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Learning from Futuretrack: The Impact of Work Experiences on Higher Education Student Outcomes

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The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Business, Innovation and Skills.

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Acknowledgments

This report, written by Dr Andrew McCulloch and colleagues at the Higher Education Careers Service Unit (HECSU), builds upon the Futuretrack study undertaken by researchers at the Institute for Employment Research at the University of Warwick, led by Professor Kate Purcell.

Established in 1972, the HECSU is an independent research charity specialising in higher education and graduate employment. We seek to support careers advisory services as they guide students and graduates through university and into postgraduate education and the labour market.

We aim to:

- improve the dissemination of information about higher education and graduate employment
- contribute to knowledge of student and graduate career development and employment by conducting and commissioning research
- work with careers advisers, academic staff, and employers to support graduate employability

We are indebted to the Department for Business, Innovation and Skills for its continuing support of the Futuretrack study; in particular to Charles Ritchie and Jane Carr whose comments during the drafting of the report have been invaluable.

Contents

List of Figures and Tables

Figures

Tables

Executive Summary

HECSU was commissioned by the Department for Business, Innovation and Skills (BIS) to undertake an analysis of the paid and unpaid work undertaken by students while studying using data from the Futuretrack study. Futuretrack is a longitudinal four-stage study of all people who applied in 2005/06 to enter university in the UK during the autumn of 2006. Data has been collected at four stages, the first as prospective students made applications to higher education (HE) in 2006, the second approximately eighteen months later, a third in 2009 / 2010 as most were approaching their final examinations and the fourth in 2012 between eighteen and thirty months post-graduation, when most of the study cohort had either entered the labour market or were undertaking postgraduate study or training.

The main objectives of this project were firstly, to examine factors associated with respondents' participation in paid and unpaid work and secondly, to examine the effect of different forms of work experience on respondents' development of social and technical skills and progress into the labour market following HE. The study was not designed specifically to examine factors associated with work experiences during higher education. The study has, however, collected information on the paid and unpaid work undertaken by students during both term time and vacations while enrolled in full-time HE.

Paid work

The results show that a significant proportion of students combined full-time study with paid work: 36.9 per cent of respondents had undertaken paid work during term-time at stage 2 while 43.2 per cent of respondents had undertaken paid work during term-time at stage 3. The number of hours of work undertaken during term-time were relatively low, however, with around 70 per cent of respondents working for less than 15 hours per week at either stage.

The demographic characteristics of students were a significant factor influencing participation in paid work. Female respondents were more likely to undertake paid work during term-time than male respondents while respondents who were either aged 19-20 years or 21-25 years when they started HE were more likely to undertake paid work during term-time than respondents who were aged 18 years or less at entry to HE.

The socioeconomic status of the respondent's family did not have a strong association with participation in paid work. Respondents from higher socioeconomic backgrounds were more likely, however, to only work during vacations in comparison to those from lower socioeconomic backgrounds. Respondents from lower socioeconomic backgrounds were also more likely to work longer hours during term-time than those from higher status family backgrounds.

The main reasons given by respondents for undertaking paid work during term-time were either related to financial necessity or the opportunity to gain work experience. Respondents who worked more than 16 hours per week were slightly more likely than those who worked fewer hours to state that they worked in order to be able to cover their basic living costs.

Respondents had mainly found jobs through direct applications to employers or through previously having worked for an employer although around 20 per cent of respondents had found a job using friends and family contacts. Respondents with parents from professional and managerial occupations were those most likely to have found a job through friends and family contacts.

The results from the stage 2 and stage 3 surveys showed that around 25 per cent of respondents had undertaken paid work during the entire period they were at university while around 15 per cent of respondents had not undertaken any paid work over the same period.

Unpaid Work

The proportion of respondents who had undertaken unpaid work was significantly lower than the proportion of respondents who had undertaken paid work with 8.0 per cent of respondents having undertaken an unpaid internship and 6.1 per cent of respondents having undertaken unpaid work related to their studies at stage 2. The number of hours spent doing unpaid work was significantly lower than the number of hours spent doing paid work with only a minority of respondents doing unpaid work for more than 8 hours per week.

In common with paid work, female respondents were more likely to have undertaken unpaid work than male respondents. The socioeconomic status of the respondents' family was not strongly related to participation in unpaid work. The type of institution attended by the respondent was a significant influence on the probability of undertaking unpaid work, however, with respondents at institutions which specialise in a single subject (e.g. agriculture) being more likely to have undertaken an unpaid internship than remaining respondents at both stage 2 and stage 3.

The main reasons given by respondents for undertaking unpaid work were either to gain work experience or to learn skills.

Structured Work Experience

The stage 4 survey asked respondents to report whether they had undertaken a range of different forms of structured work experience while studying. The most common types of structured work experiences reported by the respondents were structured work placements (17.5 per cent), vacation internships (10.3 per cent) and sandwich years (9.5 per cent). Participation in different forms of structured work experience were related to both subject area and type of institution. Respondents who were studying either Education or Subjects Allied to Medicine were most likely to have undertaken a work placement; those who were studying Business, Architecture/Planning or Engineering were most likely to have undertaken a sandwich year while vacation internships were most commonly reported by students studying either Law or Engineering. Respondents who were at the highest tariff institutions were the least likely to have undertaken a work placement although this is likely to partly reflect the subjects that respondents at different institutions were studying.

In addition, the results showed that characteristics of the individual respondent were related to participation in different forms of work experience. In particular, students who had undertaken a vacation internship had the highest levels of prior academic achievement while those who had undertaken a work placement were more likely to have non-standard or relatively low levels of academic achievement.

Work Experience and Labour Market Outcomes

The study used a series of regression analyses to examine the effect of undertaking different forms of work-based learning (e.g. work placements) and paid work on respondents' subsequent outcomes. The results show that respondents who had undertaken both work-based learning and paid work tended to have the most positive outcomes while those who had undertaken no work had the least positive outcomes. The magnitude of the effect of the different forms of work on the respondent's labour market outcomes can be judged to be relatively large, particularly for unemployment. The results of the study therefore provide some support for policies that aim to increase the number of students who participate in forms of work-based learning during their period of study.

1 Introduction

This report was commissioned by the Department for Business, Innovation and Skills (BIS) following the publication of the fourth (and final) stage of the Futuretrack study in November 2012. The aim of the report is to provide an in-depth investigation of the prevalence, type, experience and impact of formal and informal, paid and unpaid work, work placements and work experience. The research questions that have guided the work are:

- What proportions of students participate in internship, sandwich placements, and work experiences and do these differ by socio-economic group, institution, subject, age, gender, ability and ethnicity?
- What is the impact of work experiences on graduate outcomes and student aspirations?
- Is there a relationship between socio-economic group and subject discipline in sandwich courses and choice of institution?
- Is there a relationship between the level of participation in work/ work experience/placement and subject of study, and institutional type (i.e. whether highest – low tariff institution)?
- In what way does the timing of participation in paid and unpaid work differ by institutional type?

In recent years, employers' organisations have repeatedly argued that recent graduates from higher education (HE) do not possess the broad employability skills needed to make an immediate contribution to the workplace (CBI 2009). In response, HE institutions have introduced a wide range of employability skills training into undergraduate courses. There is general agreement, however, that certain skills are best developed in the workplace rather than in the classroom (Mason et al. 2009). Skills such as business awareness and self-management are not easily communicated in HE but are best developed through participation in forms of structured work experience. There has therefore also been a renewed interest in the role of forms of work-based learning, such as sandwich years and work placements, in the HE curriculum.

The increased emphasis on participation in work-based learning has taken place at the same time as the number of students who undertake paid work has been rising. In particular, recent studies have found that around 50 per cent of students now undertake paid work during term-time (Metcalf 2003). The increase in the number of students undertaking paid work has met with some criticism from researchers. Most studies have found that students who work during term-time are more likely to come from disadvantaged backgrounds in comparison to those who do not. Studies have also found that students' main motivation for working during term-time is to earn money and students who work during term-time are mainly employed in low-paid jobs in the service sector. These results have been interpreted to suggest that for many students social inequalities

which existed prior to entering university are the main factor influencing participation in paid work (Robotham 2009).

The main interests in this report are in the characteristics of students who work while studying, the different types of work undertaken and the impact of working while studying on the transition into the labour market after leaving HE. The analyses undertaken in this report are organised around a simple model of the pathways followed by students into and through HE (Figure 1). The model describes the process of labour market attainment as one whereby family background factors are associated with different labour market outcomes only after they have first been transformed into individual differences in educational achievement and in the type of HE institution attended. In this model there is no direct link between family background and the outcomes students achieve when they enter the labour market. Rather, the model emphasizes that differences in school achievement and in the type of university that such achievement allows, provide the pathways through which initial disadvantages, such as family background, influence labour market outcomes following HE.

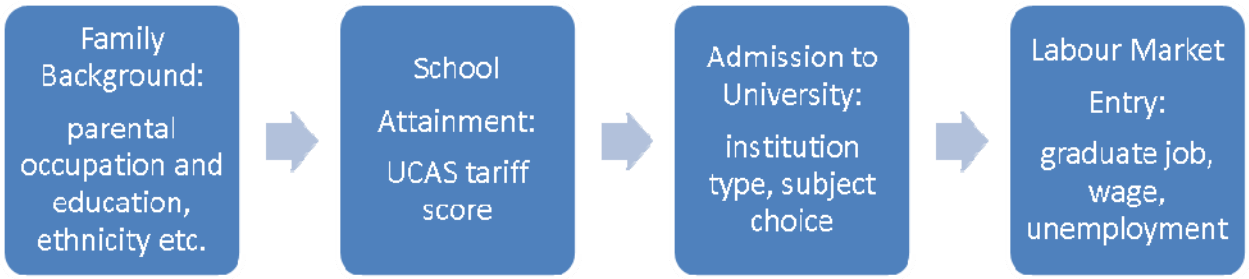

Figure 1 Model of pathways into and through higher education

There is good evidence for each of the pathways shown in Figure 1. For example, Chowdry et al. (2013) investigated the influence of social background on the overall likelihood of admission to HE and the likelihood of admission to a high status versus other HE institution given school attainment. Although the differences in admission to HE for young people from different social backgrounds were significant, almost all the difference could be accounted for by the lower school attainment of children from disadvantaged backgrounds. Similarly, the likelihood of admission to a high status university was determined by school attainment rather than by social background. Numerous studies have also shown that the type of HE institution attended and subject of study are the main factors which influence the labour market outcomes of graduates rather than social background (Chevalier and Conlon 2003, Walker and Zhu 2011). Students from disadvantaged (or widening participation) backgrounds are concentrated in post-1992 universities and qualifications from these institutions tend to have lower returns in the labour market (Connor et al. 2001).

In the model in Figure 1, different forms of structured work experience may mediate the relationship between family background characteristics, type of HE institution and entry into the labour market. In particular, previous studies have shown that older students are most likely to enter HE with the clear intention of improving their job prospects (Purcell et al. 2007). As a result they often study vocational courses which involve periods of work-based learning such as work placements. Work placements may influence students' skill

levels as well as providing an understanding of the workplace and social contacts and may provide an important pathway into graduate jobs for older students and those from more disadvantaged backgrounds. In contrast, prestigious firms who recruit students into vacation internships usually tend to favour students from high status institutions. Students who have undertaken vacation internships have an advantage over other students on entering the labour market and undertaking a vacation internship may be an important pathway through which studying at a high status institution leads to better labour market outcomes for some students.

The analysis in this report was undertaken in three steps organized around the framework in Figure 1. The first step examined the association between the individual characteristics of the respondent (age, gender, ethnicity, prior level of academic achievement), their family background characteristics (parental occupation and parental education) and the HE context (subject of study and type of institution) and participation in paid and unpaid work at stage 2 and stage 3 of the study. The second step examined in more detail the relationship between the various factors and the different types of structured work experience undertaken by students while at university. The third step then examined whether participation in different forms of work had an effect on the type of labour market outcomes experienced by students following HE. The analysis distinguished between participation in structured work experiences that were planned and supported and where there was an intended employment benefit for the student and paid work which was unrelated to study and which was assumed to be undertaken mainly to earn money (Oakleigh Consulting 2011). The pathways between participation in structured work experiences and labour market outcomes were considered likely to be stronger where work experience was intended to provide opportunities to learn or an employment benefit to the student in comparison to situations where the benefit was intended to be mainly financial.

The remainder of this report is organised as follows. The next section introduces the survey data used in the study and is followed by a brief review of the findings of previous studies using the data. The report then presents a descriptive analysis of students' participation in paid work, unpaid work and forms of structured work experience. The following section uses a series of regression analyses to investigate the effect of undertaking different types of work experience on graduate outcomes and the report concludes with a brief discussion.

2 Description of Futuretrack Study

Futuretrack is a longitudinal four-stage study of all people who applied in 2005/06 to enter university in the UK during the autumn of 2006. The initial invitation to participate in Futuretrack was sent to all 2005/2006 UCAS applicants (N = 506304). The cohort has been surveyed on four occasions: summer 2006 (stage 1), summer / autumn 2007 (stage 2), autumn 2009 / 2010 (stage 3) and winter 2011 / 2012 (stage 4). In our analyses, we omit respondents who were not domiciled in the UK from our dataset (Table 1). The stage 1 sample size for respondents domiciled in the UK was 99799 responses. The sample size at subsequent stages was 34229 (stage 2), 17549 (stage 3) and 10956 (stage 4). The number of respondents who provided information at each stage of the survey was 6125. The study was not designed specifically to examine factors associated with work experiences during higher education. The study has, however, collected information from students on participation in paid and unpaid work during term times and vacations in addition to being enrolled in full-time HE.

Table 1 Number of responses obtained at each stage for UK domiciled respondents

Stage	Total remaining in sample	% of stage 1 sample	Attrition from previous stage	Return to survey after nonresponse
1	99799	1	-	-
2	34229	0.342	65570 (0.657)	-
3	17549	0.175	18001 (0.525)	1321
4	10956	0.109	11160 (0.635)	4567

Note: the attrition rates condition on being a respondent at stage 1.

In our analysis we examine the association between individual student, family background characteristics and characteristics of the HE context that may also be related to participation in paid and unpaid work and labour market outcomes. Variables from the Futuretrack dataset selected for analysis because of their possible association with participation in paid and unpaid work and labour market outcomes were gender, age at entry to HE (18 years or less, 19-20 years, 21-25 years, 26 years and over), ethnicity (Asian, Black, White, Mixed, Other), prior level of educational attainment (UCAS tariff score), parental occupation (professional and manual, intermediate, routine and manual, NA/missing), parental educational qualifications (whether the respondent had none, one or two parents who had been to university[1]), subject of study and type of HE institution. For the purpose of the statistical analysis, subjects were also classified into three groups

[1] In analyses, respondents with missing information on parental educational qualifications were grouped with those who did not have a parent who had been to university.

(specialist-vocational, occupationally-oriented and discipline based) on the basis of their relationship to the labour market. Specialist vocational subjects include medicine, engineering, law and education; occupationally-oriented subjects include biology, mathematics, social studies, business, creative arts and inter-disciplinary studies; discipline based subjects include physical sciences, linguistics, classics, history and philosophy. The study uses the highest - lowest entry tariff categorisation of institutions (Purcell et al. 2009a) rather than mission groups to describe different types of HE institution, partly because membership of mission groups has changed during the Futuretrack studies and partly because entry tariff provides a mechanism more closely aligned with government policies on admissions. These variables were selected a priori, where review of the literature showed evidence of associations with either participation in paid and unpaid work or labour market outcomes.

The respondents at stage 1 of the Futuretrack study were linked to their UCAS application (Purcell et al. 2008). Respondents who entered the Futuretrack study at subsequent stages were not linked to their UCAS application and information on variables such as the prior level of academic achievement is missing for these respondents.

3 Previous Findings from Futuretrack

Published research[2] on the Futuretrack cohort using the stage 2 and stage 3 surveys has shown that participation in paid work during term-time was related to socioeconomic disadvantage. The stage 2 survey report discussed students as part of the flexible workforce (Purcell et al. 2009b). The report showed that the family background of the respondent was associated with participation in paid work and concluded that:

> "Students working during term-time and working long hours were more likely to come from lower socio-economic backgrounds, minority ethnic groups and disadvantaged educational backgrounds (pp. 93)."

The type of institution attended by the student was a further factor associated with participation in paid work during term-time with students at institutions with the lowest average tariff scores being more likely to undertake paid work during term-time than those at institutions with higher average tariff scores. The importance of differences in the paid work undertaken by students studying different subjects was also highlighted with Medicine and Dentistry having the lowest proportion of students in paid work and social science subjects, including Mass Communication and Documentation and Education, having the highest proportion of students in paid work.

The stage 3 survey reported similar associations between participation in paid work during term-time and educational and socio-economic disadvantage. In addition, the qualitative information collected by the stage 3 survey suggested some of the reasons for differences in participation in paid work between groups. In particular, the stage 3 survey suggested that mature students (who entered university aged 26 years and over) experienced difficulties in balancing paid work and family responsibilities (Purcell and Elias 2010):

> "Many mature students reported family and community responsibilities that precluded paid work, but which in themselves constituted work and caused stress alongside study requirements, emphasizing the heterogeneity of both the student population and their support and information need (pp. 23)."

The qualitative information reported at stage 3 also showed that students' enthusiasm for doing paid work varied considerably. While some students reported that work was a burden and only undertaken out of necessity, other students reported paid work as enjoyable and as a useful opportunity to gain skills and experience.

[2] Full reports of Futuretrack findings can be found on both the HECSU website and the Institute for Employment Research website at the University of Warwick.

The stage 4 survey collected more detailed information on the different types of work-related activities that respondents had undertaken while studying at university. The results showed that the type of institution influenced the distribution of different types of work-related activity with work placements and other types of assessed project work more common at institutions outside the highest tariff group (Purcell et al. 2012). The subject of study also influenced the variation in respondent's participation in work placements with the study finding that:

> "The provision of work placements and other work-based learning as part of undergraduate courses was lowest amongst graduates of Linguistics and Classics and Historical and Philosophical Studies, and highest amongst three of the most vocational subject groups: Medicine and Dentistry; Subjects Allied to Medicine; and Education. Graduates of subjects which have a high number of teaching hours, including the Physical Sciences, Mathematical and Computational Sciences and Creative Arts and Design, were the least likely to have undertaken any form of paid or unpaid work during their studies (pp. 110)."

The main focus of the stage 4 report was, however, on the relationship between participation in HE and the labour market outcomes of respondents. The report showed that participation in work-related learning was related to the labour market outcomes of respondents at stage 4. In particular, the report found that:

> "…those who did work placements integral to the course, a vacation internship or paid work for career experience, had a higher proportion of respondents who felt that their job was very appropriate compared to those who did unpaid work for career experience or those who undertook paid work only for the money (pp. 111)."

The report also showed clearly the value placed on some type of work experience in the labour market:

> "…respondents who did no work experience at all also had the highest proportion who felt that their job was inappropriate for them, but they were also more likely to be in non-graduate jobs or unpaid work (pp. 111)."

4 Paid Work

The first question examined in this report concerns the overall level of participation in paid work among students and the characteristics which distinguish students who work during term-time from those who work during vacations. The report examines variation in paid work by individual, family and institution factors. The analyses use information from all respondents and the number of cases may vary between analyses due to missing data. The differences in employment experiences of students with different characteristics have a range of interpretations. In order to help interpret the results we also look, therefore, at the reasons students gave for working during term-time and how they found jobs.

Overall Level of Participation in Paid Work

At stage 2 of the survey respondents were asked: "Did you do any paid work in the academic session 2006-2007?" with responses: not at all, during vacation(s) and during term-time, only during vacation(s) and only during term-time. Table 2 shows that overall 30.6 per cent of respondents had undertaken no paid work, 34.2 per cent had worked during both vacations and term-time, 32.5 per cent had worked during vacation only and 2.7 per cent had worked during term-time only. At stage 3 of the survey respondents were asked: "Are you doing any paid work in this academic year, and did you work in the vacations, including summer 2008?" with the same response categories as at stage 2. Table 2 shows that overall 23.2 per cent of respondents had undertaken no paid work, 39.6 per cent had worked during both vacations and term-time, 33.6 per cent had worked during vacation only and 3.6 per cent had worked during term-time only. The rise in the proportion of respondents who had undertaken paid work between stage 2 and stage 3 is mostly due to an increase in the proportion of respondents who worked during both term-time and vacation. Table 2 shows that the proportion of respondents who undertook paid work during vacations and term-time increased from 34.2 per cent to 39.6 per cent while the proportion of respondents who undertook paid work during vacations only increased from 32.5 to 33.6 per cent.

Table 2 Involvement in paid work at stage 2 and at stage 3

	Stage 2		Stage 3	
	N	Col%	N	Col%
During vacation(s) and term-time	9589	34.2	4799	39.6
Not at all	8578	30.6	2807	23.2
Only during term-time	764	2.7	439	3.6
Only during vacation(s)	9099	32.5	4073	33.6

Individual Characteristics

The type of work undertaken by students is predominantly in the service sector, in areas such as retail and hospitality where women tend to be over-represented relative to men. Figure 2 shows that, in comparison to men, women were more likely to have undertaken paid work with 33.7 per cent of men but only 28.9 per cent of women reporting having

undertaken no paid work. In particular, the figure shows that women were more likely than men to have undertaken paid work during both vacation and term-time (36.3 vs 30.4 per cent). The proportions of men and women who had undertaken paid work during either only vacations or only during term-time were, however, approximately equal.

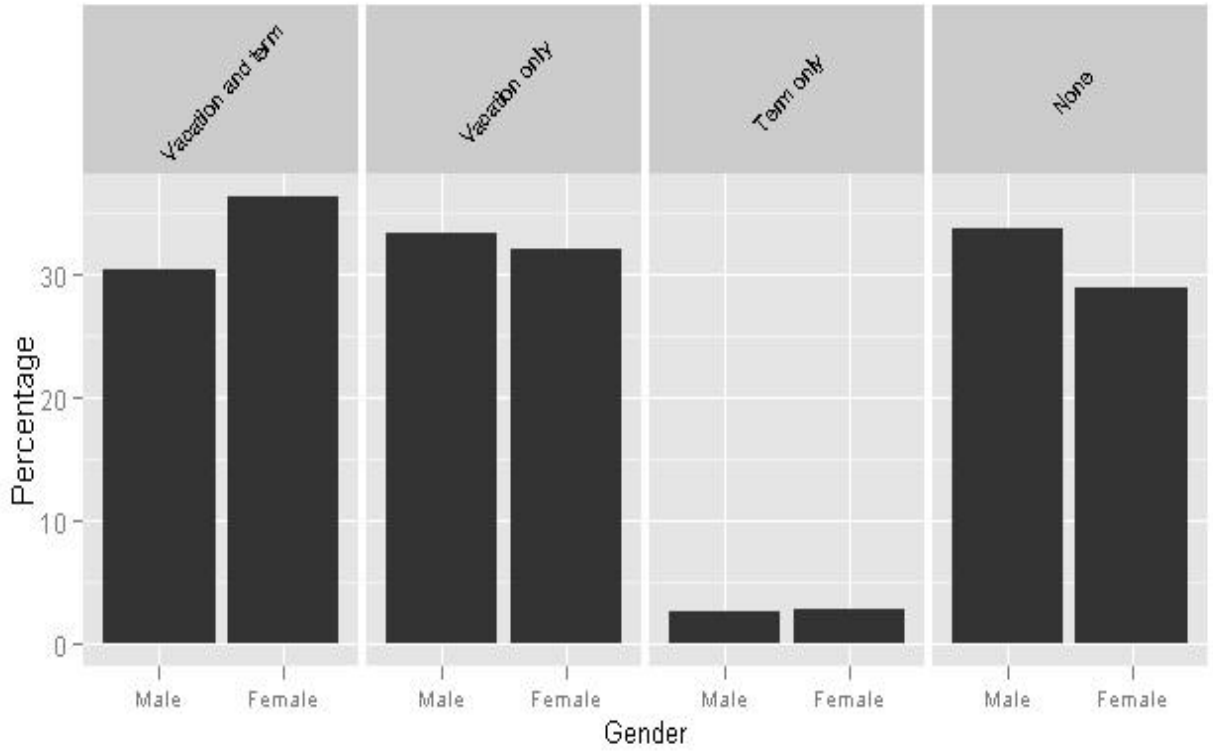

Figure 2 Report of paid work at stage 2 by gender (Appendix A Table 1)

The corresponding results from stage 3 are shown in Figure 3. Similarly to stage 2, the figure shows that a higher proportion of men than women had not done any paid work at stage 3 (26.1 vs 21.8 per cent). In comparison to stage 2 there was a more well-defined difference between men and women in how participation in paid work was distributed between vacations and term-time. In particular, at stage 3 a higher proportion of men than women undertook paid work during vacations only (36.3 vs 32.4 per cent).

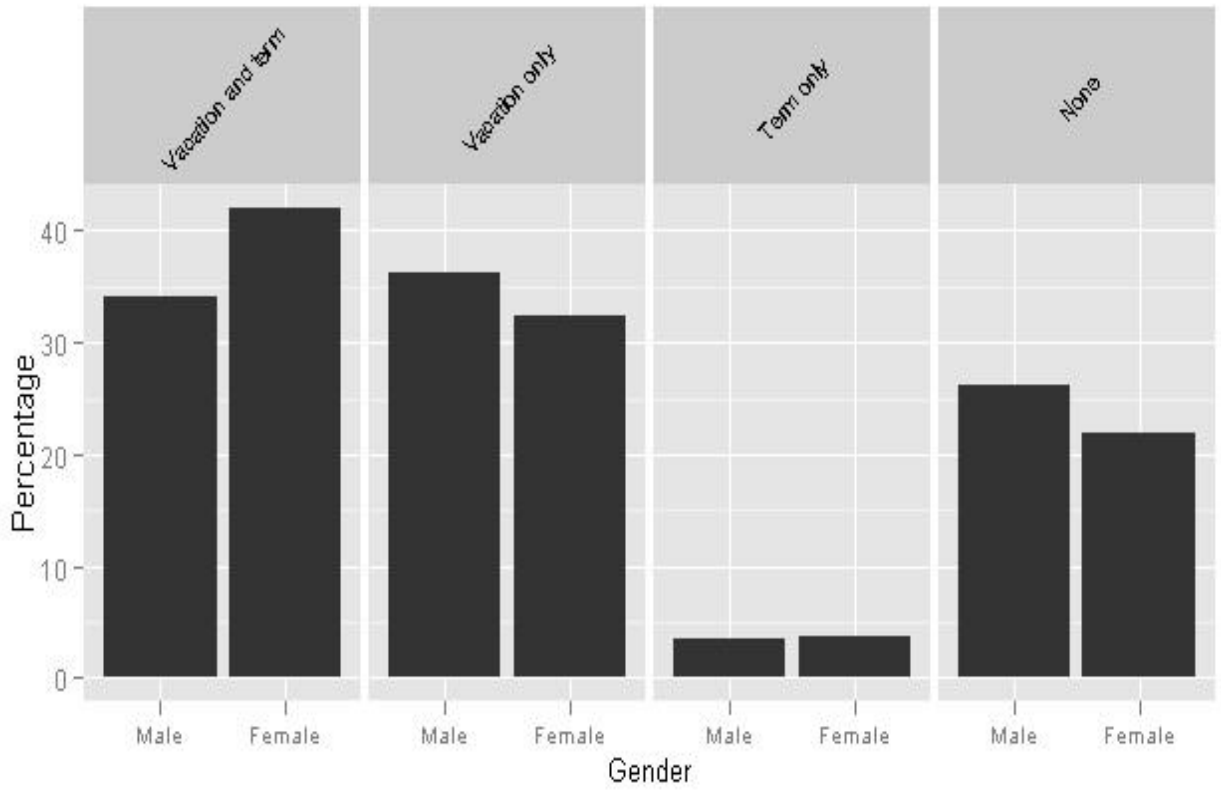

Figure 3 Report of paid work at stage 3 by gender (Appendix A Table 2)

Figure 4 shows how the proportion of respondents who had undertaken paid work at stage 2 varies with age group. The figure shows that the proportion of respondents in the oldest age group who had not undertaken paid work is significantly higher in comparison to the remaining groups with over 40 per cent of respondents aged 26 years and over having undertaken no paid work. Respondents in the oldest age groups were also more likely to undertake paid work during vacation and term-time in comparison to respondents aged 18 and under and 19-20 years. The proportion of respondents who worked only during vacations shows a strong negative gradient with age, however. While over 35 per cent of respondents aged 18 and under undertook paid work during vacations only, the proportion of respondents aged 26 years and over who undertook paid work during vacations only was only around 10 per cent.

