an integral part of the course delivery. For instance, at Cardiff University's National Software Academy, transferable skills are explicitly taught to students, for example by external experts during workshops, such as on how to deliver an effective presentation or how to work as a team. Students are then given ongoing opportunities to put these skills into practice through participatory pedagogies, such as working on projects in teams throughout the semester. Key transferable skills are also referred to in the module outlines to ensure that they are consistently addressed and assessed (Emms & Laczik, 2020).

Transferable skills are less important as a driver of salary outcomes, yet remain directionally positive and statistically significant. Stronger factors for salary outcomes are whether a degree was a formal requirement for their role and the relevance of the degree grade/type for job entry. This may relate to a greater likelihood of students being in graduate-level jobs, particularly those jobs that use having a degree as a screening criterion for applications, such as many business and professional services roles, and for those degrees which are feeders for certain high-income sectors, such as law. Once the model controls for students' salaries, the career satisfaction benefits of a qualification being formally required largely disappear, although they remain directionally positive.

Insight 2: the job relevance of the degree subject is more valuable than other degree features for career satisfaction

Graduates were asked how important the subject, qualification type, and grade of their degree were for getting into the employment they were in 3.5 years after graduation, as well as the importance of their degree as evidence of their skills and competencies. While there is significant overlap and correlation among these responses, where respondents described the subject as more important, this had the strongest association with higher career satisfaction, controlling for salary levels and the graduates' background characteristics. This

[7] https://www.skillsbuilder.org/employers

pattern is not simply driven by potential higher career satisfaction among those who choose subjects that have a strong sectoral alignment by design, such as law, medicine, engineering or finance: when we control for the subject of study, the effect size decreases by only 3% and remains statistically significant at the 1% level.[8]

Whereas the degree type, and particularly the degree as evidence for skills and competencies, are already described as important by well over half of graduates (58% and 82% respectively), it was found that less than half of graduates (46%) describe the relevance of degree subject as important or a formal requirement of their employment. This relatively low level suggests there may be potential to increase the proportion of students who feel their subject was important for accessing employment, while recognising that for some students it is a deliberate choice to study a subject unconnected with their future employment plans. Where universities or careers providers wish to enhance likely career satisfaction through this route, it is reasonable to ask what the higher education system might, if anything, be able to do about linking the degree subject to the job market.

The value of a particular degree subject for a job is determined most directly by the employer, but there are several ways universities could, in principle, seek to enhance the number of graduates who feel the subject of their degree is relevant to their employers, even without seeking to influence employers directly. For instance, the learning, pedagogy, projects and activities of the degree subject could be linked directly to work in general, or indeed to the types of jobs that students on that subject are most likely to transition into or have ambitions for. Alternatively, students could be supported with information, advice and guidance activities, as well as work placements and employer networking opportunities, to help them understand in which careers their degree subject has relevance, alongside supporting them to apply successfully for such roles where the subject is more relevant and the student feels inspired.

University careers services, as well as careers advice provision during secondary education, and universities' outreach and advice services for prospective students, could invest more in helping students understand the detailed career pathways that can follow on from a chosen course. It is important for prospective and current students to understand which different subjects are relevant for which jobs, and for them to be able to access support when choosing or changing subjects if necessary.

Another opportunity to connect the degree subject to future employment would be to provide students with more opportunities to work and interact with relevant employers as part of their degree. Enhancing employer engagement could also involve giving students opportunities to interact with a range of employers and community members from, not just large firms and public sector employers, but also small businesses and start-ups. Engaging with smaller businesses and start-ups may also have the benefit of supporting students' preparation for self-employment or entrepreneurship, by giving them insight into the nature of these types of businesses. Employer engagement could be realised through students taking part in course projects set by businesses, career talks, lunch and learns and work experience opportunities.

In reality, the issues faced by the world and job responsibilities do not fall neatly into one discipline, but require cross-disciplinary thinking and problem-solving. Salford University have embraced this cross-disciplinarity by connecting students' learning explicitly with industry and community partners. Salford have reformed course delivery by setting up an Industry Collaboration Strategy. The strategy, designed in partnership with industry, requires courses to be relevant to wider world issues and involve input from employers. Students develop

[8] Due to cell size frequency considerations, the regression controlling for subject of study (via 4-digit JACS code; using the primary subject in the case of split degrees) controls for employment status at 6 months and 3.5 years rather than restricting the sample to those in full-time work and further does not include the salary controls. As such the sample differs from Figures 1 and 2. To ensure a fair comparison, the cited 3% comparison for additionally including the subject code as a control factor is based on this same, more inclusive sample.

insight into professional areas through real-world projects and placements. This has helped students, even in subjects not traditionally associated with a single set of employers such as English Literature, to see its relevance to possible career paths.