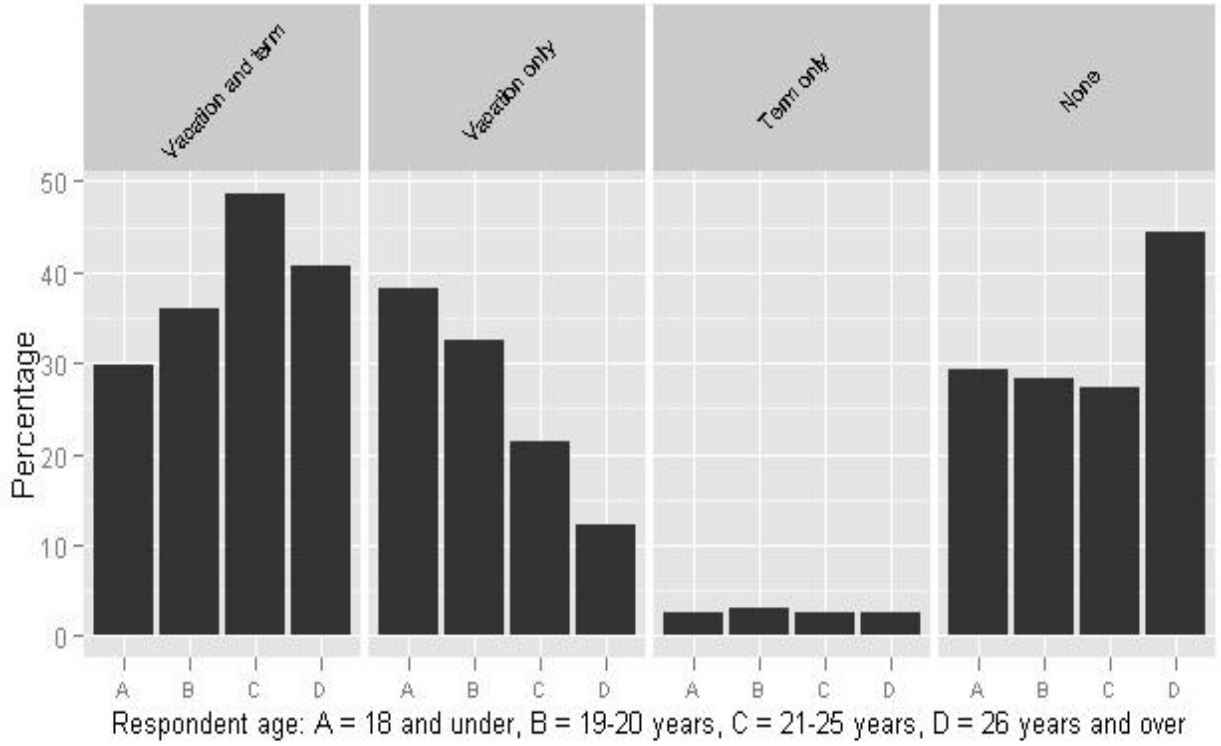

Figure 4 Report of paid work at stage 2 by age group (Appendix A Table 3)

Figure 5 shows the corresponding results from stage 3. The figure shows that the labour market activity of respondents aged 26 years and over changed little between stage 2 and stage 3 with similar proportions of respondents in each of the response categories at both stages. The figure shows, however, that in comparison to stage 2, the proportion of respondents in the younger age groups who undertook no paid work has fallen by around 10 per cent. The fall in the proportion of respondents undertaking no paid work between stage 2 and stage 3 is largely due to a rise in the proportion of respondents who undertook paid work during vacations and term-time, which was particularly marked among respondents aged 18 years and under and 19-20 years. The proportion of each age group undertaking paid work during vacations only remained largely unchanged between stage 2 and stage 3.

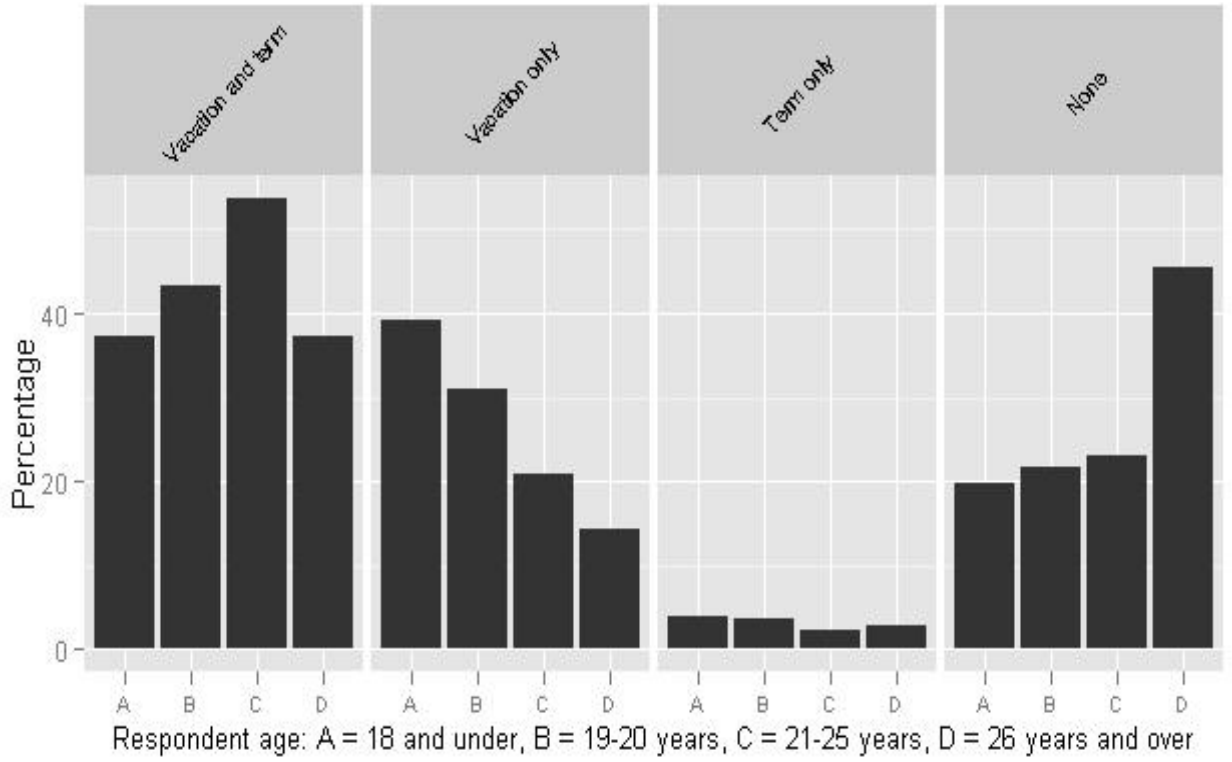

Figure 5 Report of paid work at stage 3 by age group (Appendix A Table 4)

Figure 6 shows the proportion of each ethnic group who reported undertaking paid work at stage 2. The figure shows that respondents from Asian backgrounds were most likely not to have undertaken any work, with over 50 per cent not having done paid work, while respondents from White backgrounds were least likely not to have undertaken any paid work. The figure also shows that in comparison to respondents from the remaining groups those from White backgrounds were significantly more likely to work during vacations only with around 35 per cent of White respondents having undertaken paid work during vacations only. The proportion of respondents from White backgrounds who undertook paid work during vacations and term-time was similar to the proportion who undertook paid work during vacations only. This was not the case for the remaining ethnic groups where a higher proportion of respondents who were employed had undertaken paid work during both vacations and term-time than during vacations only.

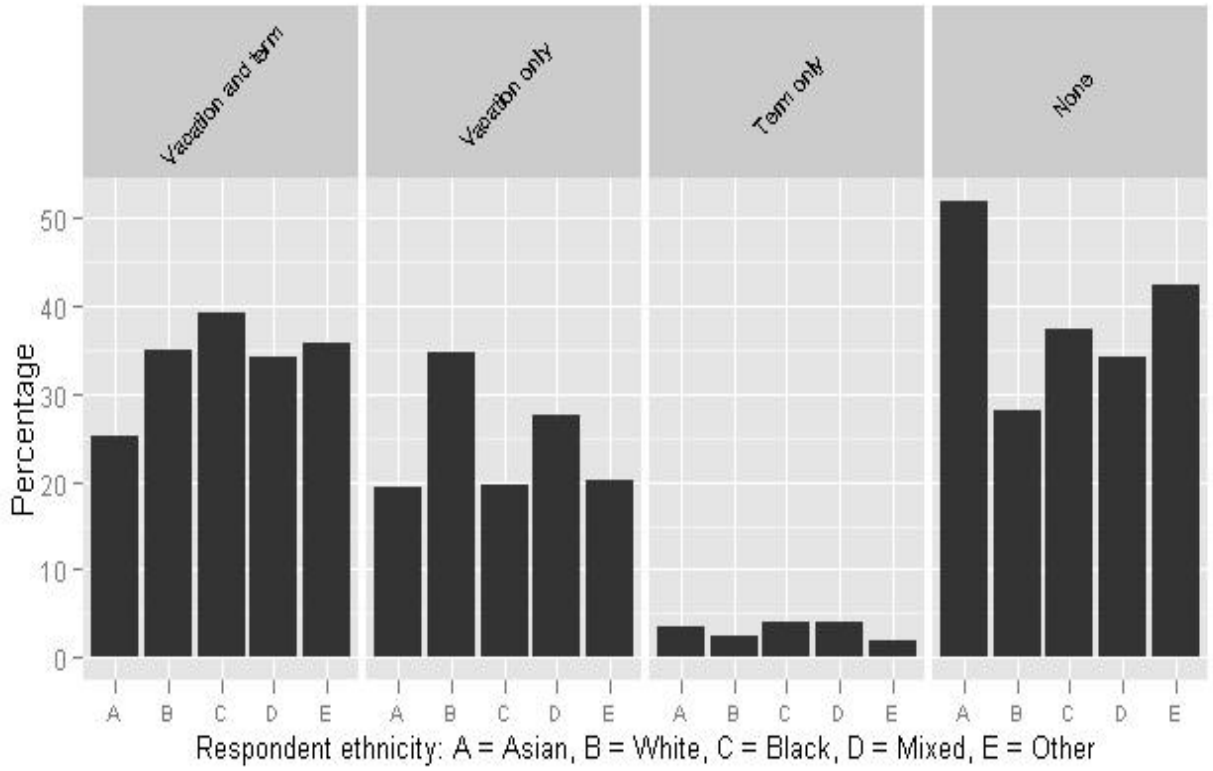

Figure 6 Report of paid work at stage 2 by ethnicity (Appendix A Table 5)

Figure 7 shows the corresponding results from stage 3. The proportion of each ethnic group who had undertaken no work was lower at stage 3 than at stage 2. The differences between ethnic groups in the proportion who had undertaken no paid work is similar to that at stage 2, however, with respondents from White and Black backgrounds having the lowest proportion of respondents who had undertaken no work (22.4 and 21.1 per cent). In comparison to figure 6, figure 7 shows that all ethnic groups saw a rise between stage 2 and stage 3 in the proportion of respondents undertaking paid work during both vacations and term-time. The proportion of respondents in the White and Black groups who worked during vacations only remained relatively unchanged between stage 2 and stage 3. The proportion of respondents who worked during vacations only increased between stage 2 and stage 3 for the remaining ethnic groups, however.

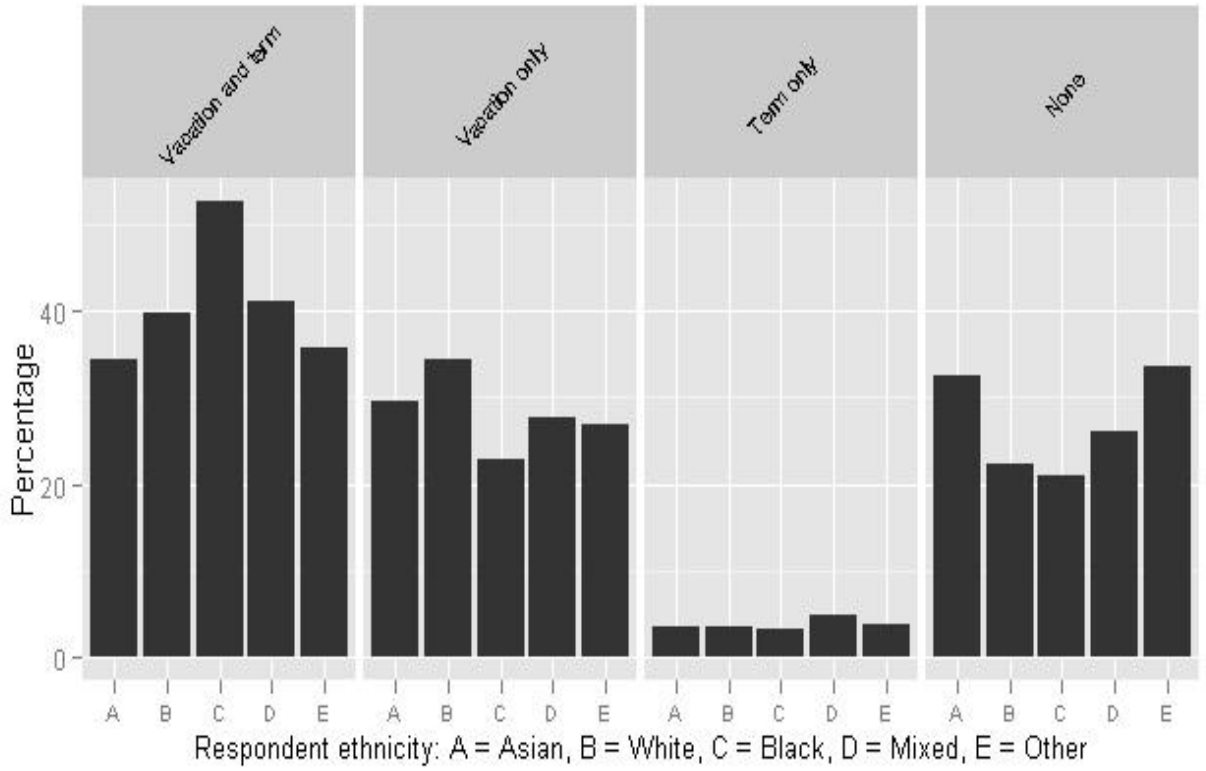

Figure 7 Report of paid work at stage 3 by ethnicity (Appendix A Table 6).

Family Background

Figure 8 shows how the proportion of respondents who had undertaken paid work varies with parental occupation. The figure shows that those respondents who had invalid or missing data for parental occupation[3] were more likely than remaining respondents not to have undertaken paid work with 46.1 per cent of respondents in this group having undertaken no work. Among those respondents with valid data for parental occupation there was little significant difference in the proportion of respondents with parents from different occupational backgrounds who had undertaken paid work. Respondents with parents from different occupational backgrounds did show some difference in whether paid work was undertaken during term-term and vacations or only during vacations. In particular, the proportion of respondents who worked during both vacation and term-time is higher for respondents whose parents worked in routine and manual occupations (40.6 per cent) in comparison to respondents whose parents worked in managerial and professional occupations (30.8 per cent). The relationship between parental occupation and the

[3]Information on parental occupation may be missing for a range of reasons. The respondent's parents may not have been employed. Respondents may also not know their parents occupation. A preliminary examination of the factors associated with non-response suggested that respondents missing information on parental occupation are distinguished by having lower levels of prior academic achievement than respondents with valid responses for parental occupation.

proportion of respondents working only during vacations shows the opposite pattern with 37.3 per cent of respondents from professional and managerial backgrounds working only during vacations in comparison to 24.7 per cent of respondents with parents working in routine and manual occupations.

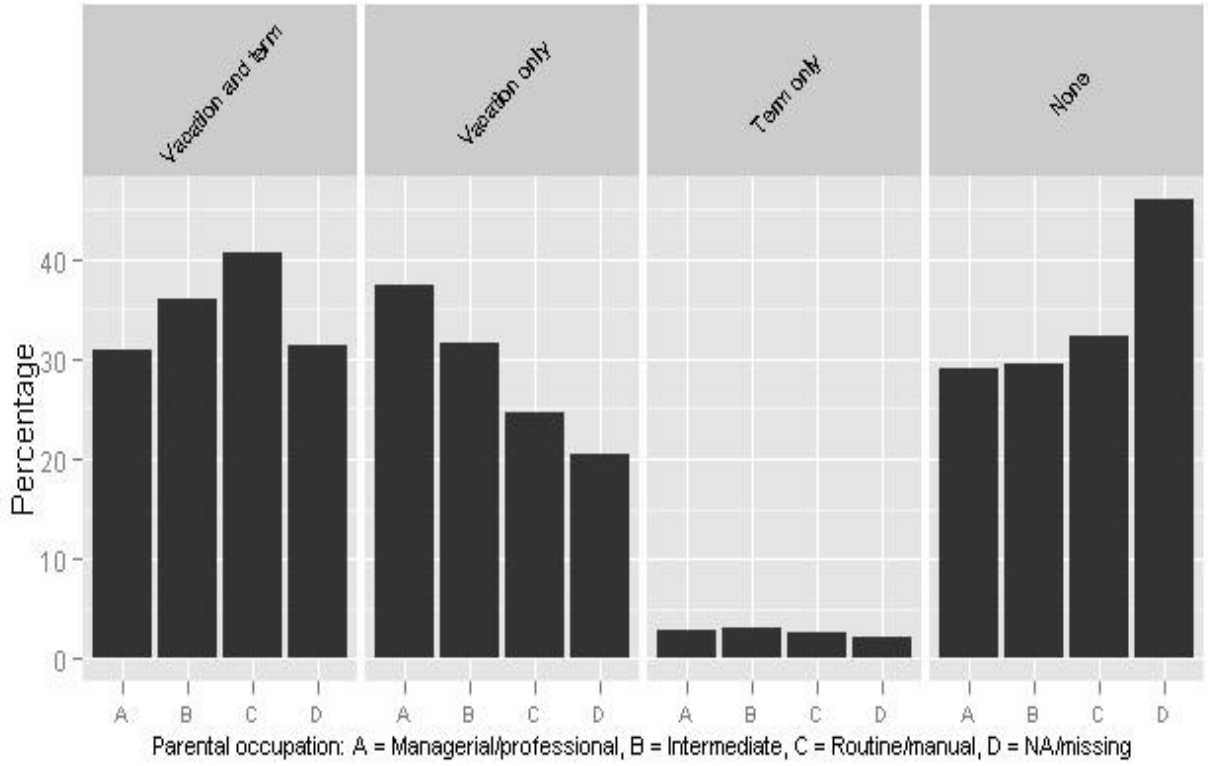

Figure 8 Report of paid work at stage 2 by parental occupation (Appendix A Table 7)

Figure 9 shows how the proportion of respondents who had undertaken paid work varies with their parents' educational background. The relationship between paid work and parental qualifications is similar to that between paid work and parental occupation. The figure shows that while there is little overall variation in the proportion of respondents with parents with different levels of qualification who undertook paid work, the proportion of respondents who undertook paid work during both vacations and term-time or only during vacations does vary significantly according to the level of qualification of the respondents parents. In particular, respondents who had two parents who had been to university were less likely than respondents who did not have a parent who had been to university to work during both vacation and term-time (23.7 vs 38.9 per cent) but were more likely to work only during vacation (41.5 vs 27.5 per cent). The corresponding results from stage 3 (Appendix A Tables 9 and 10) show a similar distribution of paid work between respondents from different socioeconomic backgrounds with respondents from professional and managerial backgrounds and those with two parents who had been to university more likely to work during vacations only than respondents from lower socioeconomic status backgrounds.

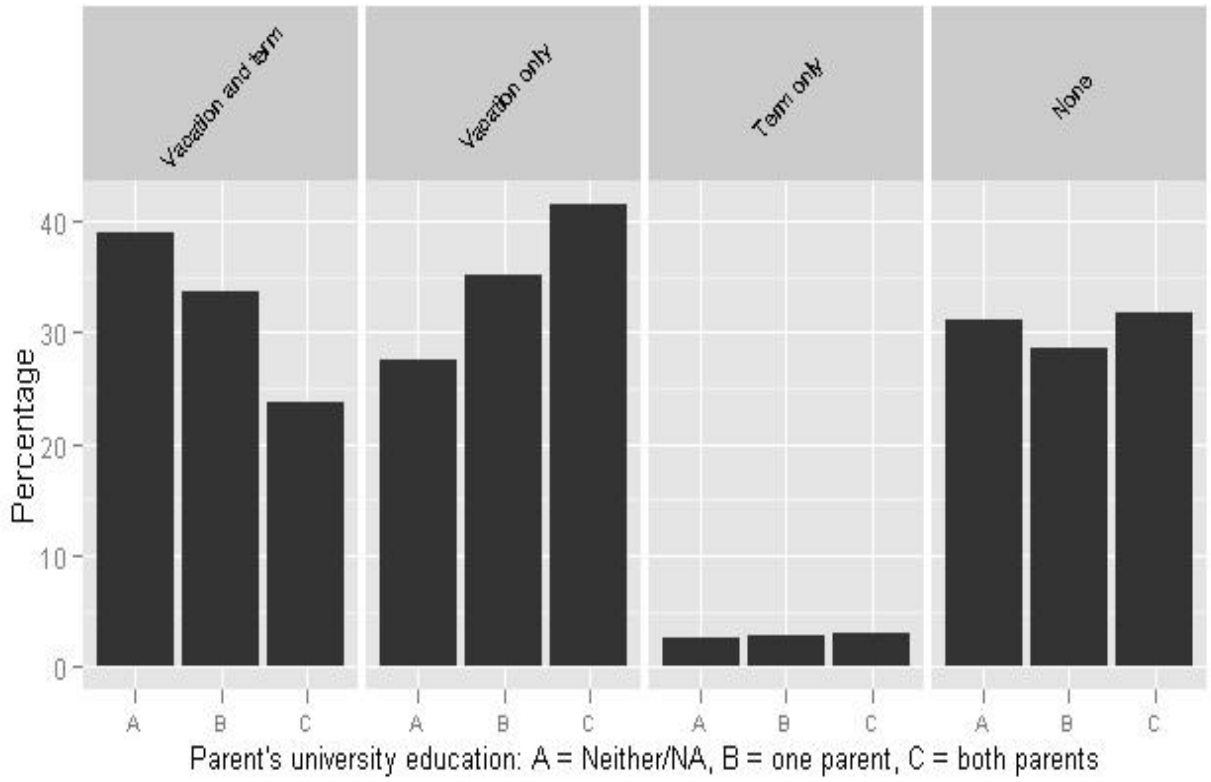

Figure 9 Report of paid work at stage 2 by parental education (Appendix A Table 8)

Institutional Factors

Figure 10 shows the variation in the proportion of respondents who reported doing paid work at stage 2 across the different types of institution. The proportion of respondents who had not done any paid work did not vary greatly across the different types of institution with between 30 and 35 per cent of respondents at each type of institution having done no paid work. There is significant variation between the different types of institution, however, in how paid work is distributed across the academic year. In particular, the proportion of respondents who did paid work during both vacations and term-time is notably higher at those institutions in the lowest tariff score category (45.6 per cent) while the proportion of respondents who worked only during vacations is higher among respondents at institutions in the highest and high tariff score categories (44.7 and 34.3 per cent).

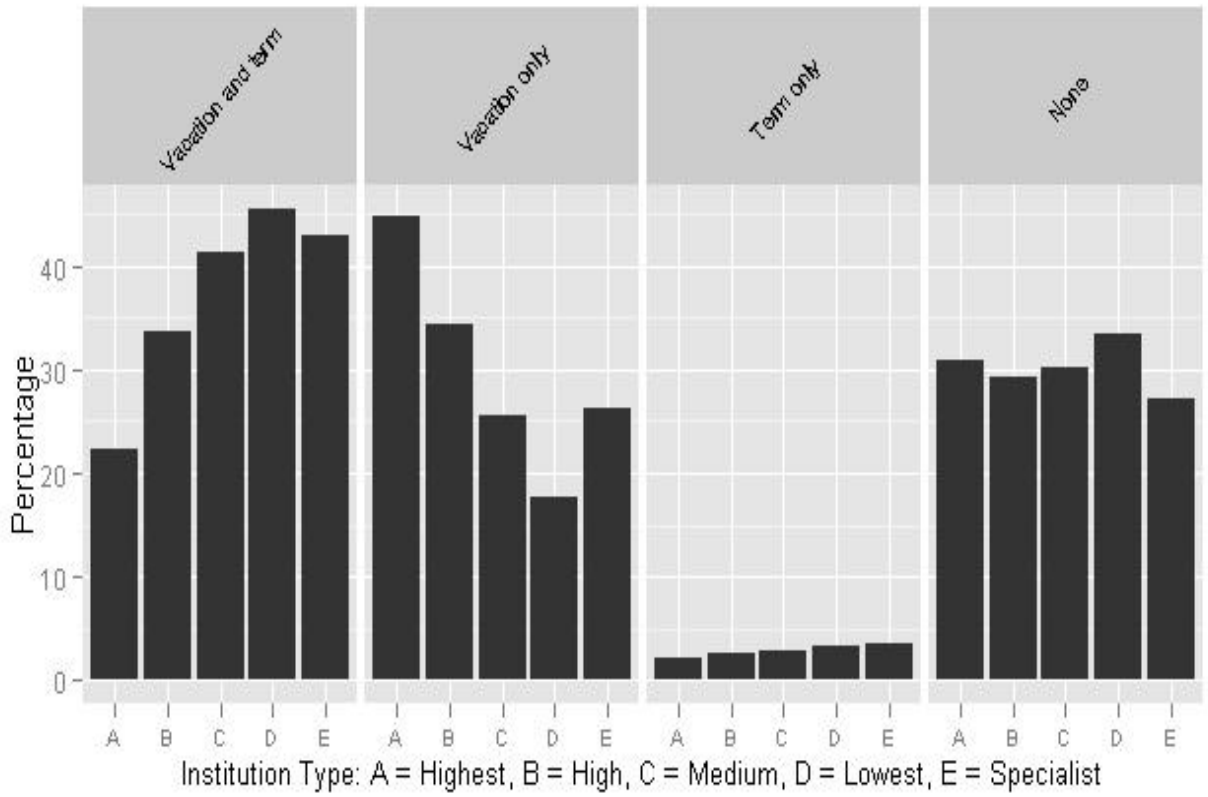

Figure 10 Report of paid work at stage 2 by type of institution (Appendix A Table 11).

Figure 11 shows the corresponding results for stage 3. The proportion of respondents who reported doing no paid work was lower at stage 3 in comparison to stage 2 with less than 25 per cent of respondents having done no paid work. The variation in the timing of paid work done by respondents at different types of institution remained, however, with respondents at institutions in the lowest tariff score category being more likely to work during both term-time and vacations (51.3 per cent) in comparison to respondents at institutions in the high and highest tariff score categories (41.3 and 28.9 per cent).

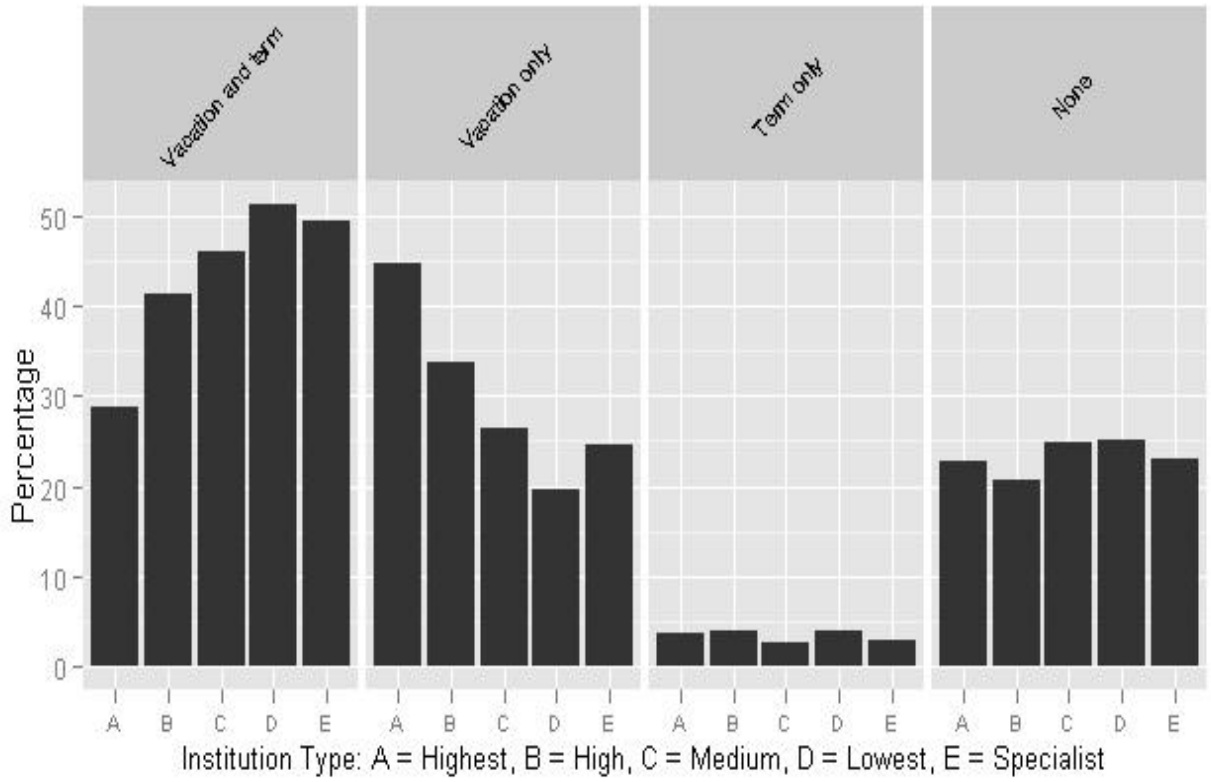

Figure 11 Report of paid work at stage 3 by type of institution (Appendix A Table 12)

Number of Hours Worked During Term-Time

The number of hours of paid work undertaken by students during term-time is an important factor in the ability of students to combine work and study. Previous studies have shown that while most students undertake a relatively low number of hours of paid work, a significant proportion of students work for more than 20 hours per week. The average number of hours of paid work during term-time was 13.8 hours at stage 2 (N = 8993) and 12.1 hours at stage 3 (N = 5193)[4].

[4]Respondents who provided extreme values for the number of hours of paid work undertaken during term-time were omitted

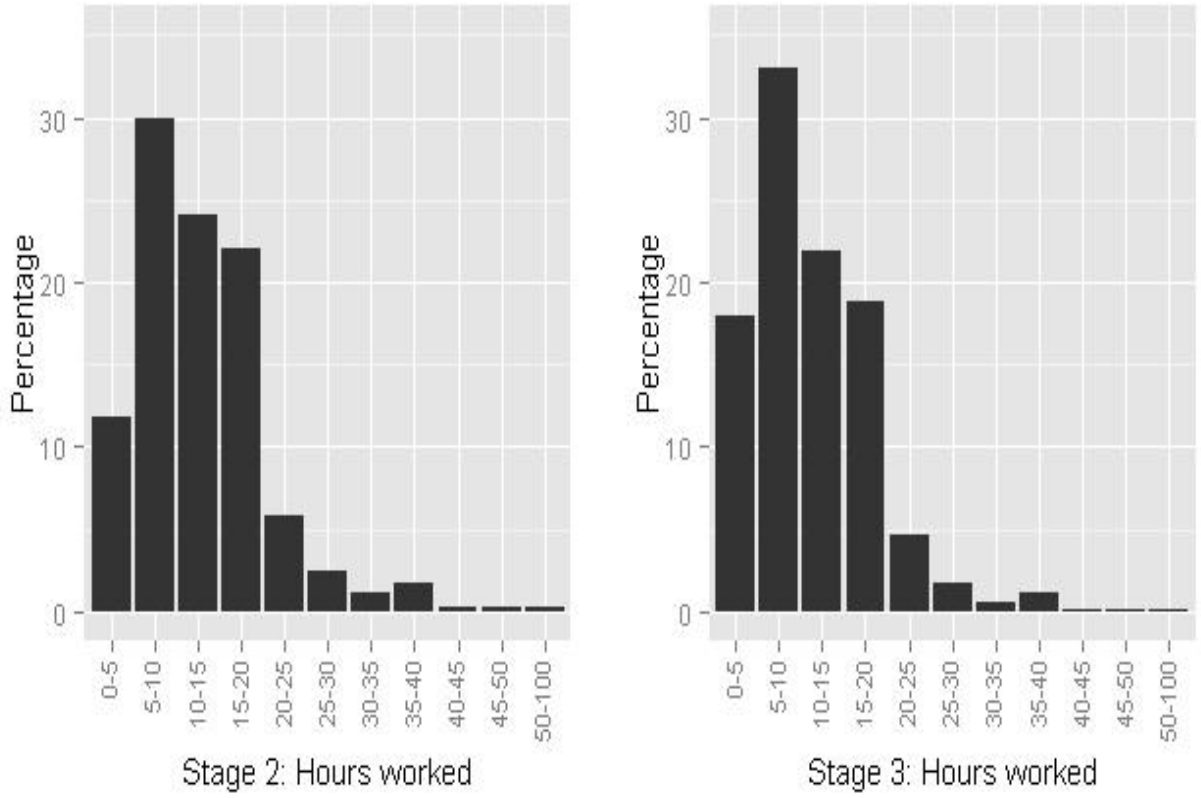

Figure 12 Distribution of number of hours worked during term-time at stage 2 and stage 3 (Appendix A Table 13)

Figure 12 shows the distribution of hours of work per week during term-time at stage 2 and at stage 3. The stage 2 survey found that around 42 per cent of respondents were working less than 10 hours per week while a relatively small proportion (11.8 per cent) of respondents were working for 20 hours per week or more. In comparison, the stage 3 survey found that around 50 per cent of respondents were working for less than 10 hours per week while only around 8 per cent of respondents were working for 20 hours per week or more.

Table 3 gives descriptive statistics for the number of hours of paid work during term-time at stage 2 and at stage 3 by a range of respondent characteristics. The pattern of variation in the number of hours of paid work between respondents with different characteristics is similar at both stage 2 and at stage 3. Men worked longer hours than women while mature students (those who were aged over 21 years when they entered university) tended to work longer hours than younger respondents. The mean hours of paid work undertaken by respondents also varied with their family background characteristics with those who did not have a parent with a degree or who were missing information on parental occupation working the longest hours. The table also shows that the number of hours worked is associated with the average tariff score of the institution. Respondents at institutions with the highest tariff scores undertook the lowest number of hours of paid work while those at institutions with the lowest tariff scores had the highest number of hours of paid work.

Although the differentials in the number of hours of paid work undertaken by respondents with different characteristics remained fairly stable between stage 2 and stage 3, the

difference in the number of hours worked between respondents with different characteristics was, in some instances, significantly lower at stage 3 than at stage 2. In particular, the difference in the number of hours of paid work undertaken by men and women at stage 3 was much lower than at stage 2 and not statistically significant.

Table 3 Descriptive statistics for the number of hours of work per-week during term-time by respondent gender, age group, parental occupation, parental education and institution type

	Stage 2		Stage 3	
	Mean (N)	Median	Mean (N)	Median
Gender				
Male	14.3 (2811)	13	12.3 (1415)	11
Female	13.3 (6181)	12	11.9 (3775)	10
Age Group				
18 and under	12.6 (4595)	12	11.1 (3061)	10
19-20	13.5 (2084)	12	12.3 (1148)	12
21-25	15.8 (1116)	15	14.2 (470)	13
26 and over	15.5 (1197)	15	14.7 (511)	15
Parental Occupation				
Managerial and professional	13 (4241)	12	11.3 (2466)	10
Intermediate occupations	13.9 (1938)	12	12.4 (973)	12
Routine/manual	14.2 (2490)	13	12.8 (1210)	12
NA/missing	15.1 (323)	14	12.8 (541)	12
Parental Education[1]				
Both parents	12.5 (1455)	10	10.7 (993)	10
One parent	13.5 (2160)	12	12 (1263)	10
Neither/NA	14 (5377)	12	12.5 (2934)	12
Institution Type				
Highest	11.6 (1922)	10	10.1 (1329)	8
High	13.3 (2221)	12	11.5 (1418)	10
Medium	14.2 (2763)	13	12.9 (1402)	12
Lowest	14.9 (1295)	14	14.6 (629)	14
Specialist	14 (317)	13	12.8 (156)	12

[1]whether the respondent had none, one or two parents who had been to university

Figure 13 shows the number of hours of paid work respondents were normally doing each week during term-time separately for respondents at different type of institution. The figure shows that the number of hours worked per week varied across the different types of institution with respondents at institutions in the highest tariff category undertaking a significantly lower number of hours of paid work in comparison to respondents at institutions in the lowest tariff category. For example, around 20 per cent of respondents at institutions in the highest tariff category worked for less than 5 hours per week while only 8 per cent of respondents at institutions in the lowest tariff category worked similar hours. Previous studies have not reached an agreement on whether there is a threshold at which the number of hours of paid work starts to have a negative effect on student's learning. In the types of service sector jobs in which students tend to work, however, many part-time employment contracts are for 16 hours per week. Figure 13 shows, however, that more

than 40 per cent of respondents at institutions in the lowest tariff category were undertaking 15 hours of paid work per week or more.

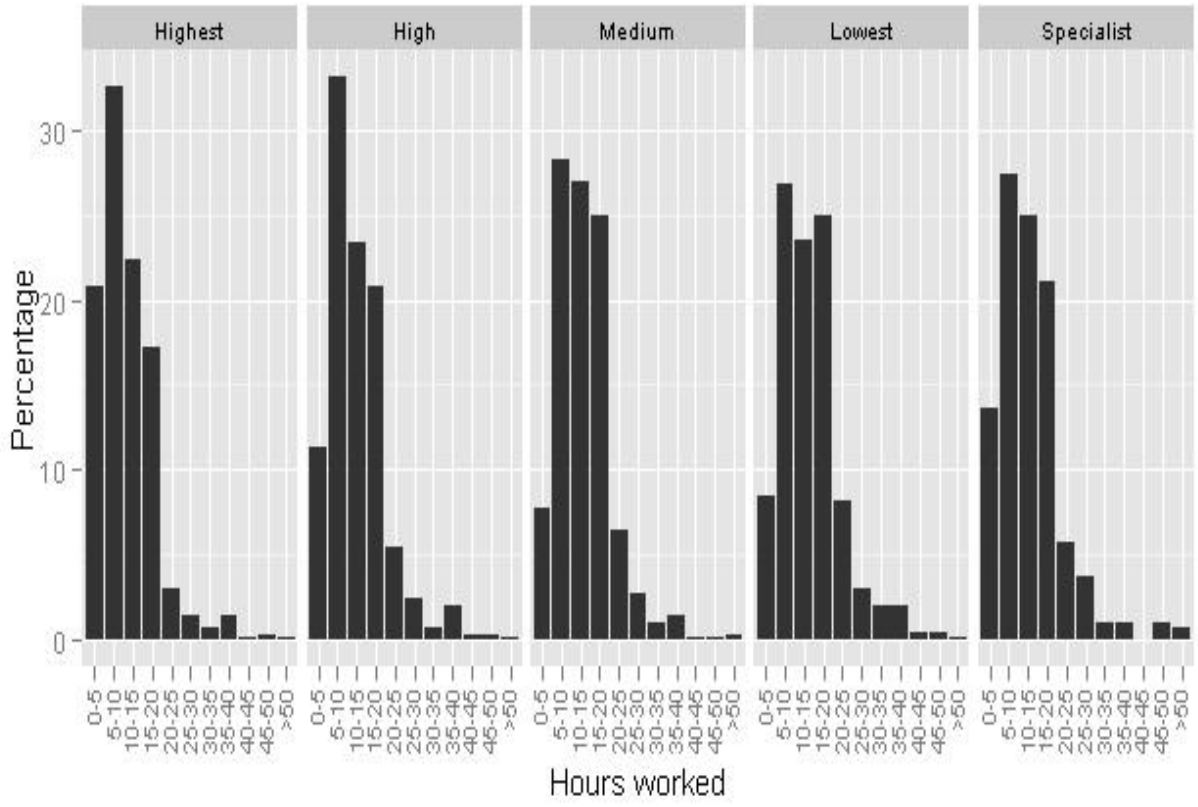

Figure 13 Hours paid work per week during term-time at stage 2 (Appendix A Table 22)

Figure 14 shows the number of hours of paid work per week reported by respondents at stage 3 separately for different types of institution. The overall variation in the hours of work undertaken by respondents at different types of institution is similar to that found at stage 2 although the proportion of respondents working for less than 10 hours per week is higher than at stage 2 across all types of institution. The overall picture that emerges is therefore of an increase in respondent's involvement in paid work between stage 2 and stage 3 but with the majority of respondents seeking to work a relatively low number of hours of work.

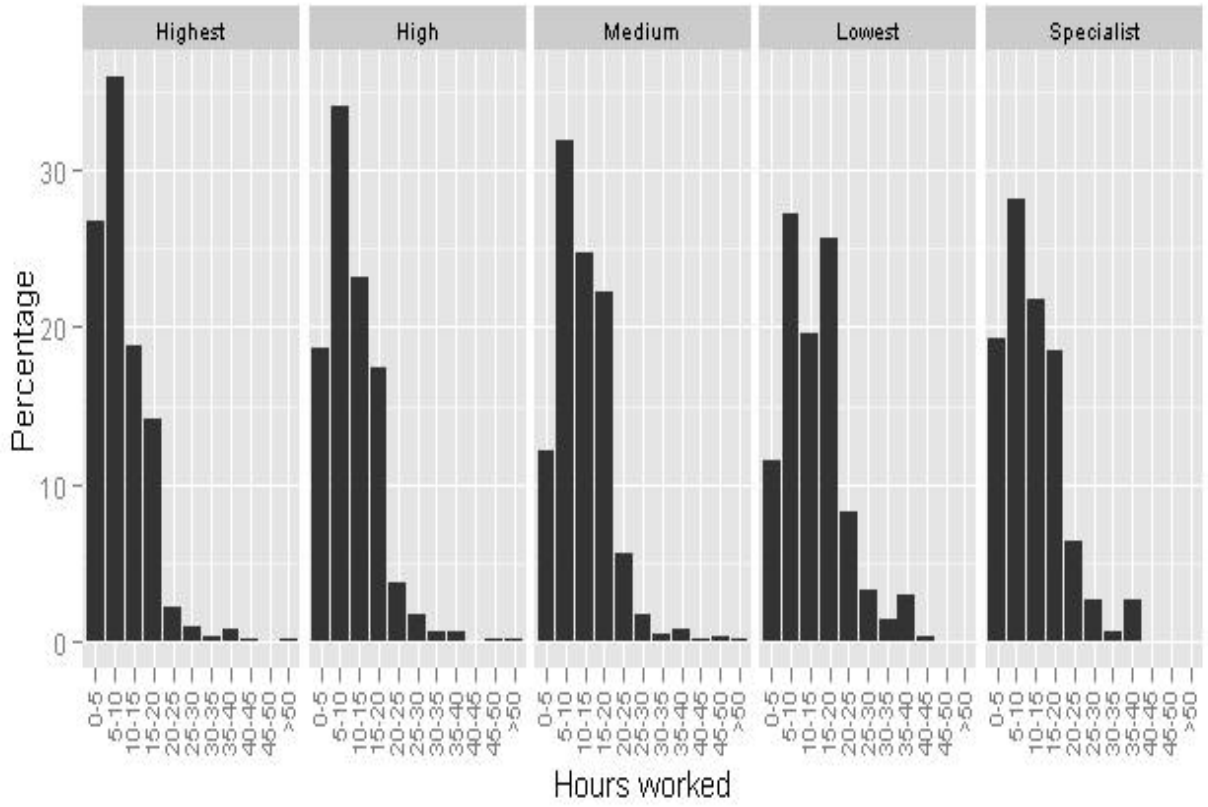

Figure 14 Hours paid work per week during term-time at stage 3 (Appendix A Table 23)

Appendix A Tables 14 to 21 give the detailed breakdown of the number of hours of paid work per week during term-time at stage 2 and stage 3 by respondent age, gender, parental occupation and parental education.

Reasons for Paid Work During Term-Time

Previous studies have shown that the main reasons student's give for doing paid work during term-time are to earn money and to gain work experience. At stage 2 respondents who had undertaken paid work during term-time were asked whether they had done paid work for a range of reasons (N = 10353). Overall the most common reasons given for undertaking paid-work during term-time were either related to the need to earn money to help with living costs (77.2 per cent), for leisure activities (76.1 per cent) or the costs of study materials (66.0 per cent) or to avoid debt (64.8 per cent). Respondents were more likely to have done paid work in order to gain general work experience (44.8 per cent) than to gain specific experience related to their course of studies (18.5 per cent). The proportion of respondents who had done paid work in order to gain skills (20.4 per cent) or in order to meet a course requirement (5.5 per cent) was relatively low.

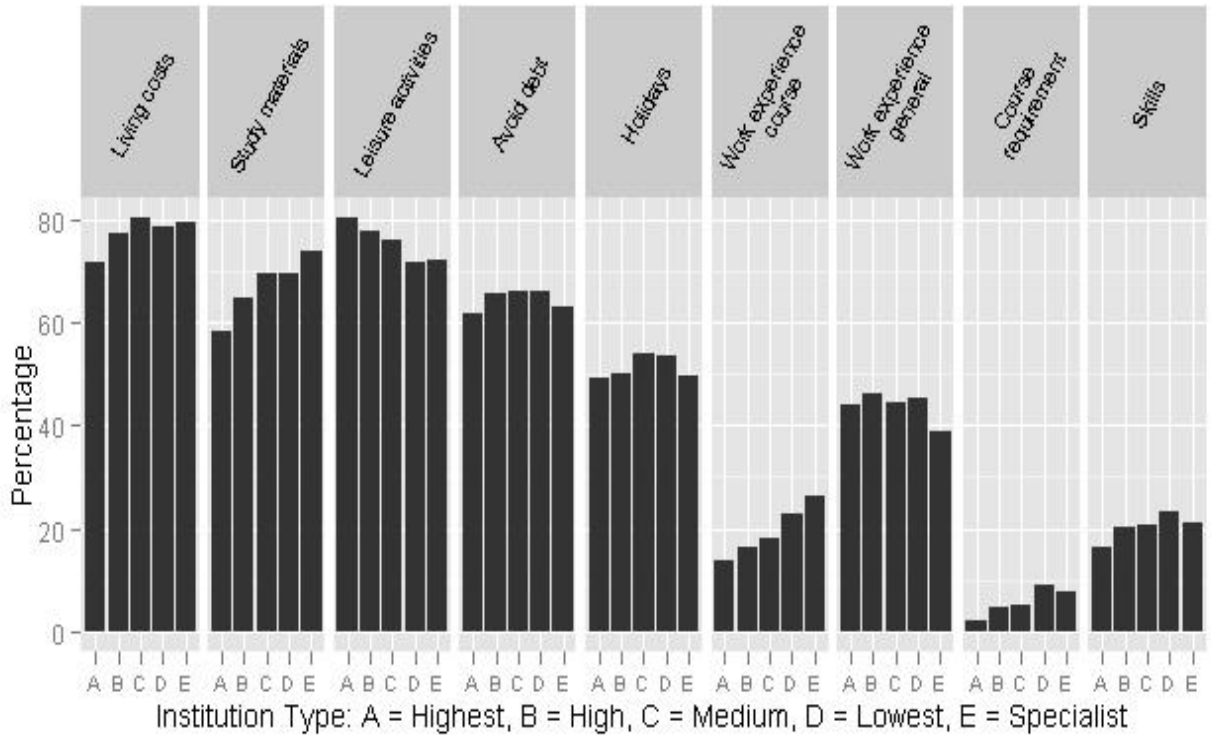

Figure 15 Reasons given for doing paid work during term at stage 2 (Appendix A Table 24)

Figure 15 shows the variation in responses across the different types of institution. The figure shows that there is some variation in the reasons for doing paid work during term-time across the different types of institution. In particular, students at institutions with lower tariff scores were more likely to have worked in order to pay for living costs and study materials and were less likely to have worked in order to pay for leisure activities in comparison to students at institutions with higher tariff scores. The proportion of students who had undertaken paid work during term-time in order to gain work experience that was related to their course also varied across institutions and respondents at institutions in the specialist category were twice as likely to have given this reason for working in comparison to respondents at institutions in the highest tariff category.

Respondents who did paid work at stage 3 were also asked to give the reasons they had done paid work. There was no significant change in the overall pattern of responses from those at stage 2 with the majority of respondents giving financial reasons or the desire to gain work experience as the reason for working during term-time (Appendix A Table 25).

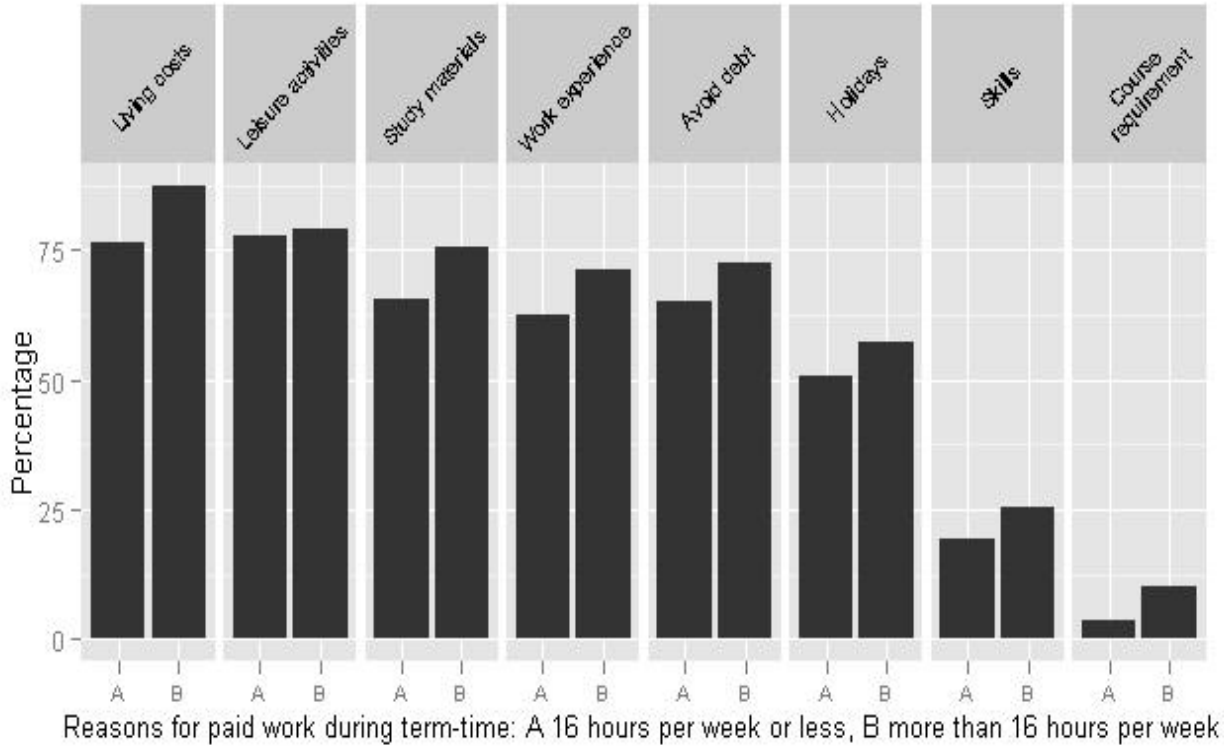

Figure 16 Reasons given for doing paid work during term at stage 2 for respondents working different hours (Appendix A Table 26)

Figure 16 shows how the respondents' reasons for working during term-time varied depending on whether the respondents worked more than or less than 16 hours per week. There was no single reason for respondents working longer hours with a slightly higher proportion of respondents who worked longer hours stating that they worked for most of the reasons given. The proportion of respondents who worked in order to pay for leisure activities was nearly the same in the two groups of respondents, however, suggesting that at least in some cases, respondents who worked for longer hours were not working in order to be able to afford a certain lifestyle but to cover their basic living costs.

How Found Work

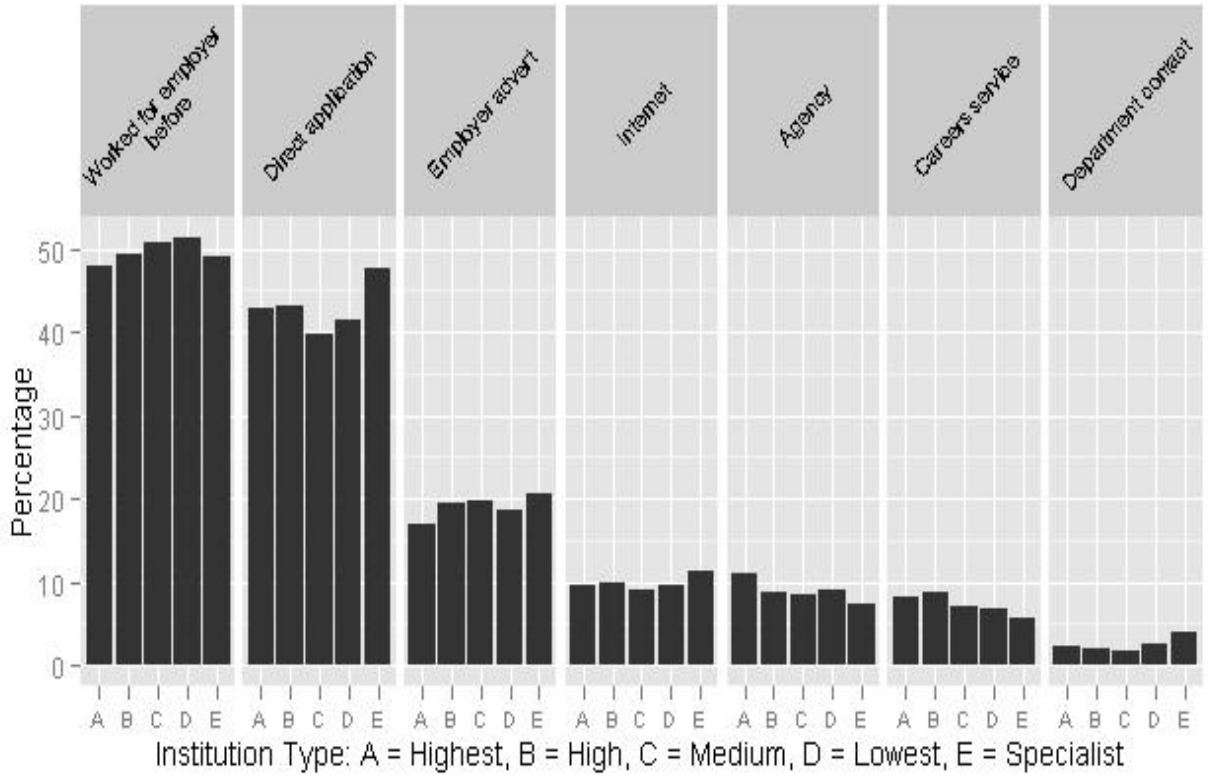

Figure 17 How obtained paid work stage 2 (Appendix A Table 27)

At stage 2 respondents who had undertaken paid work were asked if they had obtained work via a range of approaches (N = 18555). Respondents had followed both formal and more informal routes into paid work. The most common way for respondents to have found paid work was either through previously having worked for an employer (49.4 per cent) or through applications to employers, either directly to the employer (42.2 per cent) or in response to an employer advert (18.8 per cent). Only a minority of respondents had found work through departmental contacts (2.2 per cent) or through careers services (7.6 per cent). Figure 17 shows the proportion of respondents who found paid work through the different routes separately for respondents at different types of institution. In contrast to the variation in the experience of paid work across different types of institution, there was little variation in the routes into paid work between the different types of institution.

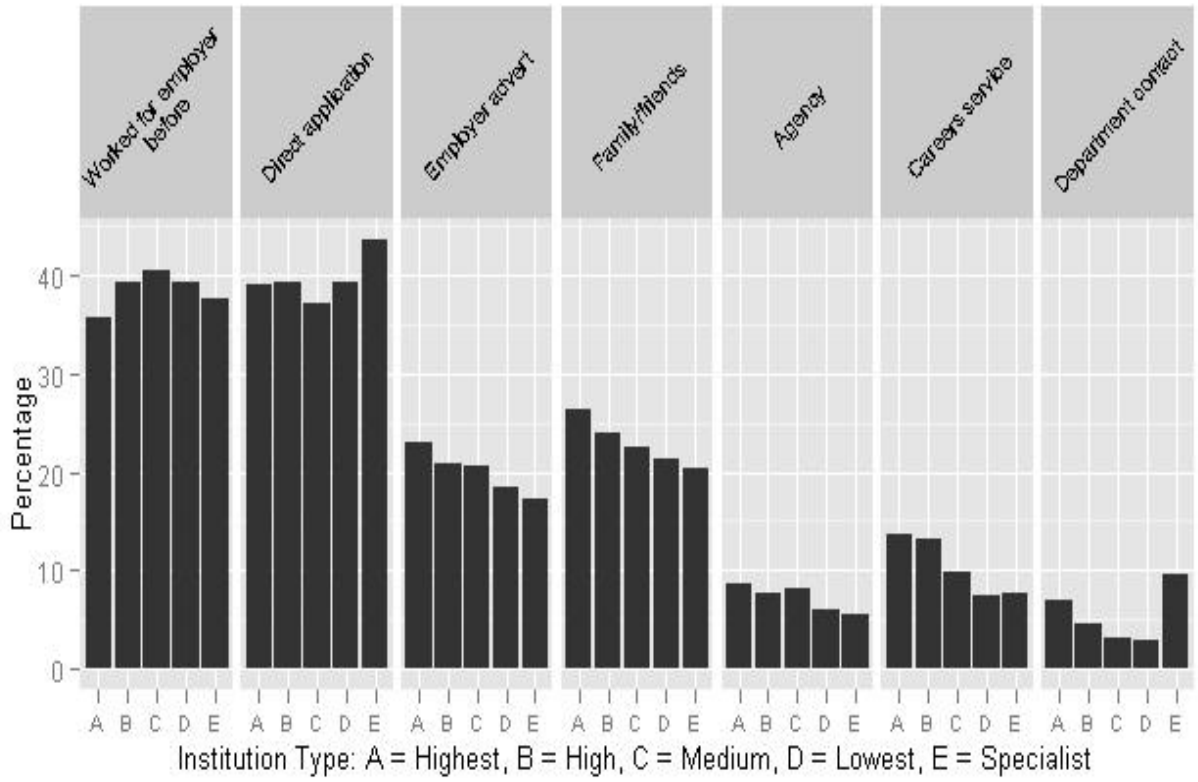

Figure 18 How obtained paid work stage 3 (Appendix A Table 28)

Respondents who had undertaken paid work at stage 3 were again asked how they had found paid work. The response categories in the stage 3 survey were slightly different to those at stage 2, however, and included a category for whether the respondent had found paid work through family or friends (N = 9263). Similarly to the results from stage 2, most respondents had obtained work as a result of previously working for an employer (38.3 per cent), through direct applications to employers (38.6 per cent) or through employer adverts (21.2 per cent). Family and friends had been a factor in gaining paid work for a significant proportion of respondents (24.1 per cent), however, and this was a more common route into paid work than more formal sources of information about jobs such as agencies (7.9 per cent), careers services (11.7 per cent) or other (4.9 per cent). Figure 18 shows the proportion of respondents at different types of institution who found work through the various routes. The figure shows that there was slightly more variation across institutions in the routes into work at stage 3 in comparison to stage 2 with both the more formal (employers adverts, careers services) and more informal methods (family/friends) more likely to be used by students at higher tariff institutions.

Figure 19 shows the proportion of respondents with parents from different occupational backgrounds who obtained paid work through different routes at stage 2 while Figure 20 shows the corresponding results for parental education. Figure 19 shows that there was very little difference in the proportion of respondents with parents from different occupational backgrounds who found work through the various routes. Figure 20 shows that there was slightly more variation in the routes taken into work between respondents with parents from different educational backgrounds, although the differences were again not particularly large. Respondents who had parents who had both been to university were

more likely, in comparison to respondents who did not have a parent who had been to university, to have found jobs through direct applications to employers (44.5 vs 40.5 per cent) but were less likely to have found jobs through having worked for an employer before (46.1 vs 50.6 per cent).