Insight 3: University careers services have an important role to play in helping to find employment and supporting career planning

Reflecting on the jobs they held six months after graduation, graduates who said they found the job through their university (such as via careers service or the course) were earning more on average than those who found it through any other route, having controlled for student prior attainment, socio-economic background and demographics. For instance, when compared to finding the job via a recruitment agency or website (the most common route), students finding work via their university were earning £1.2k more per year on average.[9]

However, only 8% of our core sample reported finding their job through the university. This suggests that more graduates could reap these benefits if university careers services and connections to employment in the course had larger remits, higher priority within universities, and greater visibility among the student population than they did for the 2012/13 graduating cohort. Gaining more insight on student engagement levels with their careers service could also help support universities' practice.

Sheffield Hallam's model of 'institutional employability' (Edge, 2017) provides the outlines of one possible approach. The core of this model is the notion that developing student employability is the role of all staff across the university. The Careers and Employability Service is not solely responsible for career-readiness but plays a pivotal role in shaping and delivering this strategy. The service features qualified and experienced staff who are active members of professional networks and bodies. Their strategy includes the 'student support triangle' where all students are allocated their own student support, academic and employment supervisor, which for students has meant personalised support such as one-to-one business advice on starting their own company. In addition to the core service providing impartial advice and guidance to students, the careers service works in partnership with university departments to provide services such as specialist placement support, graduate job search advice, and offering all staff access to employability related CPD and online resources.

The potential role for more explicit careers work within universities, both formally via careers services and informally via connections made through course content and delivery, extends beyond immediate job search. As well as supporting access to transferable skills development opportunities outside the course and articulating skills gained throughout higher education, careers services might support students with subject and career choices. The importance of such career planning and career consistency is also revealed in the DLHE dataset. Applying the same analytical approach as discussed above, the dataset reveals statistically significant links to career satisfaction and salary when the occupation and industry of a student's job 3.5 years after graduation is more similar to the job held 6 months after graduation. For comparison to Figures 1 and 2, the effect sizes are around 0.11 to 0.13 on salary and 0.03-0.05 on career satisfaction.[10]

This potential value of supporting students with career planning is also visible in the reasons graduates reported for being in work at six months post-graduation. Career satisfaction and salary are highest on average when

[9] While positive in all cases, the differences are far smaller and not statistically significant for those who found the job through professional networking or prior experience as opposed to through the university.

10 The measure for job stability is the number of digits that have changed in the SOC and SIC coding respectively of the graduates' jobs. Interestingly, there is almost no penalty with a small amount of change – e.g. changing the 4th/5th digits in the SOC code or the 3rd/4th digits in the SIC code make little difference.

graduates report their main reason for being in the job as the job "fitting into their career plan or being exactly the type of work they wanted" (the most common answer, given by 35.7% of our sample).

The top three other most common reasons graduates cited for being in a particular job at six months were: "to gain and broaden my experience in order to get the type of job I really want" (15.5%), "in order to earn a living/pay off debts" (13.8%), and "it was the best job offer I received" (8.7%). These other reasons were linked to lower career satisfaction and salary in comparison to the job being part of the career plan or an exact choice. Depending on the comparison point, typical average salary boosts associated with the career plan/exact job response are £1k-£4k, with effect sizes for career satisfaction from 0.08 to 0.16. As with all analyses in this study, these average relationships disguise significant individual variation. For every type of reason that graduates could give for being in their post-graduation job, there are some who are very satisfied (ranging from 28%-50% across the reasons), satisfied (46%-57%) and a few who are not at all satisfied (1%-5%).

The analyses reveal that graduates who are not in a job because it "fitted into their career plan or was exactly the type of work they wanted" are less satisfied on average than those who did have a plan and more consistent careers, controlling for their circumstances.[11] While planning/consistency may not suit some people's preferences or circumstances at that point in time, the findings raise the possibility that at least some students would benefit from better employment outcomes at six months following more support with forming and pursuing a well-informed career plan that they are more likely to succeed and persist in. This is precisely the sort of support that a careers service can provide, helping students form a plan based on sufficient personal experience, information, advice and guidance, so that their initial choice of career proves achievable and more stable over time.

Ensuring careers services are adapting in these changing times is paramount. In particular, services need to offer students and academic departments value in an increasingly virtual world, as well as preparing students for a rapidly-changing workplace. In Edge's Impact of Covid-19 on Education report (2020), we saw how Staffordshire University adapted through lockdown in order to ensure continued support preparing students for employment. This support included developing a virtual experience of their annual graduate exhibition, allowing final year students to showcase their projects to employers on a digital platform and exposing students to a large network of employers in their industry of interest. Staffordshire University rapidly moved their advice, support and guidance services online, supported with careers blogs led by Career Coaches who share regular posts and vlogs with top tips and advice for students. The careers team also hold online talks and workshops to support students develop their LinkedIn profile, e-portfolios, or CV writing, as well as one-to one support.