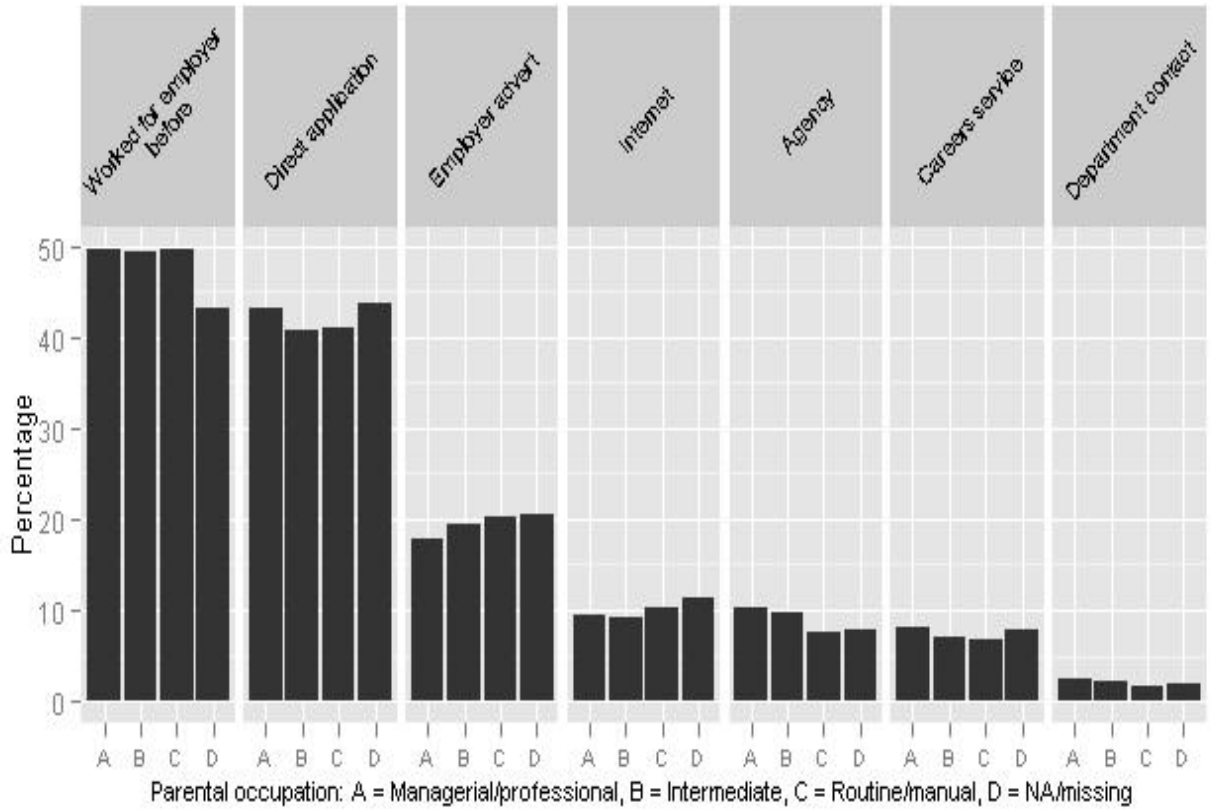

Figure 19 How obtained paid work stage 2 by parental occupation (Appendix A Table 29)

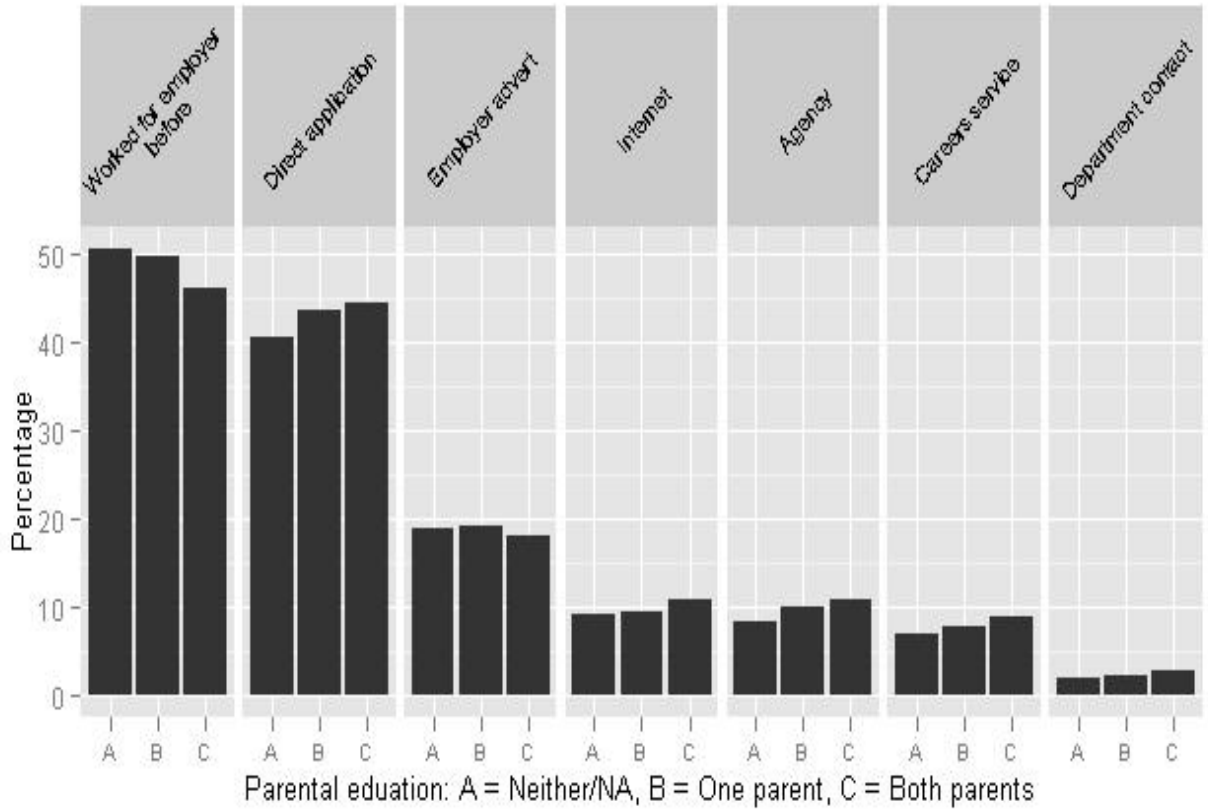

Figure 20 How obtained paid work stage 2 by parental education (Appendix A Table 30)

Figure 21 and 22 show the corresponding results from stage 3. The routes through which respondents had found work showed similar associations with parental occupation and parental education to those found at stage 2. In particular, in comparison to respondents who did not have a parent who had been to university, respondents who had parents who had both been to university were less likely to have found work through previous employers and more likely to have found work through direct applications. At stage 3 respondents who had two parents who had been to university were also more likely to have found work through the careers service (14.2 per cent) than remaining respondents perhaps indicating a greater awareness of formal job search methods. The most notable aspect of Figure 22 is, however, the variation in the proportion of respondents who found jobs through family and friends across the levels of parental education. The proportion of respondents who found work through family and friends ranged from 21.7 per cent for those who did not have a parent who had been to university to 28.1 per cent for those who had two parents who had been to university. These results might be interpreted to indicate that respondents with two parents who had been to university had more extensive social networks through which they were able to find work. It is unclear, however, to what extent respondents with parents who did not go to university had less extensive networks of friends and family or whether they were simply unable to find work through the networks they did have.

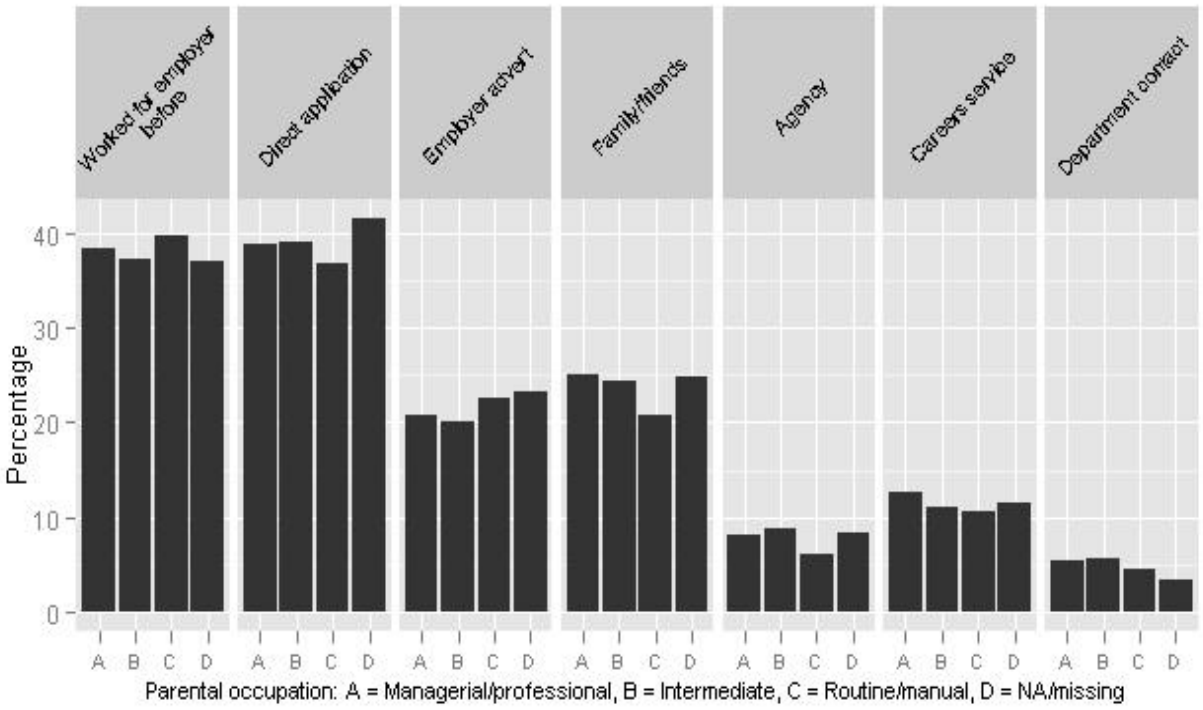

Figure 21 How obtained paid work stage 3 by parental occupation (Appendix A Table 31)

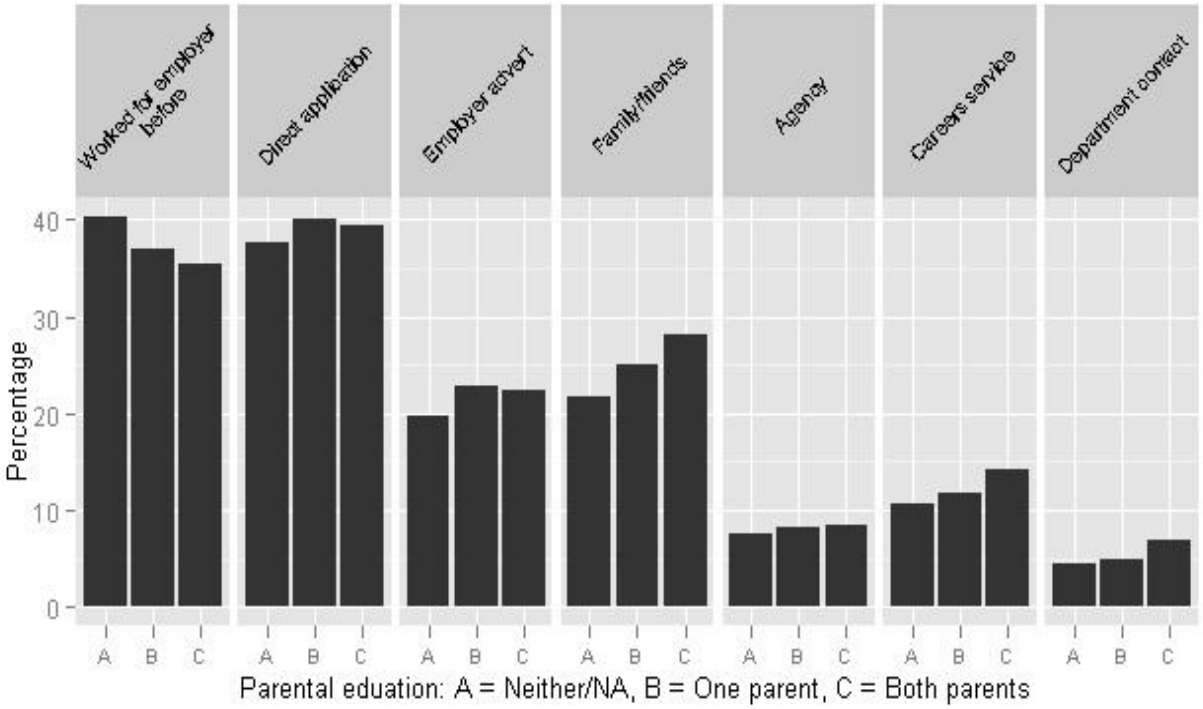

Figure 22 How obtained paid work stage 3 by parental education (Appendix A Table 32)

Transitions Between Stage 2 and Stage 3

The main purpose of collecting longitudinal data is to provide information on change at the level of the individual. The cross-sectional information on participation in paid work at stage 2 and stage 3 is useful for describing the overall change in paid work but does not tell us whether it is the same respondents who are doing paid work at stage 2 and stage 3 or whether there is significant mobility by students into and out of paid work over time. Table 4 shows the pattern of transitions into and out of paid work made by respondents between stage 2 and stage 3. The table shows significant persistence in participation in paid work over time with 71.0 per cent of respondents who worked during both vacation and term-time at stage 2 also working during both vacation and term-time at stage 3. There was also a significant degree of mobility in respondent's involvement in paid work, however, and more than 50 per cent of respondents who had not undertaken paid work at stage 2 had undertaken paid work at stage 3. The overall pattern of movement into and out of paid work by students suggests that we can distinguish 3 groups of respondents with different relationships to paid work: a group who undertook paid work throughout the period of study (25 per cent), a group who did not undertake paid work while studying (15 per cent) and a group who move into and out of paid work in response to changing pattern of constraints and opportunities (60 per cent).

Table 4 Transitions into and out of paid work between stage 2 and stage 3

Stage 2	Stage 3											
	Vacation and term-time			Only vacation			Only term-time			Not at all		
	N	Row %	Col %	N	Row %	Col %	N	Row %	Col %	N	Row %	Col %
Vacation and term-time	2338	71.0	58.8	519	15.8	15.0	95	2.9	25.0	339	10.3	14.0
Only vacation	959	25.9	24.1	2039	55.1	58.9	114	3.1	30.0	588	15.9	24.2
Only term-time	130	48.1	3.3	49	18.1	1.4	39	14.4	10.3	52	19.3	2.1
Not at all	548	18.4	13.8	852	28.6	24.6	132	4.4	34.7	1447	48.6	59.6

Summary

The results suggest that multiple factors influence both whether students participate in paid work and whether they work during term-time or only during vacations. Overall, students who undertook paid work during term-time were more likely to come from disadvantaged family backgrounds and to be studying at a lower tariff institution than those who worked during vacations. Students from more disadvantaged family backgrounds were also likely to work longer hours than remaining students. The reasons given by students for working during term-time suggest that for most students, however, the decision to work was not a response to real financial hardship although a significantly proportion of students reported working to avoid falling into debt.

The 2007/2008 Student Income and Expenditure Survey (SIES) also collected information on student's participation in paid work and reported that 53 per cent of all full-time students

had undertaken paid work at some point during the academic year (Johnson et al. 2009). The results from Futuretrack are difficult to compare directly with the SIES, however. In particular, there are differences in the two surveys in the wording used to label work which may be expected to have influenced the level of work reported by students. Futuretrack did not provide a definition of the activities to be included in paid work and respondents answered the question using their own understandings of whether the activities they had undertaken were or were not work. Respondents own understandings of whether they have undertaken work may be unlikely to include activities that were unplanned or sporadic. Short-term casual jobs (such as baby-sitting, cutting grass etc.) may therefore not have been mentioned. In contrast, the SIES measured participation in paid work using the following question: “Have you received any earnings from paid work since the start of the academic year”, where earnings include “any money from a full or part-time job and money you may have earned however casually or occasionally?” The SIES defines paid work to include all activities for which the respondent received money. It seems likely, therefore, that marginal experiences of employment, such as informal cash-in-hand activities undertaken for family members, were reported by a higher proportion of students in the SIES than in Futuretrack. The higher level of participation in paid work in the SIES, in comparison to Futuretrack, may therefore partly be explained by differences in the terminology used in the two surveys.

5 Unpaid Work

Students may do unpaid work as part of their studies (as an intern or as a volunteer) or, more generally, give unpaid help as a volunteer in areas connected to their wider interests and hobbies (e.g. sports coaching). Unpaid work is often associated with notions of philanthropy but may also include either voluntary activities that people take part in for enjoyment or forms of activism.

Overall Level of Participation in Unpaid Work

At stage 2 of the survey respondents were asked: "Did you do any unpaid/voluntary work in the academic session 2006/2007?" with responses: none, unpaid work as an intern related to my course or career plans, voluntary work with a charity related to my studies or career plans, voluntary work with a charity not related to my studies or career plans, other unpaid work. Respondents were able to give more than one response. Table 5 shows that 72.9 per cent of respondents had not undertaken unpaid work. Respondents who had undertaken unpaid work had either worked in an internship (8.0 per cent), for a charity related to studies or career (6.1 per cent), for a charity not related to studies or career (10.5 per cent) or in other unpaid work (5.1 per cent).

At stage 3 of the survey respondents were asked: "Are you doing any voluntary/unpaid work in this academic year, and did you do any voluntary/unpaid work in the 2008 vacation?" with the same response categories as the stage 2 survey. Respondents were able to give more than one response (Table 5). The proportion of respondents who had not undertaken unpaid work was lower in comparison to stage 2 (63.2 per cent). Respondents who had undertaken unpaid work had either worked in an internship (10.7 per cent), for a charity related to studies or career (10.2 per cent), for a charity not related to studies or career (11.4 per cent) or in other unpaid work (8.6 per cent).

Table 5 Involvement in unpaid work at stage 2 and at stage 3

	Stage 2		Stage 3	
	N	Col%		Col%
None	20298	72.9	7605	63.2
Internship	2217	8.0	1292	10.7
Related to studies	1698	6.1	1229	10.2
Not related to studies	2934	10.5	1376	11.4
Other	1419	5.1	1029	8.6
Total	27831		12034	

Note: percentages may not add to 100 per cent due to multiple response options

Individual Characteristics

Figure 23 shows how the proportion of respondents who had undertaken unpaid work varies with gender. The figure shows that gender differences in the experience of unpaid

work are similar to those in relation to paid work with a higher proportion of women than men having undertaken each type of unpaid work.

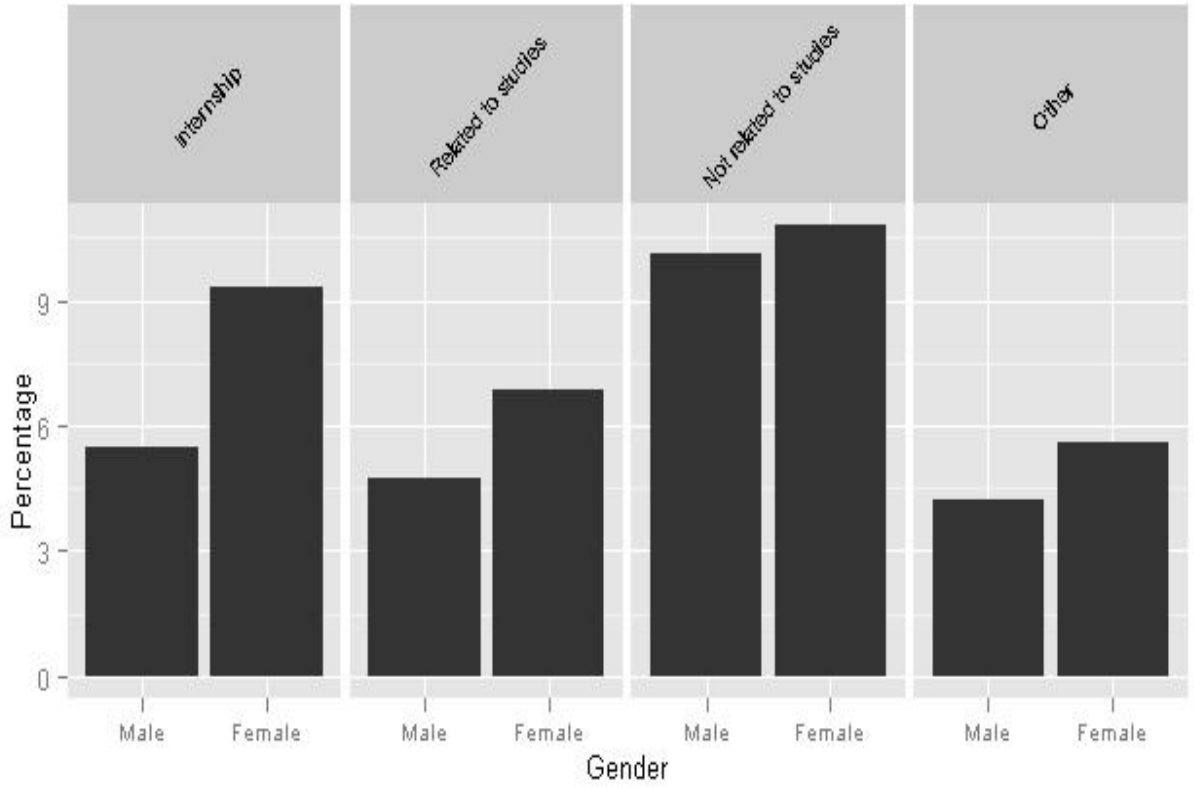

Figure 23 Participation in unpaid work by gender at stage 2 (Appendix A Table 33)

The differences between men and women in the participation in unpaid work remained largely unchanged at stage 3 (Figure 24). The difference between men and women in the proportion who had undertaken unpaid work for a charity or related to studies/career is significantly higher at stage 3 than at stage 2, however, due largely to the increase in the proportion of women undertaking this type of unpaid work. The increase in the proportion of women undertaking unpaid work related to their studies might reflect the role of charities in areas such as health and welfare services, where women are also more likely to work than men.

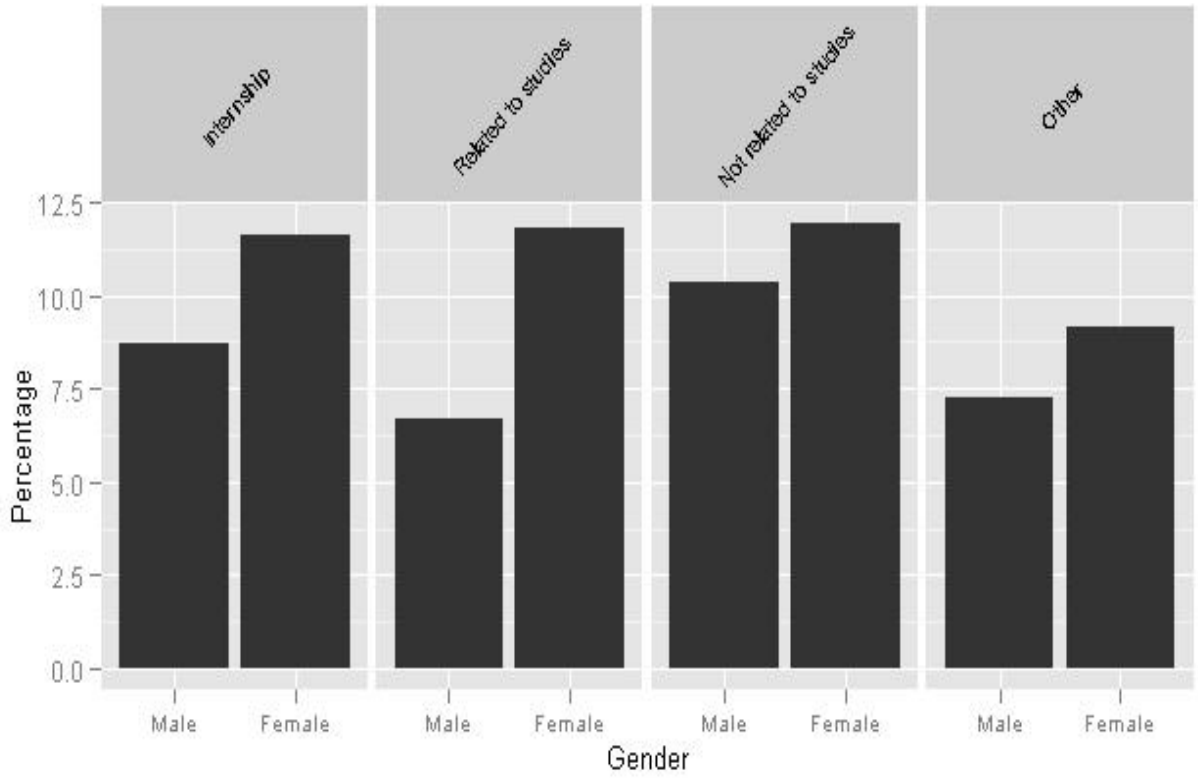

Figure 24 Participation in unpaid work by gender at stage 3 (Appendix A Table 34)

Figure 25 shows the proportion of respondents in each age group who participated in unpaid work at stage 2. The figure shows that the proportion of respondents who undertook unpaid work related to their studies (either in an internship or working for a charity) rises with age, perhaps again reflecting a link with areas such as health and welfare services where charities are important. In comparison to respondents aged 26 years and over, respondents who were age 18 years and under or age 19 to 20 years were more likely, however, to report involvement in unpaid work unrelated to their study. Respondents who were aged 26 years and over were more likely than remaining respondents to report undertaking other unpaid work, and activities such as caring for other family members might be expected to be included in this category.

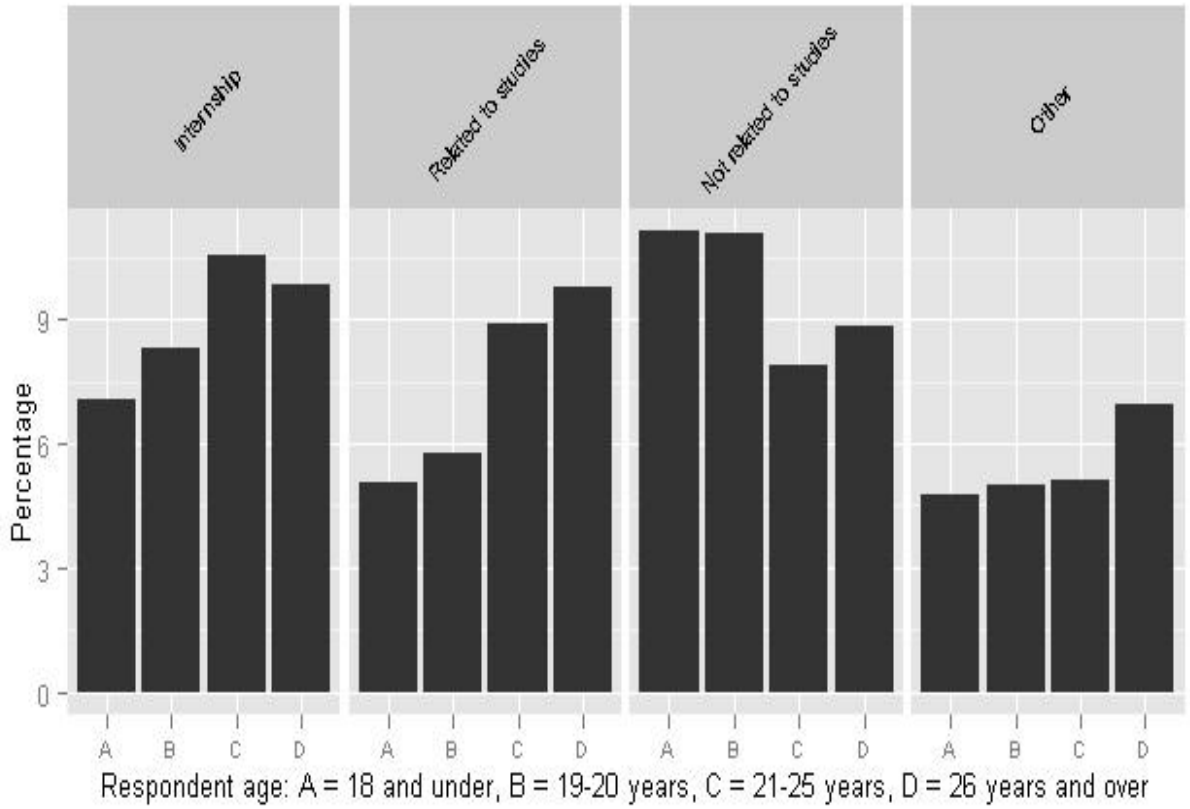

Figure 25 Participation in unpaid work by age group at stage 2 (Appendix A Table 35)

Figure 26 shows the corresponding results from stage 3. In comparison to stage 2, the proportion of respondents who reported undertaking unpaid work in areas related to their studies increased at stage 3 with the exception of the oldest age group where it remained unchanged. In contrast, there was little change between stage 2 and stage 3 in the proportion of respondents in the different age groups who had undertaken unpaid work not related to their studies. The figure also shows a significant rise between stage 2 and stage 3 in the proportion of respondents in the youngest age groups undertaking unpaid work in the other category. Participation in unpaid work in the other category by respondents aged 18 years and under and 19-20 years is likely to be different in character to that of respondents aged 26 years and over. For example, activities such as volunteering through sports and hobby groups may be more important for respondents in the younger age groups (Rochester et al. 2012).

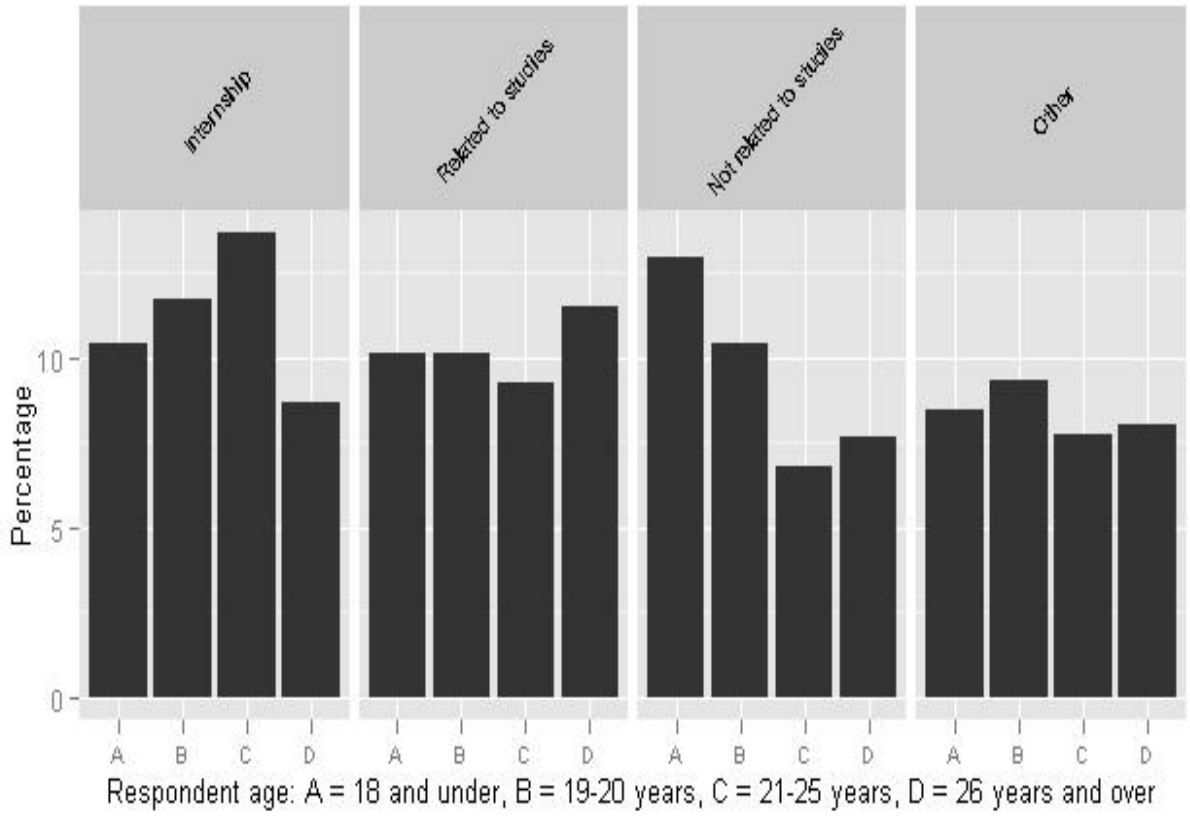

Figure 26 Participation in unpaid work by age group at stage 3 (Appendix A Table 36)

Figure 27 shows the proportion of each ethnic group who reported undertaking unpaid work at stage 2. There was no difference in the proportion of each ethnic group who reported undertaking unpaid work for career related reasons with between 7 and 8 per cent of each group either undertaking an internship or unpaid work for a charity. The proportion of respondents from White backgrounds who reported undertaking unpaid work for a charity in an area unrelated to their career was slightly lower, however, than for the remaining ethnic groups. Appendix A Table 38 shows the corresponding results for stage 3.

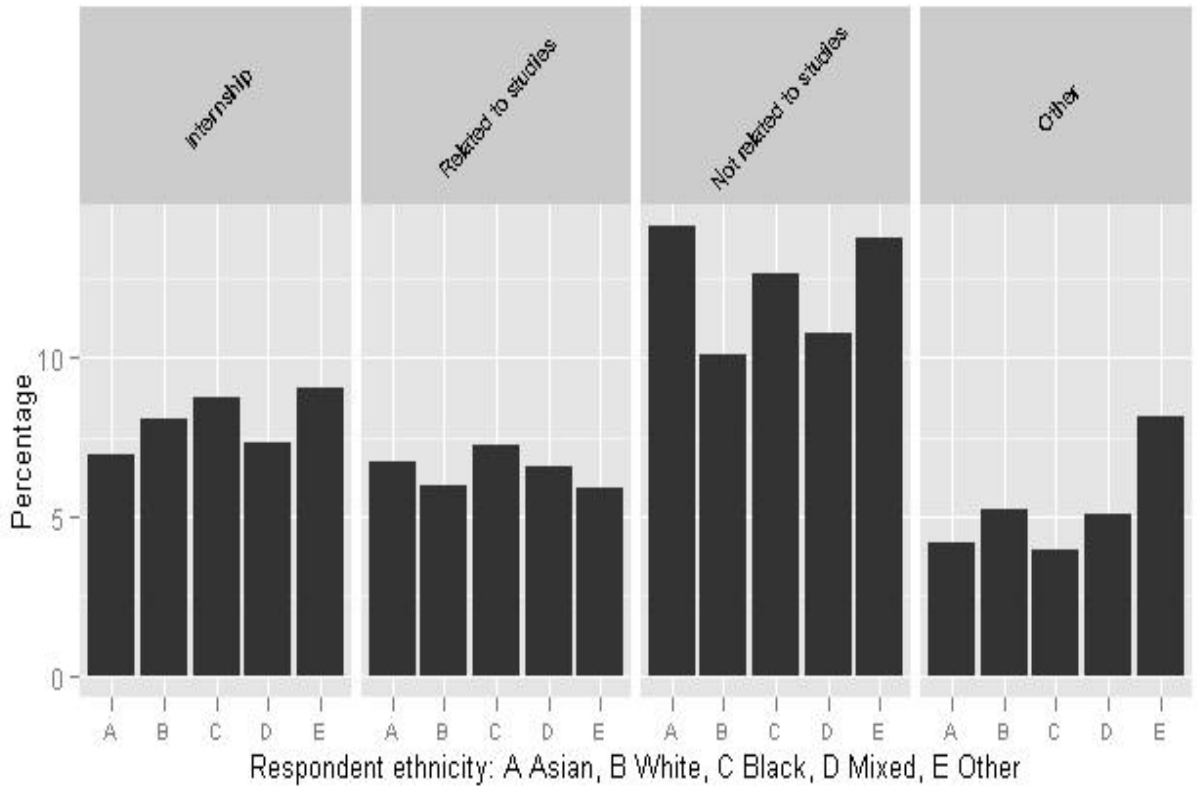

Figure 27 Participation in unpaid work by ethnicity at stage 2 (Appendix A Table 37)

Family Background

Figure 28 shows how the proportion of respondents undertaking unpaid work varies with the occupational background of the respondent's parents at stage 2. The figure shows that there is little difference in the proportion of respondents from different backgrounds undertaking unpaid work. Respondents who were from professional and managerial backgrounds were more likely to undertake unpaid work in areas not related to studies (11.5 per cent), however, in comparison to respondents from routine and manual backgrounds (8.9 per cent). Appendix A Table 40 shows the corresponding results from stage 3.

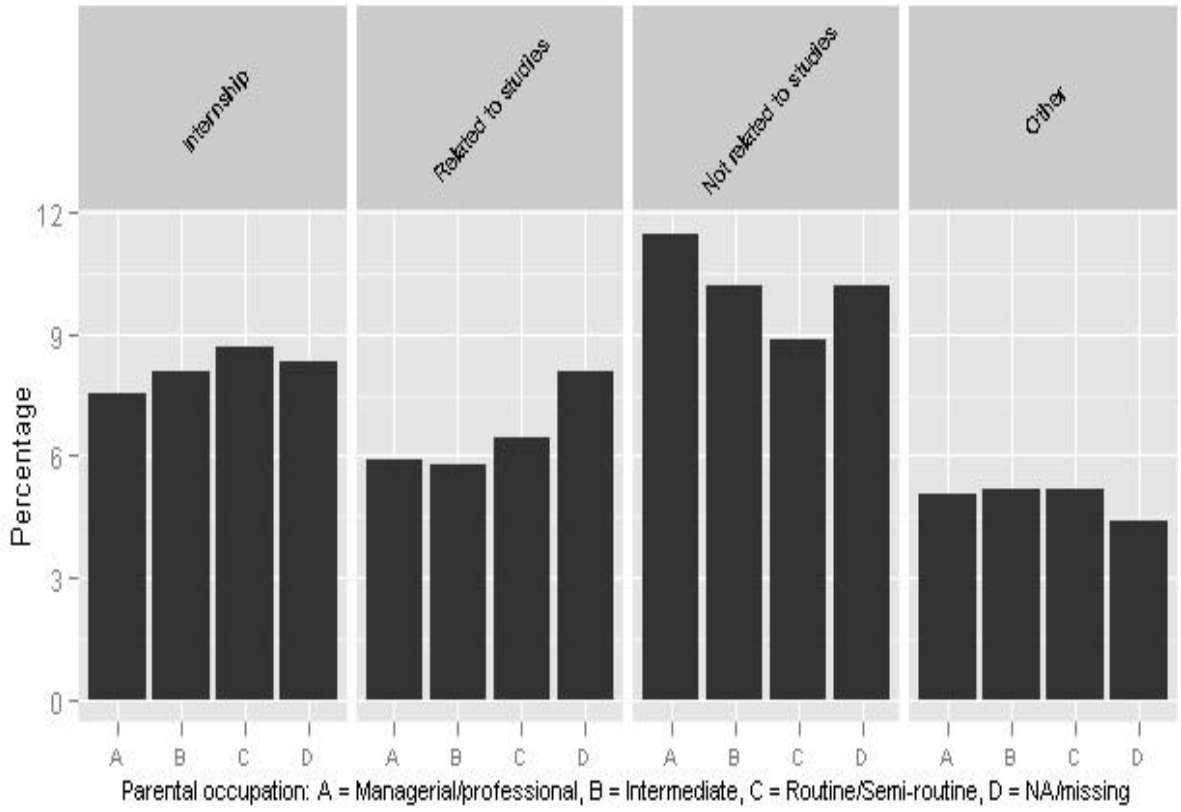

Figure 28 Participation in unpaid work by parental occupation at stage 2 (Appendix A Table 39).

Figure 29 shows how the proportion of respondents who had undertaken unpaid work varies with parental educational qualifications at stage 2. The figure shows that there is little difference in the proportion of respondents involved in career related unpaid work, either in internships or through charities, by whether or not their parents had been to university. There is a positive gradient, however, in the proportion of respondents undertaking unpaid work not related to studies with parental qualifications. The figure shows that around 12.4 per cent of respondents who had two parents who had been to university had undertaken unpaid work unrelated to studies in comparison to only 9.5 per cent of respondents who did not have a parent who had been to university. Appendix A Table 42 shows the corresponding results from stage 3.

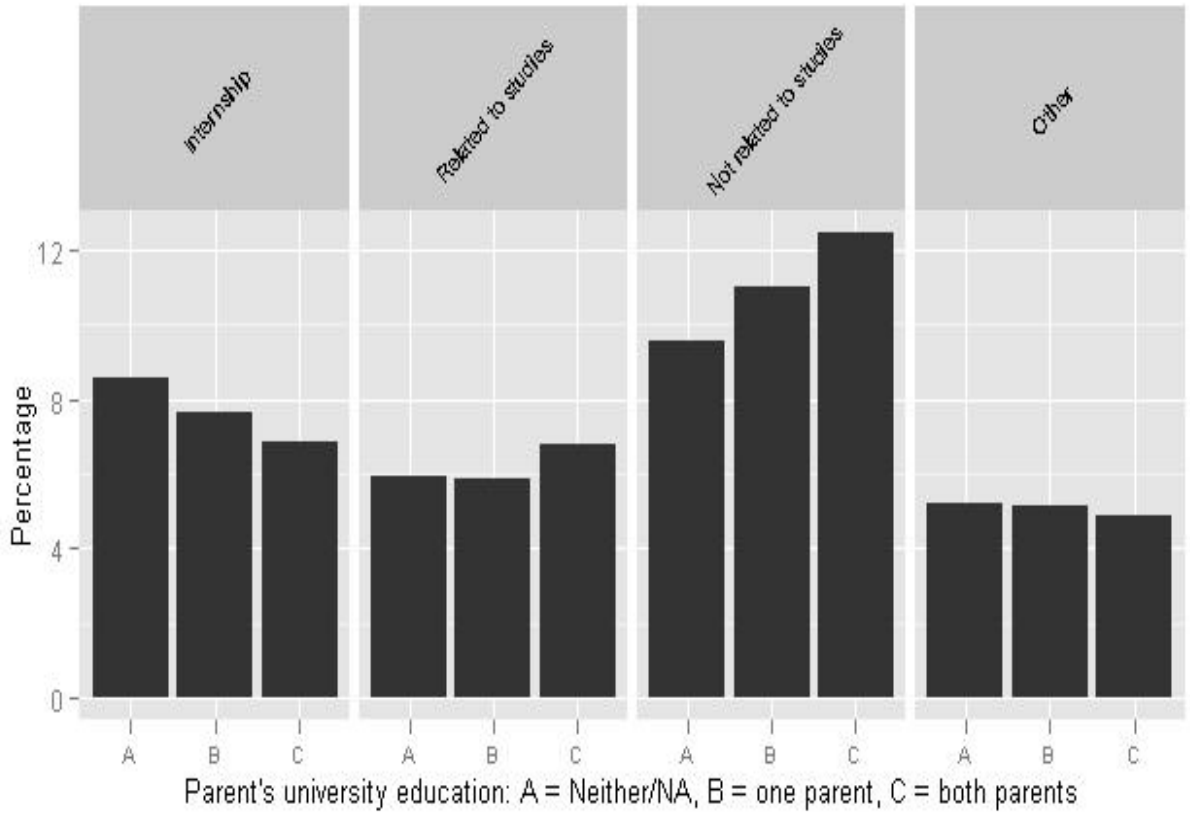

Figure 29 Participation in unpaid work by parents' experience of university at stage 2 (Appendix A Table 41).

Institutional Factors

Figure 30 shows how the proportion of respondents who reported undertaking different types of unpaid work varies across different types of institution. The proportion of respondents who had done any unpaid work varied from around 35 per cent of respondents at specialist institutions (those institutions which provide teaching in a limited range of subject areas usually design, performing arts, agriculture and health) to around 25 per cent in institutions in the highest and high tariff categories. The figure shows that the higher incidence of unpaid work among respondents at specialist institutions is due to the higher proportion of internships with over 15 per cent of respondents at specialist institutions having done this type of work compared to around 5 per cent of respondents at institutions in the highest and high tariff categories. The figure also shows that respondents at institutions in the highest and high tariff categories were more likely to have done unpaid work that was unrelated to their studies, in comparison to respondents at the remaining types of institution.

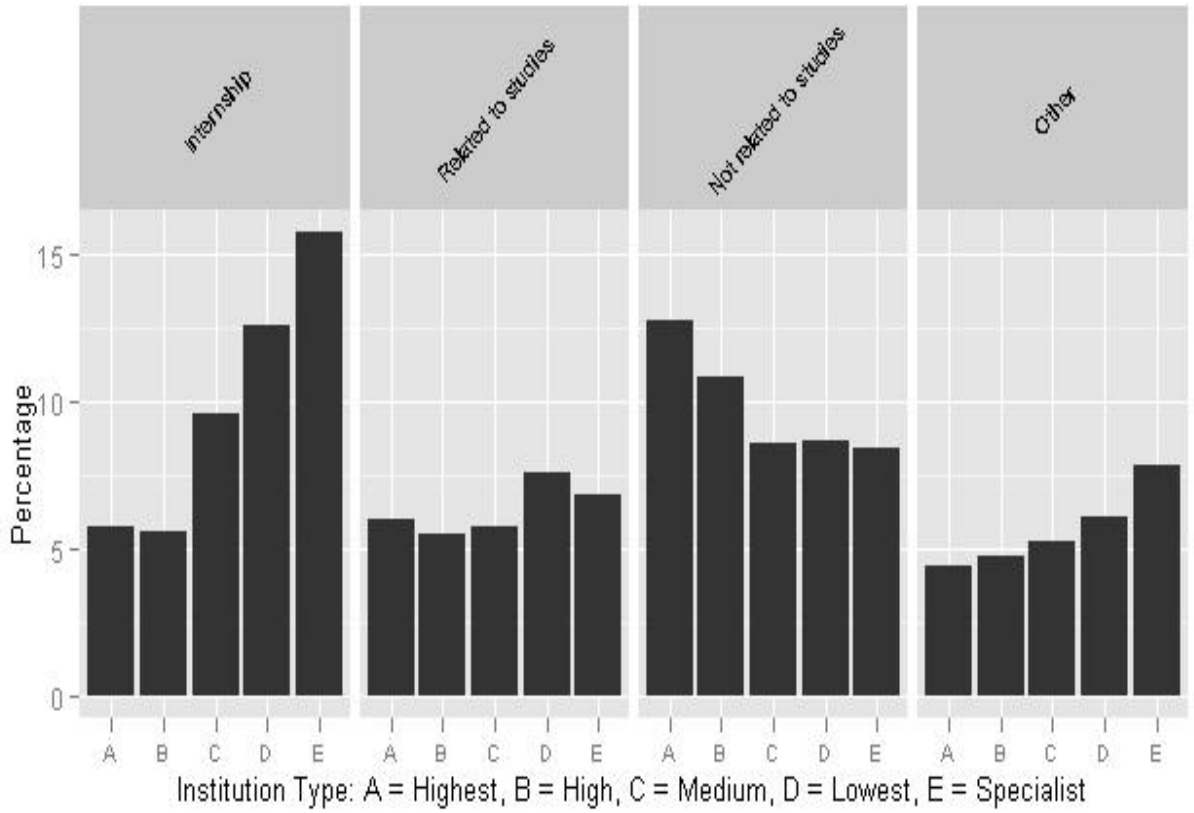

Figure 30 Participation in unpaid work by type of institution at stage 2 (Appendix A Table 43)

Figure 31 shows the corresponding results from stage 3. The proportion of respondents recorded as having done any unpaid work was higher at stage 3 than at stage 2 and varied from over 40 per cent of respondents at specialist institutions to around 35 per cent of respondents at institutions in the lower tariff category. In comparison to stage 2 there was little change in the types of unpaid work undertaken by respondents, with internships being more common among respondents at specialist institutions (22.4 per cent) and unpaid work unrelated to studies more common among respondents at institutions in the high and highest tariff categories (13.0 and 14.5 per cent).

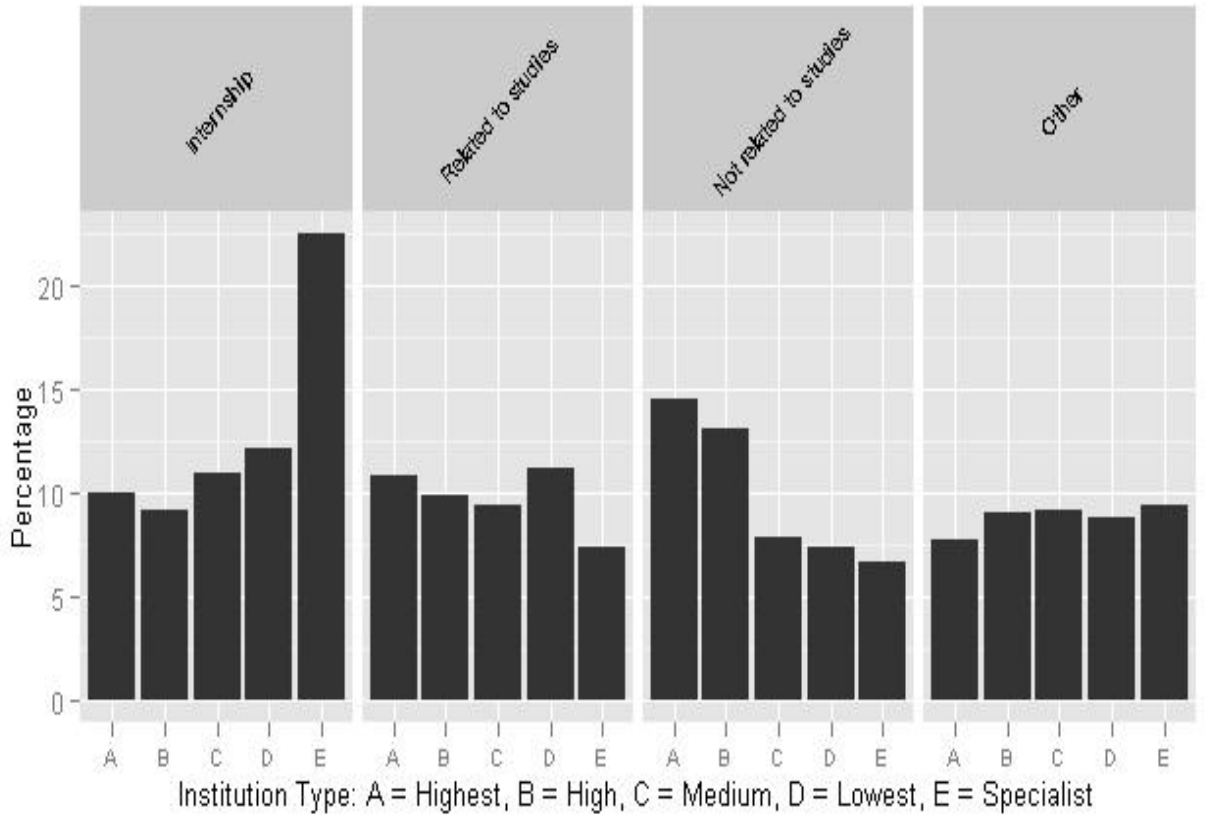

Figure 31 Participation in unpaid work by type of institution at stage 3 (Appendix A Table 44)

Number of Hours Worked

The stage 2 survey also asked respondents about the amounts of unpaid work they had done. The response categories included a number of hours bands (< 1, 1-4, 5-8 and > 8 hours) and the duration of placements both during and outside term-time (N = 7426). Overall, 51.7 per cent of respondents had worked for less than 4 hours per week with only around 6.7 per cent of respondents working for more than 8 hours per week. In addition, 15.8 per cent of respondents reported undertaking a placement of more than a week outside term-time and 13.0 per cent reported doing a placement of more than a week during term-time. Figure 32 shows how the pattern of responses varies across the different types of institution. The figure shows that a higher proportion of those respondents who did unpaid work at lower tariff institutions were doing more than 4 hours unpaid work per week in comparison to respondents at institutions in the highest and high tariff categories. The figure also shows that respondents at institutions in the highest tariff and specialist categories were more likely to have done a placement lasting more than a week outside term than respondents at remaining institutions while respondents at institutions in the lowest and medium tariff categories were more likely to have undertaken a placement lasting more than a week during term-time than respondents at remaining institutions.

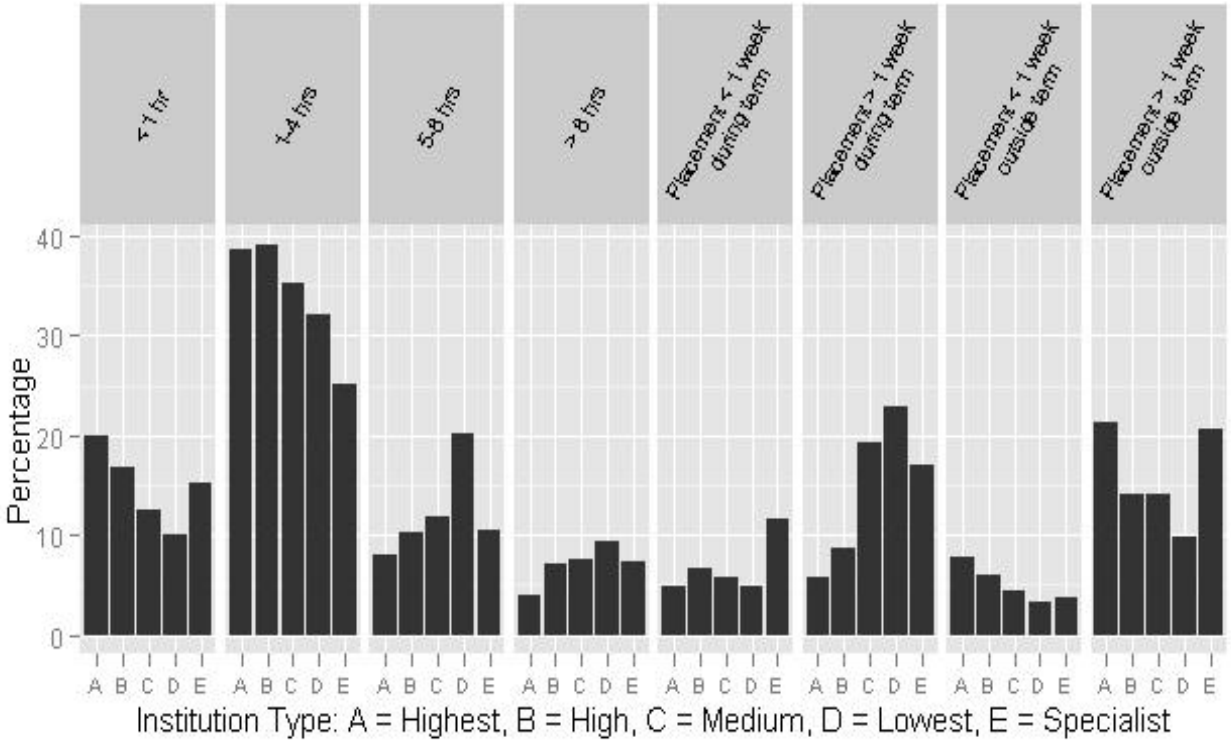

Figure 32 Hours of unpaid work per week at stage 2 (Appendix A Table 45)

Figure 33 shows the corresponding results for stage 3 (the stage 3 survey question did not specifically ask about unpaid work undertaken as a placement). The figure shows that respondents at the highest and high tariff institutions who undertook unpaid work were more likely to do less than 4 hours work per week in comparison to respondents at the remaining institutions. The figure also shows that a significant proportion of respondents at specialist institutions who undertook unpaid work were doing more than 8 hours work per week.

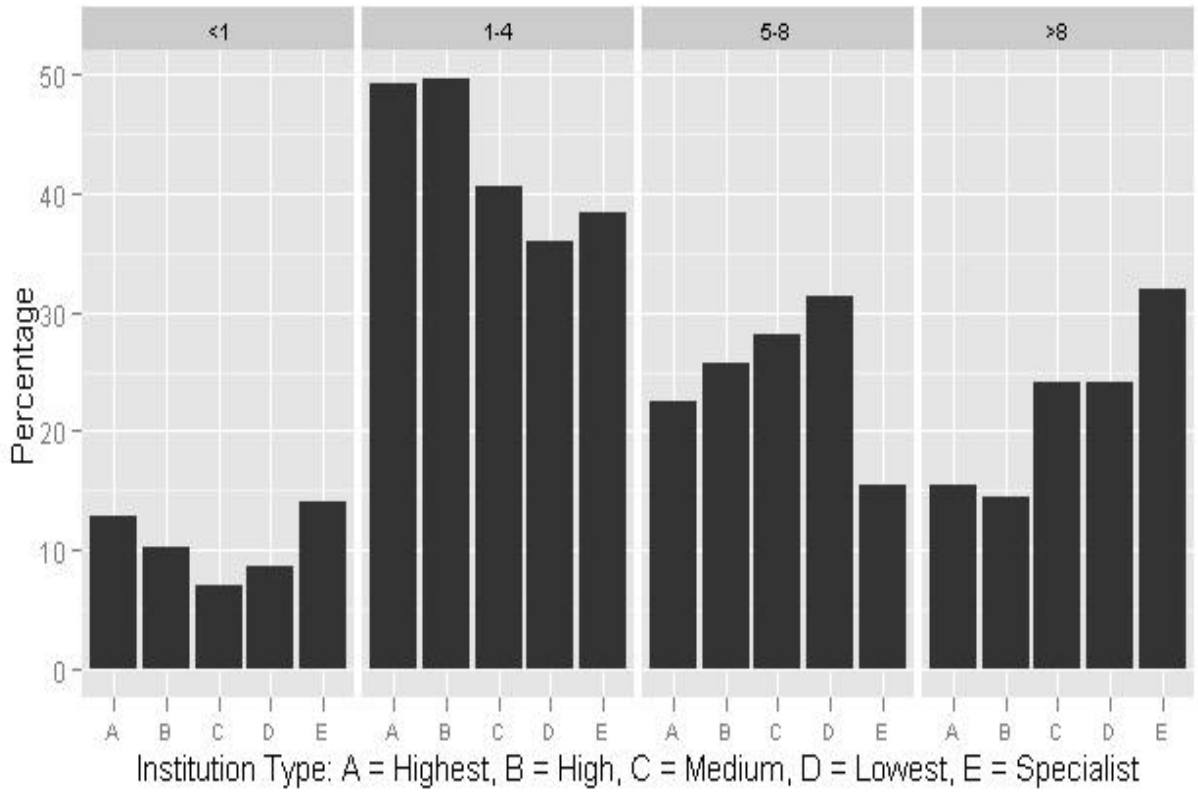

Figure 33 Hours of unpaid work per week at stage 3 (Appendix A Table 46)

Reasons for Unpaid Work

Respondents who had undertaken unpaid work were also asked whether they had done unpaid work for a range of reasons (N = 7500). Overall, the most common reasons reported for doing unpaid work were to learn skills (57.4 per cent), gain work experience (53.6 per cent),to help the community (50.1 per cent), as part of a hobby (45.8 per cent) or pastime (25.0 per cent) or as part of their course (22.3 per cent). Figure 34 shows the responses separately for respondents at different types of institution. The reasons for undertaking unpaid work varied with the type of institution. In particular, respondents at institutions in the highest and high tariff categories were more likely to have done unpaid work to help the community than respondents at lower tariff institutions while respondents at lower tariff and specialist institutions were more likely to have done unpaid work to gain work experience than respondents at institutions in the highest and high tariff categories. It is also notable that respondents at lower tariff and specialist institutions were more likely to have undertaken unpaid work as part of their course than respondents at institutions in the highest and high tariff categories. The stage 3 survey also asked respondents who did unpaid work to give the reasons for undertaking unpaid work. There was no significant change in the overall pattern of responses between stage 2 and stage 3 with the majority of respondents giving reasons related either to the desire to gain work experience or to hobbies and pastimes (Appendix A Table 48).

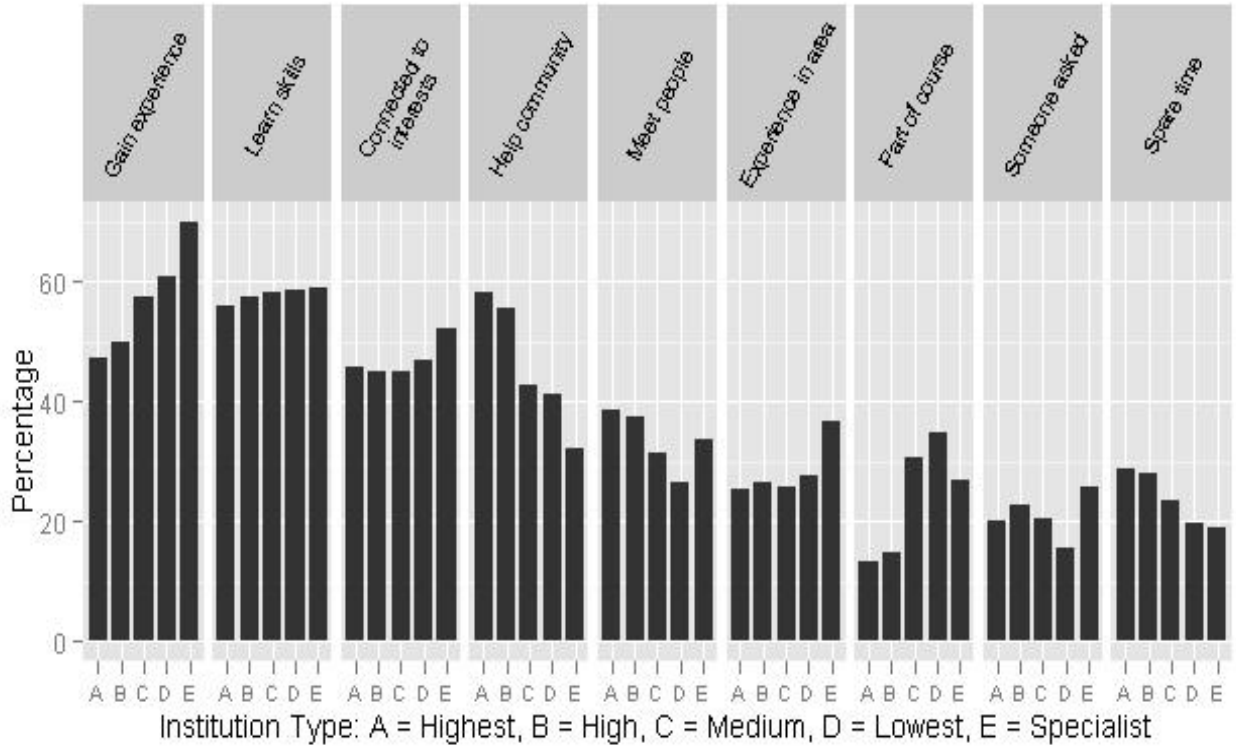

Figure 34 Reasons for undertaking unpaid work at stage 2 (Appendix A Table 47)

Transitions Between Stage 2 and Stage 3

Unpaid work is not a primary role for most people and it was anticipated that there would be a high degree of mobility into and out of unpaid work between stage 2 and stage 3. Table 6 shows the pattern of transitions into and out of unpaid work made by the respondents between stage 2 and stage 3. The table shows that around 50 per cent of respondents who provided information at both stages did not undertake unpaid work at either stage 2 or stage 3 (n = 5233) while around 15 per cent of respondents (n = 1588) undertook unpaid paid at both stage 2 and stage 3.