Virtual internships are also becoming a reality for students, giving them valuable insights into what many workplaces now look like as employees continue to work from home. As well as students, employers and careers services directly organising such internships, specialist providers offer support by brokering virtual internships, developing online internship curricula, and providing wrap-around coaching and support that might be lost with less in-person contact. For instance, Aston University[12] developed a dedicated "Work Global, Stay Local" strand to their work experience offer prior to the pandemic, providing training platforms and remote-work internships with overseas companies via Virtual Internships as a delivery partner.[13] Once Covid-19 hit, Aston University rapidly expanded their virtual internship scholarship places from 20 to 70. Other UK universities are adopting a similar approach in response to the pandemic, such as the 30 internships funded by the university

11 The same broad patterns apply with controls added for the subject studied, the institution studied at or the type of sector being worked in.

12 https://www.aston.ac.uk/latest-news/business-school-expands-global-virtual-internship-programme-due-covid-19

13 https://www.virtualinternships.com/about-us/

careers network at the University of Birmingham,[14] whose virtual internships were structured to support flexible, part-time participation over the summer of 2020, typically requiring 20 hours a week for two months. These insights into the workplace can extend students' knowledge of possible career pathways and support them to make more informed plans around their employment journeys.

[14] https://intranet.birmingham.ac.uk/as/employability/careers/internships-and-work-experience/opportunities/bespoke-opportunities/global-challenge/virtual-internships/index.aspx

Conclusion

The research investigates the importance of different aspects of higher education with respect to their links with indicators of early career success. These aspects of higher education include for example, the type and subject of the degree, work experience within the degree course, and the degree as evidence of skills and competencies. The aim is to understand ways that universities may be able to improve their students' future career outcomes. This research uses graduate responses from HESA data at 6 months and 3.5 years after graduation to understand the drivers of career success, which we define here in terms of self-reported career satisfaction and graduate salaries, focusing on those in full-time employment.

Almost three-quarters (74%) of the sample cohort are largely satisfied with how their time in higher education prepared them for, or helped them progress, their career aspirations. However this leaves a fifth of the cohort stating that higher education did not support them very well in this and a further 6% saying higher education had not supported them at all. Although overall positive for the majority, these proportions that are not satisfied with the support are cause for concern and show that there is still opportunity for progress to be made.

We found that universities could be doing more to support students for entrepreneurship and self-employment. This is particularly important when reflecting on the proportion of small and micro business in the UK economy. Only less than half (46%) of graduates were satisfied that university prepared them sufficiently for potential work in entrepreneurship and self-employment, having excluded the graduates who had no opinions on such preparation, most likely because it was not an interest for them at that stage. To support students in this area, universities could incorporate the teaching and practicing of skills and competencies needed for entrepreneurship, for example, flexibility, self-management, creativity, determination and resilience. As the evidencing of transferable skills throughout the degree was reliably found to be a success factor for employment, courses prioritising this through the explicit teaching and referencing of appropriate skills within the curriculum could contribute to increased student career success. Transferable skills can also be practiced and refined though teamwork, problem-based learning, and student engagement with relevant employers.

The findings show that success factors have a relationship with the socio-economic backgrounds of graduates. The importance of the degree for entry to employment, whether the degree contained work experience, and the university support for developing transferable skills, were all more strongly associated with career satisfaction for those from less privileged backgrounds. Overall, however, graduates' perceptions of how their university had prepared them for, or helped them progress, their career aspirations were largely stable across socio-economic backgrounds.

Another key finding from this research was that less than half of graduates (46%) stated that their degree subject was important or a formal requirement of their employment. Students are under no obligation to choose degree subjects that relate directly to employment – or to pursue the employment routes that may be more directly related to the subjects they chose. Indeed, some students may derive considerable personal satisfaction from subjects unconnected with work, but what this analysis reveals is that career satisfaction is higher among those students who do feel their degree subject was important for accessing their work. As such, students and lecturers may wish to reflect on opportunities for drawing out the employment routes where their subject matter relates more directly and helping students to articulate these connections to their employers. This could be done through the curriculum itself, for example through students participating in real-world projects set by employers, through student participation in relevant work placement opportunities, as well as through provision of up to date industry and labour market information for students.

Finally, the research found links between career planning and career success factors. For instance, graduates who were in a job because it "fitted into their career plan or was exactly the type of work they wanted" were more satisfied on average than those who did not have a plan and had less consistent careers over time. The results suggest that there is opportunity for impact from career services, for example providing support with longer-term career planning, particularly given the finding that only a small minority (8%) of students find their first job with the help of their university (such as via careers service or the course).

Universities rightly hold themselves to high standards across a diverse range of objectives for their students, recognising the plural motivations that bring students to their courses. Pursuing satisfying careers, however graduates might define them, is an important component among these motivations. There is no single blueprint for career success, but the career factors outlined in this research provide an evidence base for where universities might be able to take action and challenge themselves to support even more students step forth confidently into their future careers.

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