Table 6 Transitions into and out of unpaid work between stage 2 and stage 3

Stage 2	Stage 3					
	Yes			No		
	N	Row%	Col%	N	Row%	Col%
Yes	1588	56.9	43.4	1202	43.1	18.7
No	2073	28.4	56.6	5233	71.6	81.3

Summary

In summary, the results show that only a minority of respondents had undertaken unpaid work and that among those who did do unpaid work the number of hours worked were relatively low. It was noticeable that respondents at the highest tariff institutions were most

likely to give altruistic motivations (i.e. helping the community) for doing unpaid work while respondents who were either at specialist or medium and lower tariff institutions were also the most likely to report doing unpaid work as part of their course. Unpaid work is often thought of as being freely given, however, these results suggest that, in common with paid work, it may be influenced by the structured inequalities that influence the pathways respondents follow through HE.

6 Structured Work Experience

The current report also aimed to describe the different forms of work undertaken by respondents. In particular, the report was interested in the number of students who had undertaken work activities that were designed to have an employment or learning benefit. There is no consistent terminology in use in this area but such activities are usually described as sandwich years, work placements or vacation internships.

Futuretrack asked respondents about participation in different types of work experience at both stage 3 and stage 4. The stage 3 survey included one question about participation in work placements. The question asked "As part of your course, have you spent, or are you currently spending: a work placement year in the UK or shorter work placement(s) in the UK". The stage 4 survey again included only one question on participation in different types of work experience. The question included at stage 4 asked respondents: "During your undergraduate course, which of the following employment-related activities, if any, did you do?" The activities were: a sandwich year undergraduate placement, one or more shorter structured work placements integral to your course, assessed project work in an external organization as part of your course, a vacation internship with an employer[5], paid work undertaken to gain useful career related experience, paid work undertaken only for the money, unpaid work undertaken in order to gain useful career related experience, other work-related activity and none of the above. Respondents were able to give multiple-responses.

In this section we report descriptive statistics on respondent's participation in work-related learning at both stage 3 and at stage 4. The information from stage 4 is used in the quantitative analysis in the following section and will be discussed in more detail in this section. The information at stage 4 may be subject to a degree of recall bias by the respondent but contained more detailed information on the types of work-related activities undertaken by respondents in comparison to the information collected at stage 3.

Stage 3

The stage 3 survey asked respondents whether they had undertaken either a work placement year or shorter work placement. Work placement years (or sandwich years) are normally the third year on a four-year course. It was important therefore to examine respondent's participation in work placements separately for courses of different length. The extent of participation in work placements was also examined across different types of institution and by subject.

Figure 35 shows the proportion of respondents who had undertaken work-placement years (or sandwich years) and shorter work-placements for respondents on 3 and 4 year courses (N = 10539). Overall around 20 per cent of respondents on 3 year courses and slightly

[5] The stage 4 survey did not distinguish between vacation internships which were paid and those which were unpaid

more than 20 per cent of respondents on courses longer than 3 years had undertaken shorter work placements at stage 3. Work placements were not evenly distributed across different types of institution, however, with around 10 per cent of students at institutions in the highest category but over 30 per cent at institutions in the medium and lowest categories undertaking shorter work placements at stage 3. As expected, work placement years were largely restricted to courses longer than 3 years with around 20 per cent of respondents on 4 year courses reported undertaking a placement year. The figure shows that among students on 4 year courses, placement years were a particular feature of courses at medium tariff institutions and were less commonly undertaken by respondents at the highest tariff institutions.

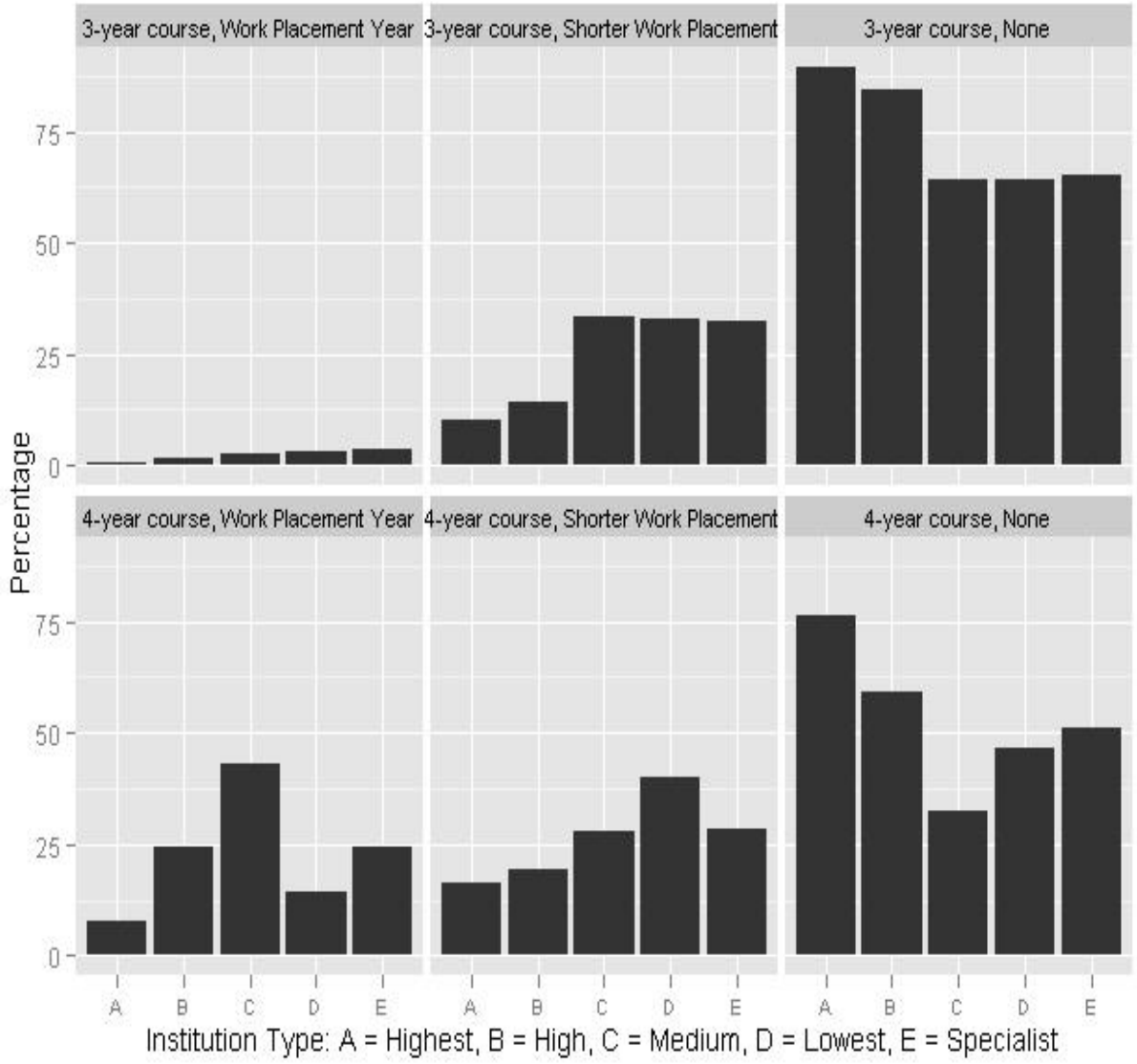

Figure 35 Participation in work placements at stage 3 separately for three-year and four-year courses (Appendix A Table 49)

Figure 36 shows how participation in work placements varied across subjects. The figure shows that shorter work placements were concentrated in subject areas such as Education and Subjects Allied to Medicine (including nursing) where block placements are

a traditional feature of the training provided by HE institutions. In contrast, work placement years were most common in: Business, Architecture/planning, Engineering and Maths/computing. It is uncertain to what extent these activities were also reported as paid work by respondents at stage 3.

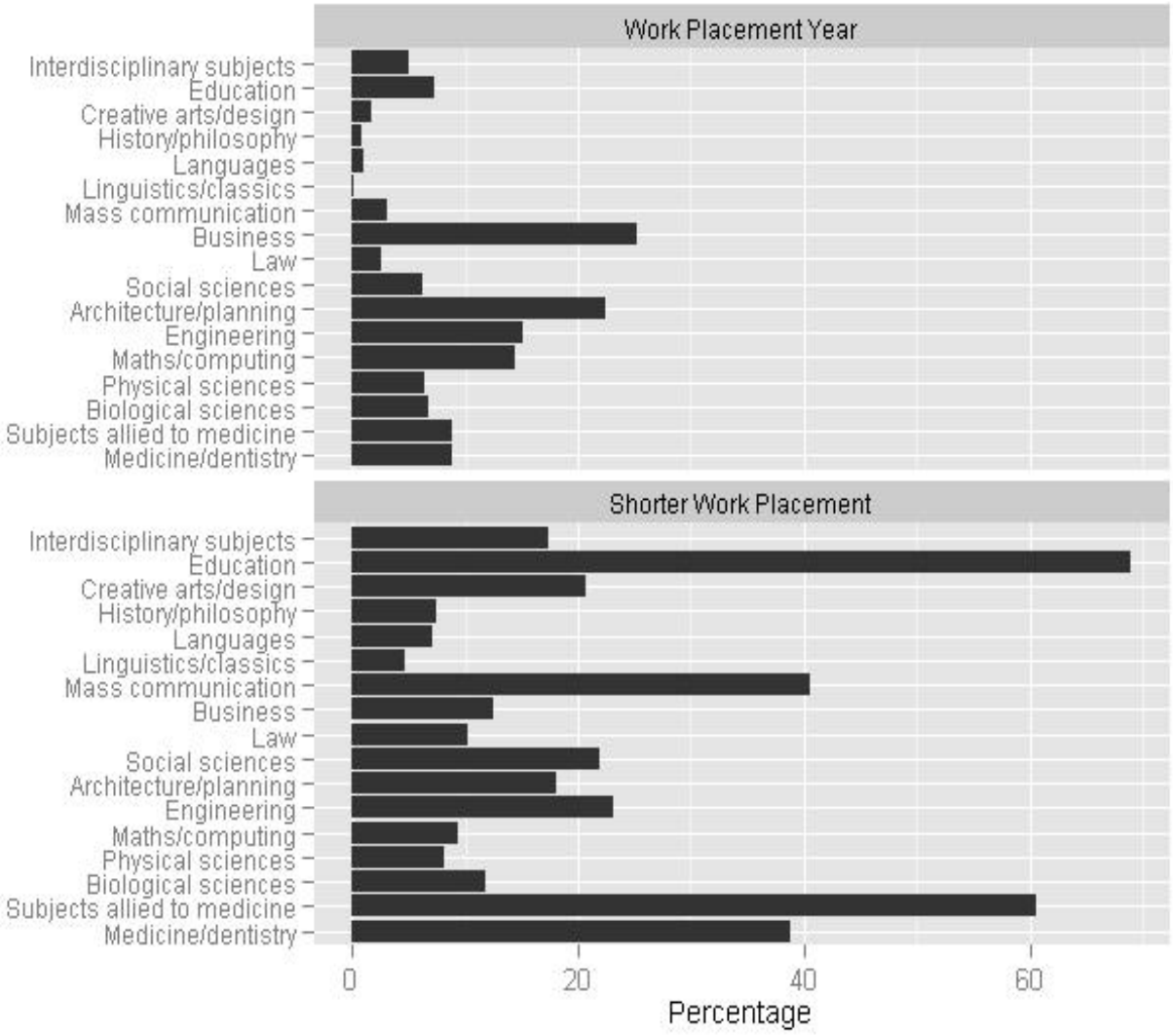

Figure 36 Participation in work placements at stage 3 by subject (Appendix A Table 50)

Stage 4

Table 7 shows the different combinations of work experience that respondents reported undertaking at stage 4. The figures on the diagonal of the table give the number of respondents undertaking each type of work experience while the off-diagonal figures show the number of respondents who undertook both the type of work experience in the table row and the type of work experience in the table column. For example, the diagonal row of the table shows that a total of 932 respondents undertook a sandwich year while the off-diagonal figures show that 311 respondents who undertook a sandwich year also undertook paid work for money. The table shows that the proportion of respondents who

reported undertaking no work-related activities while studying is around 18.4 per cent (n = 1802). The most common types of work-related activities reported by the respondents were paid work, either for money (45.1 per cent, n = 4411) or for career-related reasons (21.1 per cent, n = 2062), unpaid work for career-related reasons (26.4 per cent, n = 2587), structured work placements (17.5 per cent, n = 1712) and vacation internships (10.3 per cent, n = 1014). In comparison, the proportion of respondents who reported undertaking a sandwich year (9.5 per cent, n = 932), assessed project work (6.8 per cent, n = 669) or other (4.1 per cent, n = 403) were relatively low.

Table 7 Number of respondents undertaking different combinations of work-related activities

	Work-related Activity								
Work-related Activity	Paid work (money)	Paid work (career)	Unpaid work	Sandwich year	Work placement	Project work	Internship	Other	None
Paid work (money)	4411								
Paid work (career)	1099	2062							
Unpaid work	1321	737	2587						
Sandwich year	311	224	148	932					
Work placement	493	409	545	57	1712				
Project work	229	205	285	82	323	669			
Internship	523	432	353	64	108	84	1014		
Other	165	81	124	19	64	36	33	403	
None	–	–	–	–	–	–	–	–	1802
Total	4411	2062	2587	932	1712	669	1014	403	1802

Note: total number of respondents = 9765

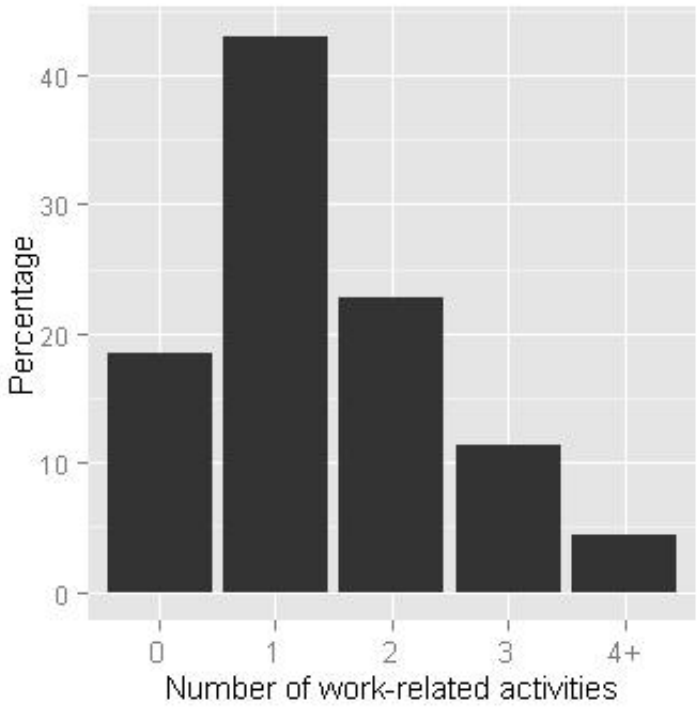

Figure 37 Histogram of the number of work-related activities reported at stage 4.

Figure 37 shows a histogram of the number of work-related activities undertaken by each respondent. The figure shows that while a majority of respondents reported undertaking either no work-related activity (18.4 per cent, n = 1802) or only one type of work (43.0 per cent, n = 4203), a significant proportion of respondents reported undertaking two (22.7 per cent, n = 2225), three (11.3 per cent, n = 1112) or 4 or more (4.3 per cent, n = 423) types of work.

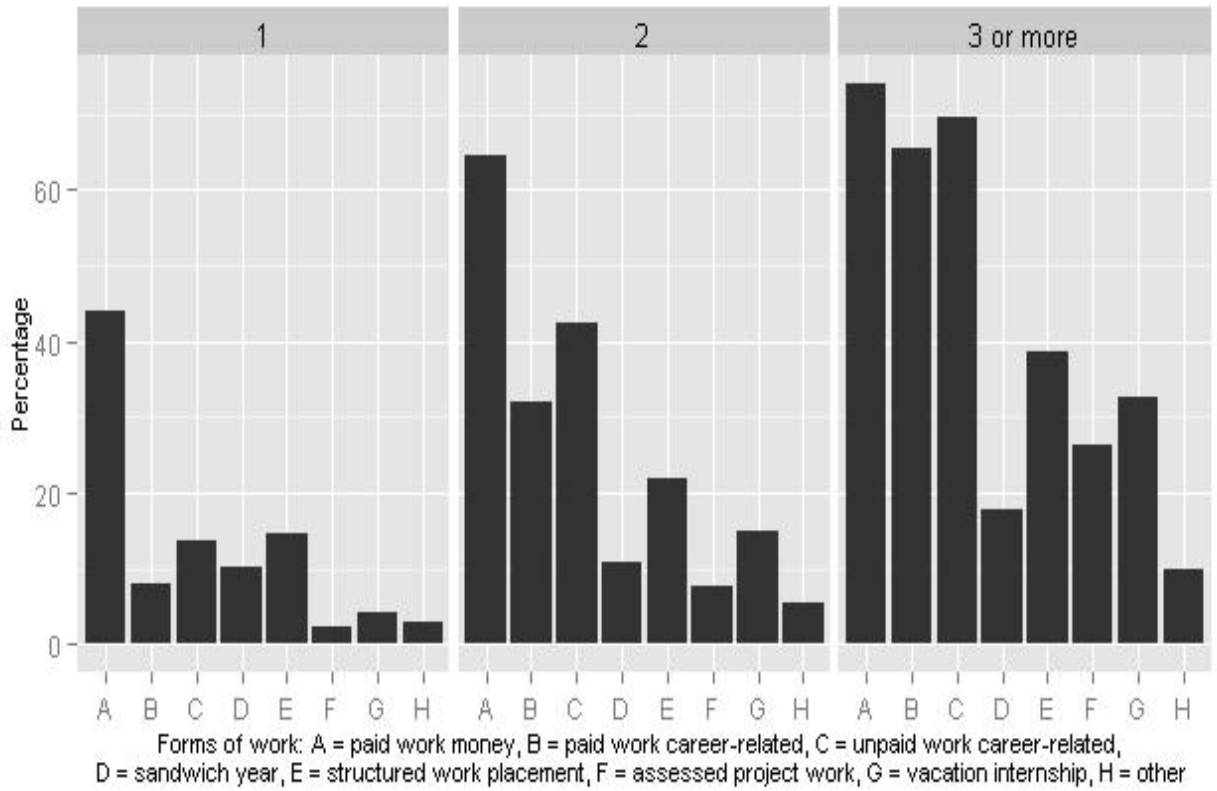

Figure 38 Work-related activities undertaken by respondents separately for respondents reporting 1, 2 or 3 or more work-related activities (Appendix A Table 51).

Figure 38 shows the proportion of respondents who reported undertaking different work-related activities for respondents who reported undertaking one (n = 4203), two (n = 2225) or three or more (n = 1535) different work-related activities. The figure shows that paid work for money is the most common type of work-related activity undertaken by respondents independently of how many work-related activities they reported. Respondents who did more than one type of work-related activity were therefore likely to do other types of work in addition rather than as an alternative to doing paid work. Figure 38 also shows, however, that although the proportion of respondents doing paid work rises with the number of work-related activities undertaken, the proportion of respondents undertaking other types of work-related activities shows a greater rise. In particular, the proportion of respondents undertaking assessed project work, vacation internships, paid work (career-related) and unpaid work (career-related) rise by a factor of around five as the number of activities undertaken rises from one to three. Although only a small proportion of respondents undertake three or more different types of activity, certain activities, such as assessed project work and vacation internships, tend to be over-represented among respondents who undertake a large number of different types of work-related activities.

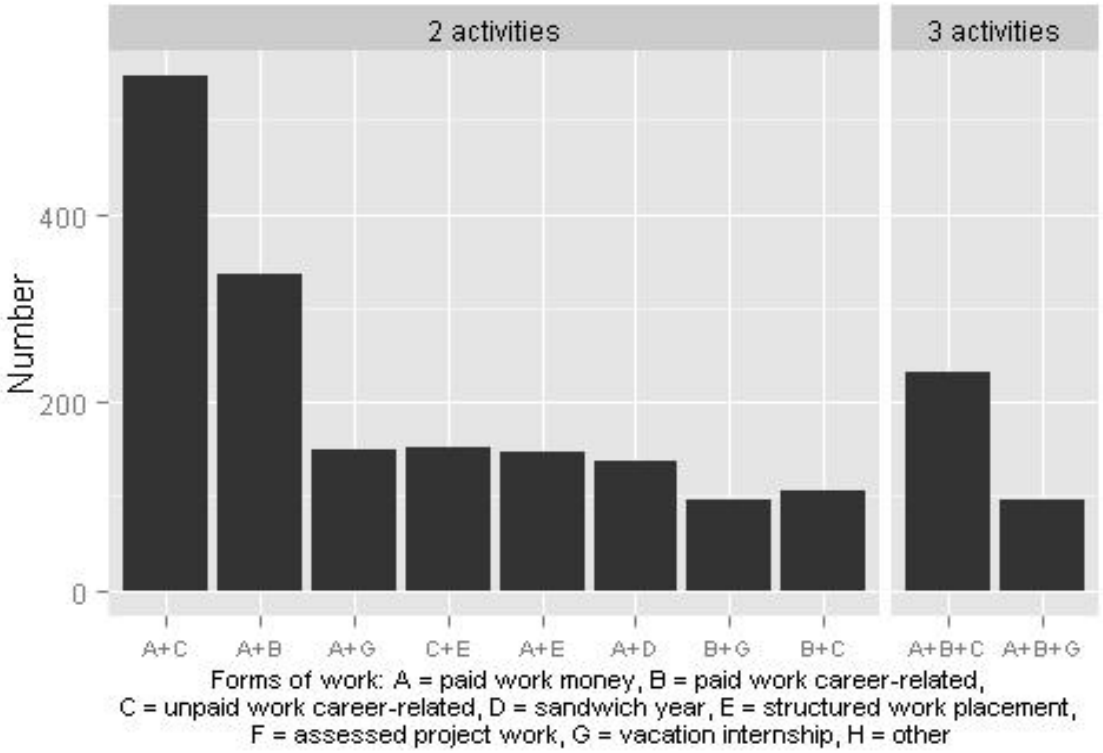

Figure 39 Most common combinations of different types of work-related activities.

Figure 39 shows the most common combinations of different types of work experience reported by respondents. The most common patterns of participation were organised around either paid work (for money) or paid work (career related). The only combination of activities which did not involve paid work was the combination unpaid work (career related) and structured work placements (or C+E). Although it was common for respondents to do more than one activity relatively low numbers of respondents reported the same patterns of participation. The only combinations of different types of work with more than 300 responses were paid work (for money) plus paid work (career related) and paid work (for money) plus unpaid work (career-related).

Individual Characteristics

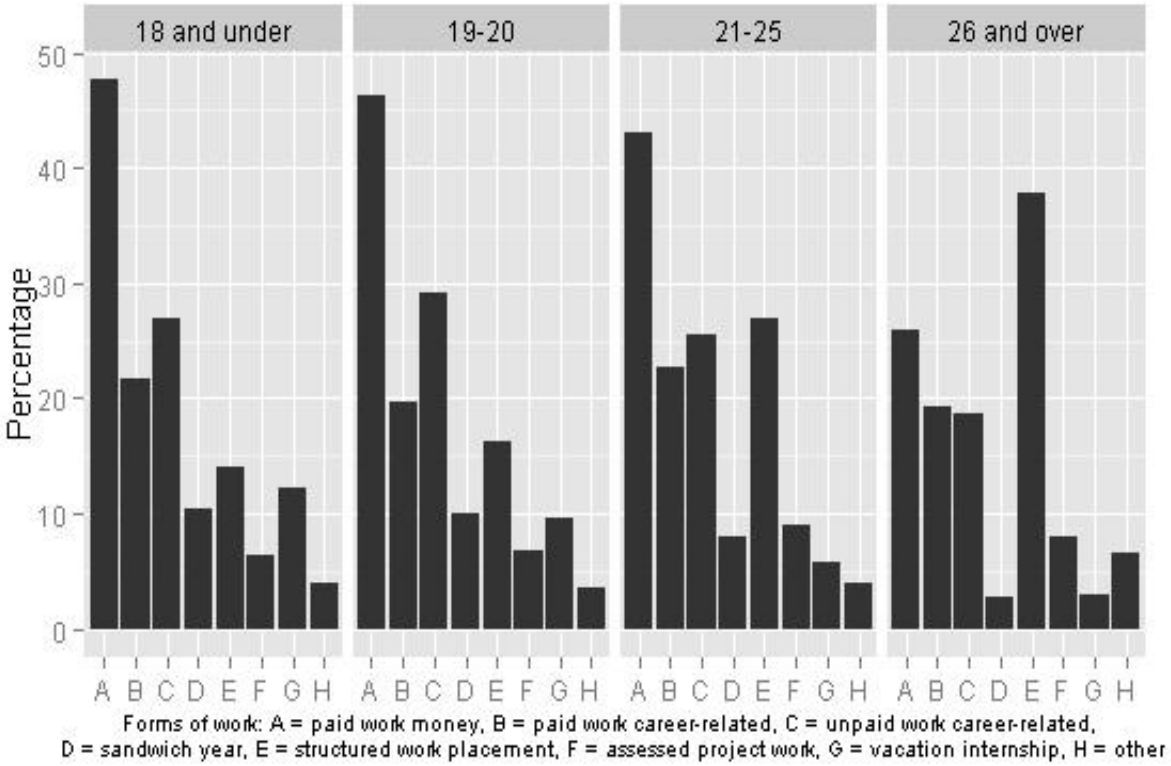

Figure 40 Work-related activities at stage 4 by age group (Appendix A Table 52)

Figure 40 shows how the proportion of respondents undertaking different types of work varies with age at entry to HE. The participation in different types of work differs between age groups. The figure shows that respondents in the oldest age group (age 26 years and over) were less likely to have undertaken paid work and were more likely to have undertaken no paid work in comparison to respondents in the remaining age groups. While 25.9 per cent of respondents aged 26 years and over had undertaken paid work for money, more than 40 per cent of respondents in each of the younger age groups had reported undertaking paid work for money. The figure also shows that the proportion of respondents undertaking a work placement increases steadily with age with over 30 per cent of respondents in the oldest age group having reported undertaking a work placement. The proportion of respondents who undertook either a sandwich year or vacation internship shows the opposite trend with age with a higher proportion of respondents in the youngest age groups undertaking these types of activities.

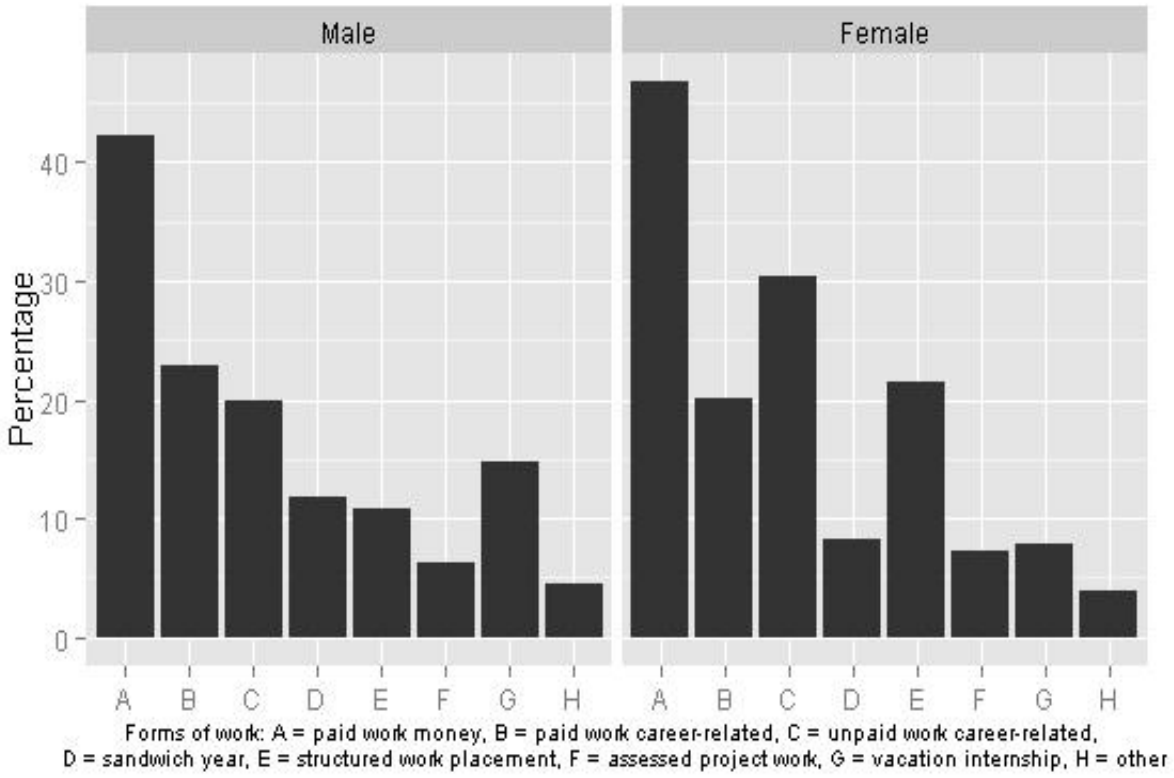

Figure 41 Work-related activities at stage 4 by gender (Appendix A Table 53)

Figure 41 shows the proportion of male and female respondents who undertook different types of work. In keeping with the previous results, women were more likely than men to have undertaken either paid work for money (46.9 vs 42.3 per cent), unpaid work (30.3 vs 19.8 per cent) or a structured work placement (21.4 vs 10.8 per cent) while men were more likely than women to have undertaken either a sandwich year (11.8 vs 8.2 per cent) or a vacation internship (14.7 vs 7.9 per cent).

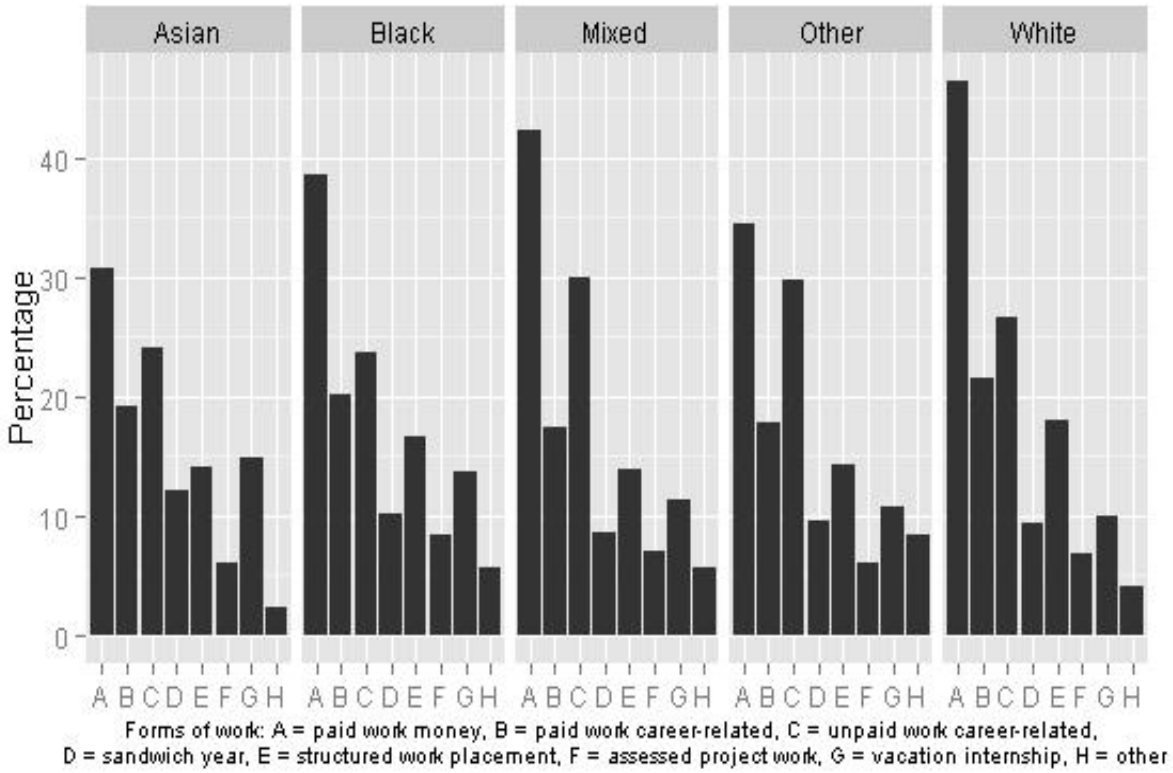

Figure 42 Work-related activities at stage 4 by ethnic group (Appendix A Table 54)

Figure 42 shows the proportion of respondents from different ethnic groups who undertook different types of work[6]. The figure shows that in comparison to the remaining groups a higher proportion of respondents from White backgrounds had undertaken paid work for money (46.5 per cent). Respondents from White and Black backgrounds were also more likely to have undertaken a work placement in comparison to respondents from the remaining groups (17.9 and 16.7 per cent) while respondents from Asian backgrounds were more likely than remaining respondents to have undertaken a vacation internship (14.8 per cent). The results suggest that there is significant heterogeneity in the experience of work within ethnic groups, however, and more than 20 per cent of respondents from the Asian and Black groups had done no work.

[6] It is important to note that the number of respondents from ethnic minority backgrounds at stage 4 is relatively low and caution is needed in interpreting the variation in the types of work undertaken by respondents from different ethnic groups.

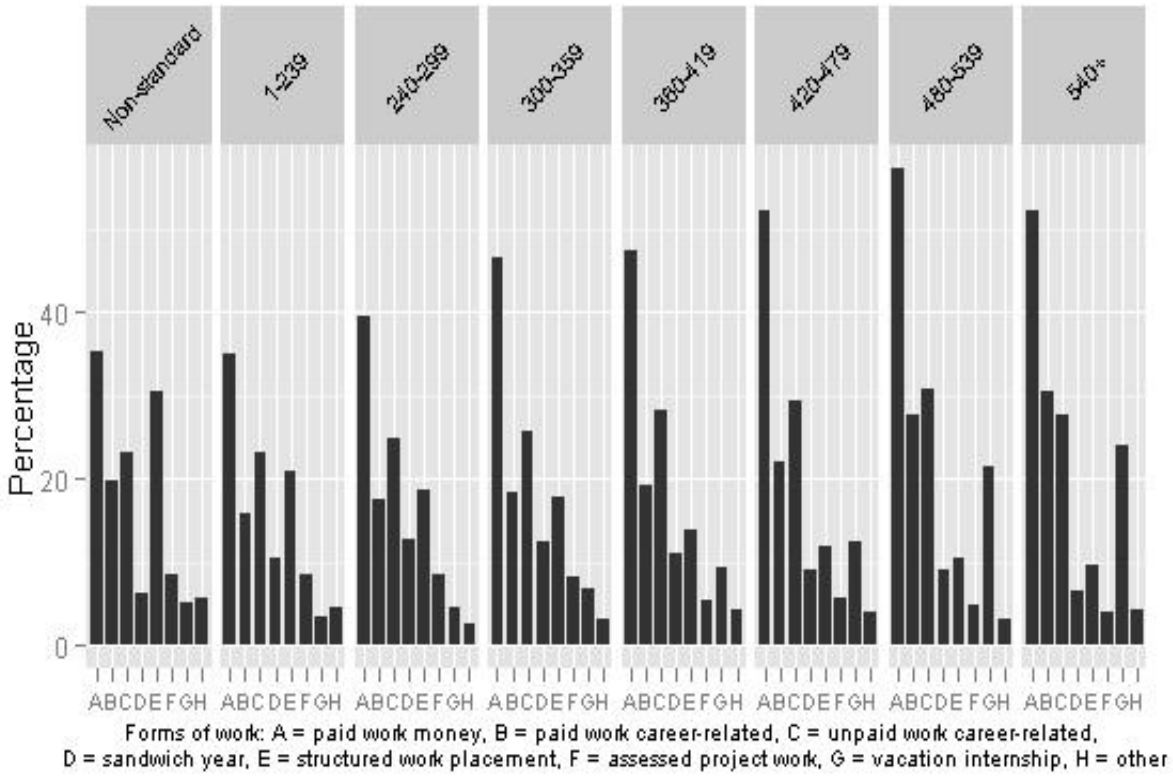

Figure 43 Work-related activities at stage 4 by prior level of academic achievement (Appendix A Table 55)

Figure 43 shows how the participation in different types of work varies depending on the level of prior academic achievement of the respondent. The figure shows a positive gradient in the likelihood of undertaking paid work with increasing level of prior qualifications which is attenuated slightly for the highest level of prior qualifications. Similarly, the likelihood of undertaking a vacation internship increases with the level of prior qualifications with respondents in the top two categories of prior academic achievement having a notably higher likelihood of undertaking a vacation internship than remaining respondents. Not all types of work were positively associated with the respondent's prior level of academic achievement, however. In particular, the figure shows a marked negative gradient in the proportion of respondents undertaking work placements with increasing level of prior qualifications while the proportion of respondents undertaking sandwich years and unpaid work showed little association with the respondent's prior level of qualifications.

Family Background

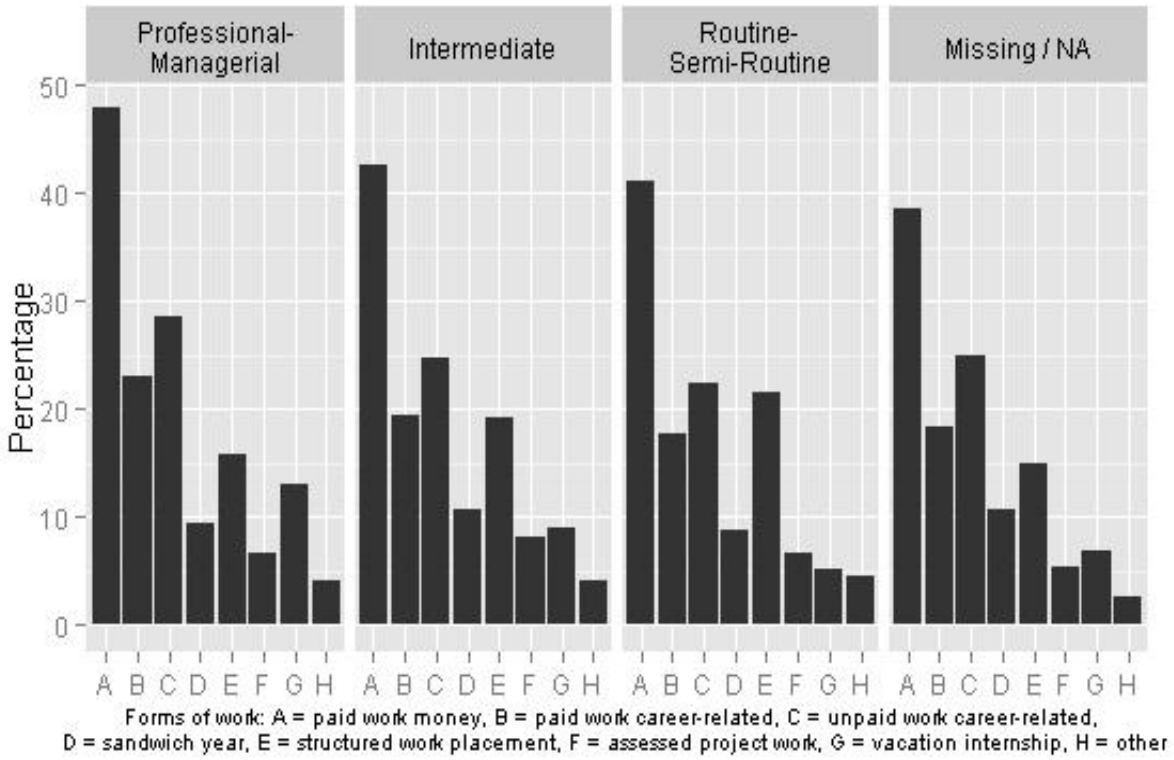

Figure 44 Work-related activities at stage 4 by parental occupation (Appendix A Table 56)

Figure 44 shows how the participation in different types of work varies according to the type of occupation of the respondent's parents. The figure shows that respondents with missing or unavailable information on parental occupation are distinguished by the low proportion who reported undertaking paid work (either for money or career-related) with only 56.9 per cent of respondents who had missing or unavailable information on parental occupation reporting undertaking paid work. The variation in the type of work undertaken between respondents who reported a parental occupation was less notable. Respondents whose parents worked in professional and managerial jobs were more likely, however, to have undertaken a vacation internship (13.0 per cent) but less likely to have undertaken work placements (15.8 per cent) in comparison to respondents with parents who worked in either intermediate or routine/manual occupations.

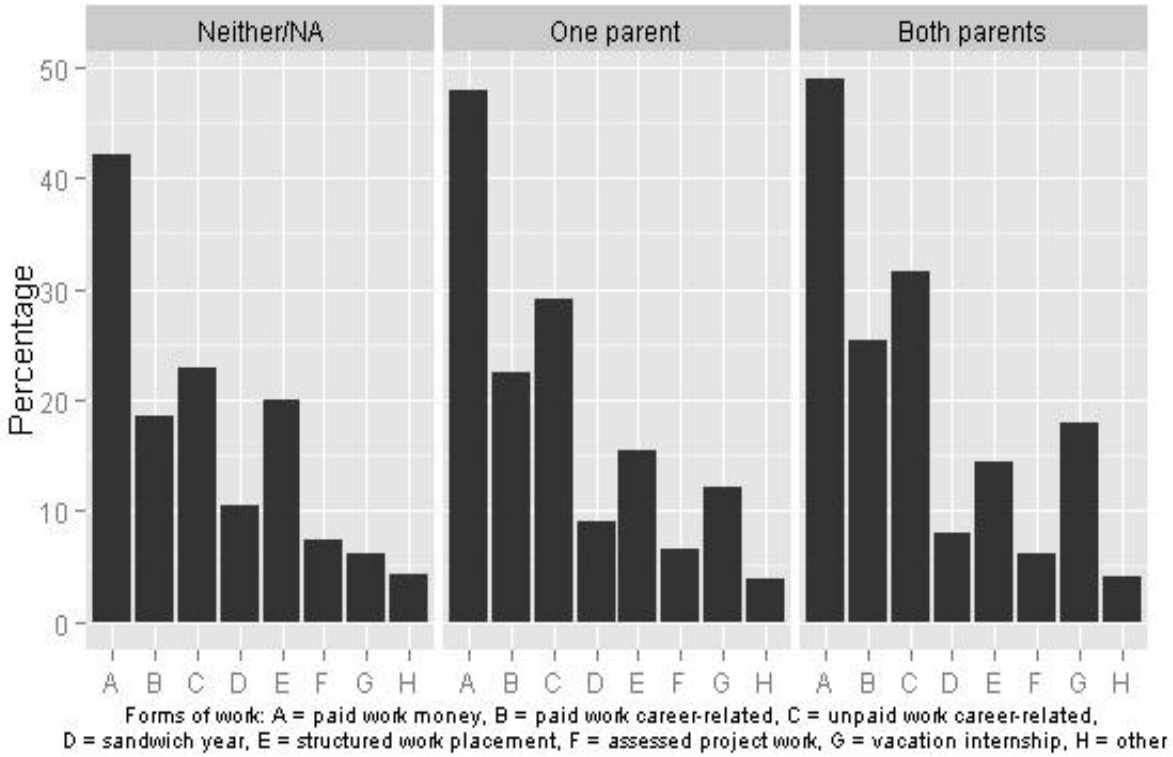

Figure 45 Work-related activities at stage 4 by parental education (Appendix A Table 57)

Figure 45 shows the variation in the types of work undertaken by the respondent according to whether the respondent's parents had been to university or not. Overall, 74.4 per cent of respondents who had two parents who had been to university had undertaken paid work (either for money or career related) while only 60.7 per cent of respondents who did not have a parent who had been to university had undertaken paid work. Respondents who had two parents who had been to university were also more likely to have undertaken unpaid work (31.6 per cent) or a vacation internship (17.9 per cent) in comparison to respondents who did not have a parent who had been to university. Respondents who did not have a parent who had been to university were more likely, however, to have undertaken a structured work placement (19.9 per cent) in comparison to respondents who had either one (15.5 per cent) or two (14.4 per cent) parents who had been to university.

Institutional Factors

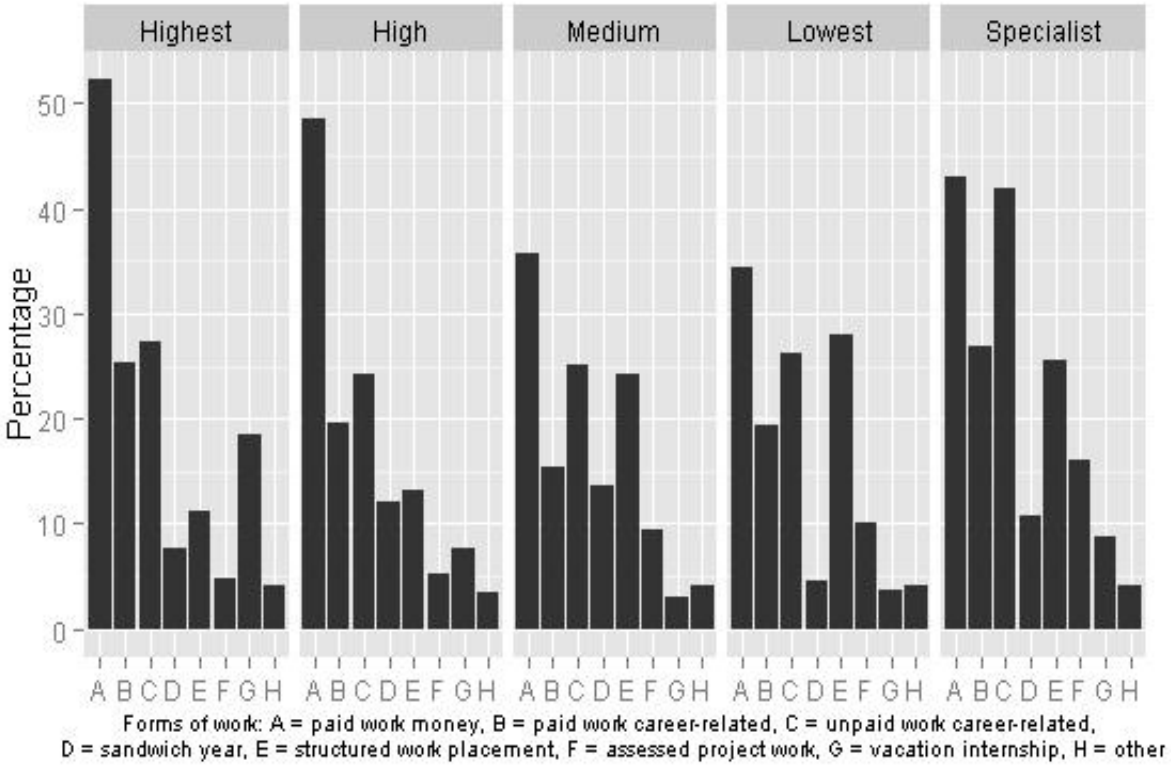

Figure 46 Work-related activities at stage 4 by type of institution (Appendix A Table 58)

Figure 46 shows how respondent's participation in different types of work varied across the different types of institution. The figure shows that respondents at institutions in the highest and high tariff categories were more likely to have undertaken paid work either for money or career-related reasons (77.7 and 68.0 per cent) but less likely to have undertaken work placements (11.3 and 13.1 per cent) in comparison to respondents at the remaining institutions. The figure also shows that respondents at institutions in the highest tariff category were significantly more likely than respondents at the remaining types of institution to have undertaken a vacation internship (18.5 per cent) while respondents at institutions in the high, medium and specialist categories were more likely to have undertaken a sandwich year (12.2, 13.6 and 10.8 per cent) than respondents at the remaining types of institution.

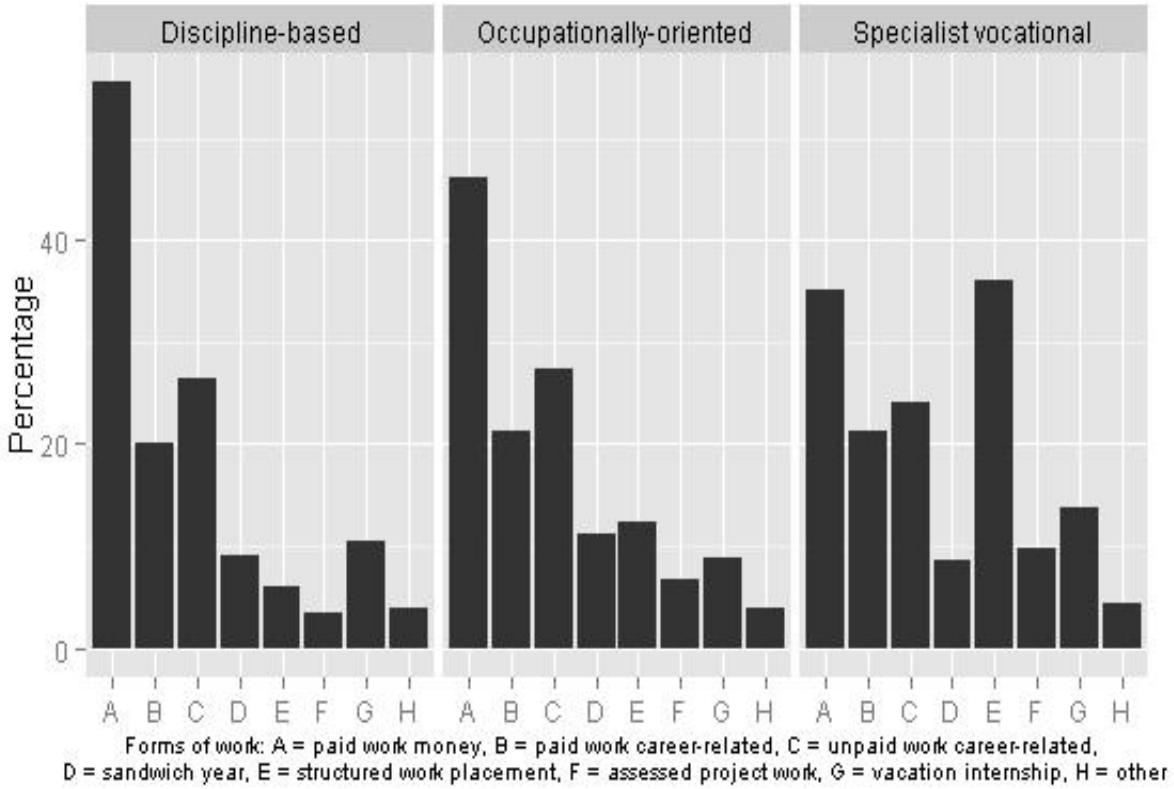

Figure 47 Work-related activities at stage 4 by broad subject group (Appendix A Table 59)

Figure 47 shows how the type of work undertaken varied across the following broad subject groups: specialist vocational subjects, occupationally-oriented subjects and discipline-based subjects. The figure shows that the different types of work were not evenly distributed across subject groups. In particular, specialist-vocational subjects were distinguished by the high proportion of respondents undertaking work-placements (35.9 per cent) while occupationally-oriented and discipline-based subjects were distinguished by the high proportion of respondents undertaking paid work for money (46.1 and 55.6 per cent). The proportion of respondents who had undertaken a vacation internship was also highest for specialist-vocational subjects (13.7 per cent) although the variation in the proportion of respondents undertaking this type of work across subject areas was not large.

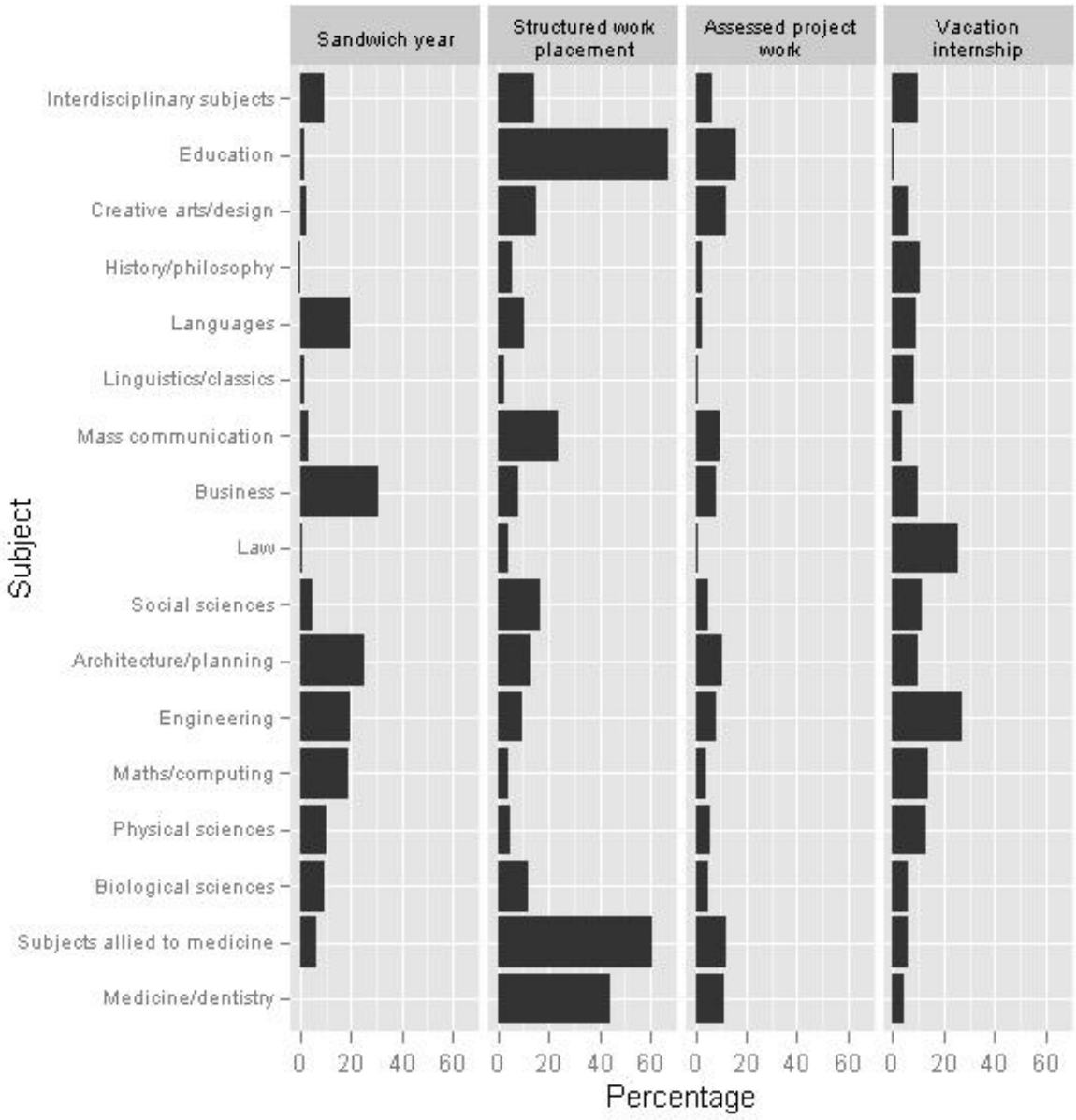

Figure 48 Work-related learning at stage 4 by subject (Appendix A Table 60)

Figure 48 shows in more detail the subjects studied by respondents who reported undertaking work-related learning activities, such as work placements and vacation internships. The figure shows that structured work placements were concentrated in subject areas such as Education and Subjects Allied to Medicine. In contrast, sandwich years were most commonly undertaken in Business, Architecture/planning and Engineering while vacation internships were also commonly reported by students studying either Law or Engineering.

Summary

In summary, the results show that participation in work placements and sandwich years was strongly influenced by both subject area and type of institution. Respondents who

were studying Education or Subjects Allied to Medicine were most likely to have undertaken a work placement while those who were studying subjects such as Business or Engineering were most likely to have undertaken a sandwich year. Respondents who were at the highest tariff institutions were the least likely to have undertaken a work placement although this is likely to partly reflect the subjects that respondents at different institutions were studying. The results also showed, however, that participation in certain forms of work was quite selective in terms of individual characteristics. In particular, respondents with the highest levels of prior educational achievement were most likely to have undertaken a vacation internship while work placements were an important source of work experience for students from disadvantaged backgrounds.

7 Statistical Analysis

Methodology

The final question this report examines is the relationship between the work experience that students undertake while studying and the transitions they make into the labour market after graduation. The descriptive analysis has shown that there are differences in characteristics between respondents who did and did not undertake work experience which might also be expected to influence transitions into the labour market. In order to examine whether work experience had an independent effect on labour market outcomes regression analysis was used to control for differences in the characteristics of respondents who did and did not undertake work experience. The regression analysis was undertaken in two steps. In the first step we examined a model with the following stage 1 characteristics as explanatory variables: the respondent's age, gender, ethnicity, family background characteristics, prior level of educational achievement, subject and institution type. In the second step we added information from stage 4 on the type of work undertaken by the respondent while at university to the explanatory variables. The comparison of results from the two models allows us to see how far the respondent's outcomes are associated with their background characteristics prior to starting HE. It also allows us to see whether any association might be mediated by, or channelled through, the respondent's participation in work while at university, or whether work experience has an effect on respondent's outcomes that is independent of the other model characteristics. The analyses are restricted to respondents who had no missing data at stages 1 and 4 for the characteristics included in the analysis. Respondents who did not provide information at either stage 2 or stage 3 are, however, included in the analysis.

The effects of two forms of work were examined: work-related activities that were planned and supported and where there was an intended employment benefit for the student (work-based learning) and work where the benefit to the student was intended to be more clearly financial (paid work). Work-based learning comprised participation in a sandwich year, work placement, project work or a vacation internship while paid work included work that respondents had undertaken for career reasons as well as primarily for money. Because the different forms of work-based learning are intended to have an employment benefit for the participants, the pathway between participation in work-based learning and graduate outcomes was considered likely to be stronger than that for paid work. The analysis distinguished between respondents who had undertaken no work, only paid work, only work-based learning and both paid work and work-based learning. For simplicity, respondents who had undertaken only unpaid work were dropped from the analysis (n = 549).

For the purpose of the analysis in this report we identified five outcome variables. The outcomes examined were class of degree (first or upper-second class degree vs. lower-second, third or ordinary degree), current unemployment and, if employed, annual gross pay and whether the respondent had obtained a graduate job (an occupation in SOC major groups one to three). We also examined the respondent's report of their level of self-confidence (excellent, very good and good vs. adequate and not very good). The outcomes were chosen either to indicate the development of social and technical skills

during HE or successful progress into the labour market following HE. The class of degree provides a measure of the skills and qualifications obtained by the respondent while at university while self-confidence may be related to the development of a wide range of skills and abilities. In contrast, the experience of unemployment is likely to be associated with loss of skills. Working in a job for which a degree is a general requirement was used to assess whether the respondent was using the skills gained during HE and the wage is the most commonly used measure of the economic return to investment in education.

Logistic regression was used in all analyses except those where the dependent variable was the wage which used a linear regression model. Appendix B gives details of the models used and their interpretation. Self-confidence was reported at the stage 1 survey and in the analyses where self-confidence was the dependent variable, self-confidence at stage 1 was also included as an explanatory variable. The coefficients in the model for self-confidence therefore have a conditional interpretation indicating the probability of self-confidence at stage 4 after controlling for self-confidence at stage 1. The Futuretrack database contains weights, which account for the effect of attrition on the longitudinal analyses. The analyses here were conducted with and without the weights. There was no significant difference in results and we present the unweighted results.

Results

Table 8 shows the means of the variables included in the analysis separately for respondents who undertook paid work, work-based learning, both paid work and work-based learning and no work. The table shows that there are significant differences in the characteristics of respondents who undertook different forms of work. In comparison to women, a higher proportion of men had undertaken no work (24.5 vs 18.9 per cent). The respondent's age was also an important factor related to the different types of work experience. Respondents in the oldest age group were more likely to have undertaken work-based learning (31.6 per cent) than those in the younger age groups while respondents in the youngest age group were most likely to have undertaken only paid work (41.3 per cent).

Participation in paid work was also stratified according to the respondent's prior level of academic achievement. The relationship between participation in paid work and the respondent's prior level of academic achievement depended, however, on the type of work undertaken. The table shows that there is a positive gradient in the proportion of respondents undertaking either paid work or paid work and work-based learning across the categories of the respondent's tariff score. For example, the proportion of respondents who had undertaken only paid work increased from 33.7 per cent for respondents in the lowest tariff score category to 43.5 per cent for respondents in the highest tariff score category. In contrast, the proportion of respondents who had undertaken either only work-based learning or who had undertaken no work experience showed the opposite association with the respondent's prior level of academic achievement. Work-based learning was reported as the only experience of work by 25.4 per cent of respondents in the lowest tariff score category but by only 14.8 per cent of those in the top tariff score category. Respondents who had undertaken no work while studying were also more likely to be from disadvantaged family backgrounds in comparison to respondents who had undertaken paid work whether or not paid work was combined with work-based learning.

As expected, respondents were more likely to have undertaken work-based learning if they had studied either a specialist-vocational (34.5 per cent) or occupationally-oriented (17.7 per cent) subject in comparison to respondents who had studied a discipline-based subject (10.1 per cent). The variation in the proportion of respondents from different types of institution who had undertaken different forms of work was similar to that between the respondent's tariff score and participation in paid work. Respondents at institutions in the highest tariff category were the group least likely to have undertaken no work (17.8 per cent) and most likely to have undertaken only paid work (43.6 per cent) while respondents at institutions in the medium tariff category were the group most likely to have undertaken only work-based learning (28.5 per cent).

Table 8 Means of explanatory variables separately by type of work undertaken

Individual Characteristic	Type of Work Experience: Paid work only		Work-based learning		Both paid work and work-based learning		None		
	Col%	Row%	Col%	Row%	Col%	Row%	Col%	Row%	Total
Gender									
Male	35.3	36.7	35.8	19.1	37.5	19.7	43.9	24.5	3184
Female	64.7	40.6	64.2	20.7	62.5	19.8	56.1	18.9	5277
Age Group									
<= 18 years	67.6	41.3	59.0	18.6	65.0	20.1	60.9	20.0	5411
19-20 years	21.2	39.6	20.6	19.8	20.3	19.2	21.4	21.4	1773
21-25 years	6.0	35.0	7.1	21.4	7.7	22.8	6.6	20.7	565
26 years and over	5.2	24.3	13.2	31.6	7.0	16.4	11.1	27.7	712
Ethnicity									
Asian	4.2	27.8	6.9	23.7	5.4	18.1	8.5	30.4	497
Black	1.6	28.7	2.3	20.7	2.9	25.5	2.6	25.0	188
White	90.8	40.2	86.6	19.7	88.7	19.9	84.6	20.1	7464
Mixed	2.7	36.8	3.2	23.0	2.4	17.2	3.1	23.0	239
Other	0.8	35.6	0.9	21.9	0.6	13.7	1.2	28.8	73
Parental Occupation									
Professional/managerial	60.0	40.9	53.3	18.7	62.1	21.4	51.8	19.0	4850
Intermediate	16.7	36.6	20.1	22.6	17.1	19.0	18.6	21.8	1513
Routine/manual	19.4	37.1	22.3	22.0	17.2	16.7	23.5	24.2	1726
Missing/NA	3.9	34.9	4.4	19.9	3.6	16.1	6.1	29.0	372
Parental Education									
Neither/not declared	49.9	37.5	56.6	21.9	45.7	17.4	57.8	23.3	4405
One of parents	26.3	40.7	23.3	18.6	26.7	21.0	23.7	19.7	2134
Both parents	23.9	41.1	20.1	17.8	27.5	24.0	18.5	17.1	1922
UCAS Tariff Score									
Non-standard	13.4	30.3	22.9	26.6	17.3	19.8	19.2	23.3	1464
1-239	8.6	33.7	12.6	25.4	7.0	14.0	12.8	26.9	843
240-299	8.1	35.4	10.0	22.5	7.5	16.7	10.8	25.3	754
300-359	13.8	39.5	14.8	21.7	12.4	17.9	13.7	21.0	1158
360-419	16.2	42.7	13.6	18.5	13.1	17.6	15.0	21.2	1252
420-479	15.8	44.5	11.1	16.1	13.8	19.7	13.1	19.8	1174
480-539	11.9	44.6	7.0	13.4	14.3	27.0	7.5	15.0	886
540+	12.2	43.5	8.1	14.8	14.6	26.2	8.1	15.4	930
Subject Group									
Specialist-vocational	15.7	24.7	42.6	34.5	31.6	25.2	18.4	15.6	2099
Occupationally-oriented	55.0	41.3	45.7	17.7	48.9	18.6	55.7	22.4	4407
Discipline-based	29.3	49.6	11.6	10.1	19.5	16.7	25.9	23.5	1955
Institution Type									
Highest	43.3	43.6	28.9	15.0	46.1	23.5	33.0	17.8	3284
High	29.1	44.0	23.0	17.9	20.9	16.0	27.4	22.2	2191
Medium	17.8	29.5	33.4	28.5	21.4	17.9	27.0	24.1	1995
Lowest	7.2	32.7	11.0	25.7	7.2	16.5	10.3	25.1	728
Specialist	2.6	32.7	3.6	23.6	4.4	28.1	2.3	15.6	263
Number of respondents	3309		1701		1675		1776		

Table 9 shows the mean outcomes for respondents who had undertaken different forms of work experience. The table shows that there are significant differences in the outcomes of respondents who undertook different forms of work. In particular, respondents who had undertaken no work experience had the highest unemployment rate at nearly 15 per cent. In contrast, respondents who had undertaken either work-based learning or paid work and work-based learning had the lowest unemployment rates of 7.7 per cent and 6.1 per cent, respectively, while that for respondents who had undertaken only paid work was at an intermediate level (9.2 per cent). Respondents who had undertaken either work-based learning or paid work and work-based learning and who were employed also had higher average salaries and were more likely to be working in a graduate job than those respondents who had undertaken only paid work or no work experience while studying.

Table 9 Proportion of respondents with each outcome separately by type of work undertaken

	Type of Work Experience				Number of respondents
	Paid work only	Work-based learning	Both paid work and work-based learning	None	
Outcomes					
Good degree	77.0	73.1	81.9	67.3	8386
Self-confidence	82.5	84.6	85.7	78.1	8389
Unemployment	9.2	7.7	6.1	14.9	8384
Graduate job	36.2	59.4	55.2	33.6	6057
Wage[1]	19442.3	22054.7	23581.6	18343.6	6278

[1] the figures for the wage give the mean wage

Good Degree

Table 10 gives the regression coefficients (β's) and corresponding t-statistics from the model with the degree outcome as the dependent variable. The results from the first model show that respondents in the oldest age group were more likely to have obtained a good degree than those in the youngest age group while respondents who were Black were less likely to have obtained a good degree than those who were White, after adjusting for the other model factors. Unsurprisingly, there is a significant positive gradient in the odds of a good degree with the respondent's prior level of academic achievement with those respondents with tariff scores in the top two categories of the achievement distribution having an odds of a good degree which are over five times those of respondents with tariff scores in the bottom category[7]. The results also show that there is a significant positive gradient in the odds of obtaining a good degree with parental occupation. Respondents

[7] In logistic regression, the exponentiated coefficients give the change in the odds of the outcome for the associated category of the explanatory variable compared to the omitted or reference category. See Appendix B for more details.

who were missing information on parental occupation and those with parents who worked in routine/manual occupations had an odds of obtaining a good degree which were 0.76 (or exp(-0.267)) and 0.81 times, respectively, those of respondents with parents who worked in professional and managerial occupations. Parental education had an effect on the odds of obtaining a good degree independently of parental occupation, with respondents who did not have a parent with a degree having a lower odds of obtaining a good degree in comparison to respondents who had two parents who had been to university. Respondents who studied an occupationally-oriented or discipline-based subject were more likely to have obtained a good degree than those from specialist vocational subjects. The type of institution was not strongly related to the odds of the respondent obtaining a good degree, however, although respondents at institutions in the medium tariff category were more likely to have obtained a good degree after adjusting for other factors.

The second model adds the type of work undertaken by the respondent while at university to the model. The results show that respondents who undertook each of the different forms of work had a higher odds of obtaining a good degree than those who did no work. The results of χ^2 tests show that respondents who undertook both learning-related and paid work had a higher odds of obtaining a good degree than respondents who undertook only learning-related ($\chi^2(1) = 11.5$, p-value < 0.001) or only paid work ($\chi^2(1) = 26.6$, p-value < 0.001). Most of the coefficients from the previous model show little change in sign or statistical significance, however, suggesting that the effect of work experience on the class of degree is largely independent of the other factors included in the model.

Self-confidence

The results from the models with self-confidence as the dependent variable (Table 10), show that a limited range of factors were significantly associated with the respondent's level of self-confidence. In the results from the first model, women had a lower odds of self-confidence in comparison to men while respondents who were from either Black or Asian backgrounds were more likely to report self-confidence in comparison to respondents from White backgrounds. The results also show a strong state dependence effect in self-confidence with respondents who were self-confident at stage 1 much more likely to be self-confident at stage 4 than those who were not self-confident at stage 1. In the model additionally adjusting for work experience, respondents who had undertaken the different forms of work while at university were more likely to be self-confident in comparison to those who had undertaken no work. The results of χ2 tests suggested that respondents who had undertaken both learning-related and paid work had a higher odds of being self-confident than those who had undertaken only paid work ($\chi^2(1) = 6.79$, p-value < 0.01). The hypothesis that respondents who had undertaken both learning-related and paid work had the same odds as respondents who had undertaken only learning-related work could not be rejected ($\chi^2(1) = 0.84$, p-value = 0.35), however. The addition of the work experience variable to the model did not result in any significant changes in the coefficients from the previous model.

Unemployment

The results from the models with unemployment as the dependent variable show that after adjusting for prior academic achievement and family background, men and respondents from Asian and Black backgrounds had a higher likelihood of unemployment than women

and respondents from White backgrounds, respectively (Table 11). The results also show a strong negative gradient in the odds of unemployment with increasing level of prior academic achievement, that is, respondents who had lower levels of prior academic achievement were more likely to be unemployed than those with higher levels of achievement. Differences in the risk of unemployment between respondents who had studied different subjects were also significant with respondents who had studied either occupationally-oriented or discipline based subjects having a higher odds of unemployment than respondents who had studied specialist-vocational subjects. There was no difference in the risk of unemployment between respondents who had studied at different types of institution, however, after controlling for the other model factors.

In the model additionally adjusting for work-experience, the results show that respondents who had undertaken each of the forms of work had a lower odds of unemployment than those who had not worked while at university. The magnitude of the effect of the different forms of work can be judged to be relatively large. In particular, respondents who had undertaken both work-related learning and paid work had an odds of unemployment which were around 50 per cent of that for respondents who had undertaken no work. The results of χ2 tests suggested that respondents who had undertaken both work-based learning and paid work had a lower odds of unemployment than those who had undertaken only paid work ($\chi^2(1) = 9.87$, p-value < 0.01) but a similar odds to those who had undertaken only work-based learning ($\chi^2(1) = 2.51$, p-value = 0.11). The addition of the work experience variable to the model resulted in some attenuation in the magnitude of the coefficients from the previous model, but there was no change in the statistical significance of the model coefficients.

Graduate job

Table 12 shows the results for the models with employment in a graduate-level job as the dependent variable. The results of the first model show that women had a lower odds of obtaining a graduate job than men. The odds of working in a graduate job were positively related to age, however, with respondents aged 26 years and over having an odds of obtaining a graduate job around twice that of respondents aged 18 years and under. The results do not show a gradient in the probability of obtaining a graduate job with the level of prior academic achievement, however, respondents with non-standard levels of prior academic achievement and those in the top two categories of prior academic achievement had a significantly higher odds of obtaining a graduate-level job in comparison to respondents with the lowest levels of prior academic achievement. Subject differences in the likelihood of obtaining a graduate-level job were also important with respondents from occupationally-oriented or discipline-based subjects having a lower odds of obtaining a graduate job than those from specialist-vocational subjects. The type of institution also made a difference to the likelihood of obtaining a graduate-level job with the odds of obtaining graduate employment being significantly lower for respondents from institutions with lower entry tariff scores.

In the model also adjusting for work experience, respondents who had undertaken each of the different types of work experience had a higher odds of working in a graduate-level job than those who did no work while at university. The results of χ2 tests showed that respondents who had undertaken both work-based learning and paid work had a significantly higher odds of obtaining a graduate-level job than respondents who had done only paid work ($\chi^2(1) = 64.67$, p-value < 0.001) but a similar odds to respondents who had

undertaken only work-based learning ($\chi^2(1) = 3.21$, p-value = 0.07). There was little change in the magnitude or statistical significance of the coefficients in comparison to the previous model except for the coefficient for non-standard levels of prior academic achievement which is now statistically insignificant. The removal of statistical significance from the coefficient for non-standard levels of prior academic achievement after controlling for work experience can be interpreted as indicating that work-experience mediated the relationship between non-standard levels of prior academic achievement and the likelihood of obtaining a graduate job. In this interpretation, work experience provides a pathway through which respondents with non-standard levels of prior achievement obtain graduate-level jobs. It is also likely, however, that factors such as work experience prior to entering university contribute to explaining the higher odds of a graduate job among respondents with non-standard levels of prior academic achievement.

Wages

Table 13 shows the results for the models with the wage as the dependent variable. For ease of interpretation the dependent variable in the model is the actual wage rather than the logarithm of the wage. The model coefficients for gender and age are of a reasonable magnitude and in line with prior expectations. The results for the first model show that women were paid around £2600 less than men with similar characteristics. The results also show that the wage received by respondents rises with age reflecting the influence of accumulated skills and prior labour market experience. The results for ethnic group were more surprising. Most studies find that individuals from ethnic minority backgrounds are paid less than similar individuals from White backgrounds (Blackaby et al. 2005). The results from Futuretrack suggest, however, that graduates from Asian and Black backgrounds have significantly higher wages than White respondents. For example, the results show that respondents from Asian backgrounds were being paid an average of around £1800 per year more than White respondents with similar characteristics. As noted previously, the number of respondents from ethnic minority backgrounds at stage 4 is relatively low and it is important to be cautious in interpreting this result. The results suggest that among this relatively highly educated group, however, respondents from ethnic minority backgrounds do not experience a wage penalty relative to their White counterparts.

The effect of the level of prior academic achievement on the wage was relatively weak after controlling for other factors. Respondents who had non-standard academic qualifications or who were in the top two categories of the distribution of prior academic qualifications did receive significantly higher wages than remaining respondents, however, with those in the highest category receiving a wage which was around £3600 higher than those in the lowest category of prior academic achievement.

In comparison to the individual respondent characteristics, the effect of family background characteristics on the respondent's wage was relatively modest. Respondents who had either one or no parent who had been to university had lower wages than those who had two parents who had been to university while respondents who were missing information on parental occupation had lower wages than those who had parents who worked in professional or managerial occupations. In keeping with the results of previous studies respondents in occupationally-oriented and discipline-based subjects had lower wages than those from specialist-vocational subjects while there was a positive gradient in the respondent's wage with increasing institution tariff score. Respondents from institutions in

the lowest tariff category had wages which were around £4500 lower than those from institutions in the highest tariff category.

In the model additionally controlling for work experience, respondents who had undertaken some form of work had a higher wage than respondents who had undertaken no work experience. The results of F tests show that the wage for respondents who had undertaken both work-based learning and paid work was higher than that for respondents who had undertaken either only work-based learning ($F(1) = 7.94$, p-value < 0.01) or only paid work ($F(1) = 148.36$, p-value < 0.001). The coefficients from the previous model were attenuated somewhat by adjusting for work experience but most of the significant associations remained. This can be interpreted as showing that work experience influences wages through similar routes to the other model factors but that work experience also has an effect on wages which is independent of other factors.

Table 10 Regression coefficients and t-statistics for respondent's class of degree

	Model I		Model II	
	Coef.	t-statistic	Coef.	t-statistic
Gender				
Male	–	–	–	–
Female	0.094	1.72	0.069	1.26
Age Group				
<= 18 years	–	–	–	–
19-20 years	-0.015	-0.22	-0.018	-0.27
21-25 years	0.151	1.23	0.146	1.18
26 years and over	0.336**	2.69	0.376**	2.98
Ethnicity				
Asian	-0.156	-1.45	-0.114	-1.05
Black	-0.620***	-3.96	-0.637***	-4.02
White	–	–	–	–
Mixed	0.069	0.42	0.093	0.57
Other	-0.098	-0.36	-0.048	-0.18
Tariff Score				
Non-standard	0.684***	6.38	0.659***	6.1
1-239	–	–	–	–
240-299	0.426***	4.01	0.418***	3.92
300-359	0.934***	9.16	0.918***	8.94
360-419	1.305***	11.92	1.299***	11.81
420-479	1.543***	13.14	1.539***	13.04
480-539	1.760***	13.13	1.714***	12.71
540+	1.872***	13.62	1.832***	13.27
Parental Occupation				
Professional/managerial	–	–	–	–
Intermediate	-0.073	-0.97	-0.073	-0.96
Routine/manual	-0.201**	-2.78	-0.192**	-2.64
Missing/NA	-0.267*	-2.12	-0.243	-1.92
Parental Education				
Neither/not declared	-0.175*	-2.21	-0.151	-1.89
One of parents	-0.153	-1.86	-0.144	-1.75
Both parents	–	–	–	–
Subject Group				
Specialist-vocational	–	–	–	–
Occupationally-oriented	0.407***	6.55	0.488***	7.6
Discipline-based	0.746***	9.19	0.862***	10.27
Institution Type				
Highest	–	–	–	–
High	0.122	1.65	0.150*	2.01
Medium	0.187*	2.3	0.197*	2.4
Lowest	0.19	1.78	0.213*	1.98
Specialist	0.192	1.2	0.138	0.86
Work Experience				
None				
Paid work			0.350***	5.05
Work-based learning			0.466***	5.8
Both paid work and work-based learning			0.765***	8.84
Constant	-0.231	-1.83	-0.668***	-4.84

* for p<.05, ** for p<.01, and *** for p<.001

Table 11 Regression coefficients and t-statistics for respondent's self-confidence

	Model I		Model II	
	Coef.	t-statistic	Coef.	t-statistic
Gender				
Male	–	–	–	–
Female	-0.205**	-3.11	-0.224***	-3.38
Age Group				
<= 18 years	–	–	–	–
19-20 years	-0.129	-1.62	-0.129	-1.61
21-25 years	-0.073	-0.47	-0.079	-0.51
26 years and over	-0.18	-1.15	-0.158	-1
Ethnicity				
Asian	0.331*	2.26	0.352*	2.4
Black	0.525*	2.06	0.516*	2.02
White	–	–	–	–
Mixed	0.059	0.31	0.072	0.38
Other	-0.302	-0.97	-0.286	-0.92
Tariff Score				
Non-standard	-0.179	-1.25	-0.198	-1.37
1-239	–	–	–	–
240-299	-0.186	-1.28	-0.198	-1.36
300-359	-0.057	-0.42	-0.072	-0.53
360-419	-0.088	-0.63	-0.098	-0.7
420-479	-0.134	-0.94	-0.155	-1.08
480-539	-0.118	-0.76	-0.152	-0.98
540+	-0.099	-0.63	-0.131	-0.83
Parental Occupation				
Professional/managerial	–	–	–	–
Intermediate	0.034	0.39	0.035	0.4
Routine/manual	-0.047	-0.54	-0.038	-0.44
Missing/NA	0.139	0.82	0.156	0.92
Parental Education				
Neither/not declared	-0.007	-0.08	0.008	0.09
One of parents	0.091	0.99	0.098	1.07
Both parents	–	–	–	–
Subject Group				
Specialist-vocational	–	–	–	–
Occupationally-oriented	-0.036	-0.47	0.007	0.09
Discipline-based	-0.007	-0.08	0.052	0.56
Institution Type				
Highest	–	–	–	–
High	0.017	0.21	0.029	0.35
Medium	-0.025	-0.26	-0.022	-0.23
Lowest	0.006	0.05	0.016	0.12
Specialist	0.128	0.65	0.095	0.49
Self-confidence at stage 1				
Low	–	–	–	–
High	1.738***	27.89	1.720***	27.5
Work Experience				
None			–	–
Paid work			0.209**	2.6
Work-based learning			0.280**	2.88
Both paid work and work-based learning			0.416***	4.22
Constant	0.671***	4.07	0.445*	2.55

* for p<.05, ** for p<.01, and *** for p<.001

Table 12 Regression coefficients and t-statistics for unemployment

	Model I		Model II	
	Coef.	t-statistic	Coef.	t-statistic
Gender				
Male	–	–	–	–
Female	-0.215**	-2.79	-0.181*	-2.33
Age Group				
<= 18 years	–	–	–	–
19-20 years	0.113	1.16	0.115	1.18
21-25 years	0.281	1.63	0.282	1.63
26 years and over	0.304	1.72	0.255	1.43
Ethnicity				
Asian	0.416**	2.82	0.372*	2.5
Black	0.613**	2.97	0.621**	2.99
White	–	–	–	–
Mixed	0.008	0.03	-0.009	-0.04
Other	0.287	0.82	0.248	0.71
Tariff Score				
Non-standard	-0.364*	-2.4	-0.328*	-2.14
1-239	–	–	–	–
240-299	-0.453**	-2.83	-0.445**	-2.76
300-359	-0.472**	-3.18	-0.440**	-2.95
360-419	-0.623***	-3.99	-0.604***	-3.85
420-479	-0.602***	-3.71	-0.574***	-3.52
480-539	-0.731***	-4.01	-0.661***	-3.61
540+	-1.167***	-5.78	-1.106***	-5.46
Parental Occupation				
Professional/managerial	–	–	–	–
Intermediate	0.169	1.59	0.172	1.61
Routine/manual	0.15	1.4	0.142	1.33
Missing/NA	0.135	0.74	0.097	0.53
Parental Education				
Neither/not declared	-0.199	-1.79	-0.230*	-2.06
One of parents	0.031	0.28	0.017	0.15
Both parents	–	–	–	–
Subject Group				
Specialist-vocational	–	–	–	–
Occupationally-oriented	0.618***	5.77	0.530***	4.85
Discipline-based	0.801***	6.58	0.675***	5.41
Institution Type				
Highest	–	–	–	–
High	0.026	0.24	-0.005	-0.05
Medium	-0.103	-0.85	-0.113	-0.93
Lowest	0.07	0.46	0.047	0.3
Specialist	0.283	1.4	0.347	1.7
Work Experience				
None			–	–
Paid work			-0.467***	-5.05
Work-based learning			-0.625***	-5.35
Both paid work and work-based learning			-0.846***	-6.76
Constant	-2.246***	-12.01	-1.740***	-8.75

* for p<.05, ** for p<.01, and *** for p<.001

Table 13 Regression coefficients and t-statistics for employment in a graduate job

	Model I		Model II	
	Coef.	t-statistic	Coef.	t-statistic
Gender				
Male	–	–	–	–
Female	-0.366***	-6.23	-0.395***	-6.61
Age Group				
<= 18 years	–	–	–	–
19-20 years	-0.152*	-2.04	-0.166*	-2.19
21-25 years	0.317*	2.2	0.354*	2.4
26 years and over	0.671***	4.51	0.691***	4.55
Ethnicity				
Asian	-0.165	-1.28	-0.194	-1.49
Black	-0.358	-1.73	-0.39	-1.87
White	–	–	–	–
Mixed	-0.253	-1.39	-0.278	-1.5
Other	-0.055	-0.16	-0.097	-0.28
Tariff Score				
Non-standard	0.289*	2.17	0.233	1.71
1-239	–	–	–	–
240-299	0.241	1.8	0.238	1.74
300-359	0.213	1.7	0.203	1.6
360-419	0.152	1.19	0.138	1.07
420-479	0.181	1.38	0.18	1.35
480-539	0.418**	2.96	0.404**	2.81
540+	0.483***	3.33	0.455**	3.09
Parental Occupation				
Professional/managerial	–	–	–	–
Intermediate	-0.155	-1.92	-0.191*	-2.33
Routine/manual	-0.078	-0.98	-0.069	-0.85
Missing/NA	-0.282	-1.88	-0.271	-1.77
Parental Education				
Neither/not declared	0.109	1.34	0.15	1.82
One of parents	0.036	0.43	0.057	0.66
Both parents	–	–	–	–
Subject Group				
Specialist-vocational	–	–	–	–
Occupationally-oriented	-1.601***	-23	-1.452***	-20.38
Discipline-based	-1.528***	-17.98	-1.304***	-14.9
Institution Type				
Highest	–	–	–	–
High	-0.360***	-4.73	-0.345***	-4.47
Medium	-0.513***	-5.85	-0.611***	-6.79
Lowest	-0.954***	-7.69	-1.024***	-8.12
Specialist	-1.254***	-6.35	-1.376***	-6.89
Work Experience				
None			–	–
Paid work			0.165*	1.99
Work-based learning			0.949***	10.17
Both paid work and work-based learning			0.790***	8.5
Constant	1.244***	8.44	0.726***	4.49

* for p<.05, ** for p<.01, and *** for p<.001

Table 14 Regression coefficients and t-statistics for the respondent's wage

	Model I		Model II	
	Coef.	t-statistic	Coef.	t-statistic
Gender				
Male	–	–	–	–
Female	-2588.8***	-11.97	-2694.9***	-12.68
Age Group				
<= 18 years	–	–	–	–
19-20 years	-182.9	-0.67	-228.2	-0.86
21-25 years	1947.2***	3.73	1944.1***	3.79
26 years and over	2381.9***	4.47	2370.5***	4.54
Ethnicity				
Asian	1797.4***	3.95	1808.1***	4.05
Black	1637.9*	2.29	1516.1*	2.16
White	–	–	–	–
Mixed	-200.5	-0.31	-187.2	-0.3
Other	-2554.2*	-2.2	-2600.3*	-2.28
Tariff Score				
Non-standard	943.0*	1.99	679.5	1.46
1-239	–	–	–	–
240-299	218.2	0.46	131.4	0.28
300-359	579.2	1.3	426.1	0.98
360-419	828.3	1.82	671.7	1.51
420-479	881.9	1.88	750.4	1.63
480-539	1923.2***	3.75	1615.9**	3.21
540+	3624.2***	6.88	3287.1***	6.36
Parental Occupation				
Professional/managerial	–	–	–	–
Intermediate	-502.5	-1.7	-598.9*	-2.07
Routine/manual	-348.1	-1.2	-279.5	-0.98
Missing/NA	-1065.3*	-1.98	-942.4	-1.78
Parental Education				
Neither/not declared	-783.1**	-2.6	-603.4*	-2.04
One of parents	-688.6*	-2.22	-578.2	-1.91
Both parents	–	–	–	–
Subject Group				
Specialist-vocational	–	–	–	–
Occupationally-oriented	-2759.3***	-11.04	-2011.7***	-8
Discipline-based	-4282.1***	-13.82	-3234.4***	-10.33
Institution Type				
Highest	–	–	–	–
High	-2578.6***	-9.13	-2446.1***	-8.83
Medium	-4133.1***	-12.92	-4339.2***	-13.77
Lowest	-4544.6***	-10.37	-4632.3***	-10.78
Specialist	-5294.3***	-8.48	-5709.5***	-9.32
Work Experience				
None			–	–
Paid work			1041.6***	3.63
Work-based learning			3571.6***	10.96
Both paid work and work-based learning			4463.8***	13.63
Constant	26273.6***	50.23	23748.6***	42.58

* for p<.05, ** for p<.01, and *** for p<.001

Summary

In summary, the results show that the transitions made by respondents into the labour market are influenced by the work experience they undertake while studying. In particular, respondents who had undertaken no work while studying were less likely to have made a successful transition into the labour market than respondents who had undertaken some form of work while studying. For some outcomes the effect of undertaking different forms of work had a cumulative effect such that respondents who had undertaken both work-based learning and paid work had the most positive outcomes. The magnitude of the effect of the different forms of work on the respondent's labour market outcomes can be judged to be relatively large. In particular, respondents who had undertaken both work-related learning and paid work had a notably lower odds of unemployment and a higher odds of self-confidence in comparison to respondents who had undertaken no work.

There were situations in which we could interpret our results as showing that work experience provided a pathway which mediated the relationship between the respondent's prior characteristics and labour market outcomes at stage 4. Most clearly work experience could be interpreted as mediating the relationship between having non-standard qualifications and working in a graduate job. Respondents who had non-standard qualifications were the group most likely to have worked while studying which, in turn, increased their likelihood of obtaining a graduate-level job after leaving HE, although further factors such as work experience prior to starting university are likely to play a role in the relationship between non-standard qualifications and working in a graduate job. In most cases, however, the effect of the respondent's characteristics on labour market outcomes appeared to work through factors other than the forms of work experience undertaken while studying.

Our results also add to previous findings concerning the significance of institution type for labour market outcomes. Respondents who were at higher entry tariff institutions were more likely to have obtained a graduate job and to have significantly higher wages in comparison to respondents from lower tariff institutions. Subject differences were also important with respondents who took specialist-vocational courses having the most positive outcomes. Our results showed that in most cases there was little association between the respondent's outcomes and characteristics of their family of origin after adjusting for prior level of qualifications and type of institution. We do not interpret this as showing that family characteristics are unimportant for student's achievements but rather that prior level of educational achievement, subject and institution type are the main pathways through which student's social origins influence their outcomes. The results also point to significant heterogeneity in the labour market outcomes of ethnic minority respondents. Respondents from Black and Asian backgrounds were more likely to be unemployed than White respondents. Respondents from Black and Asian backgrounds who were in work were also, however, paid higher wages than respondents with similar characteristics from White backgrounds.

The results suggest that the difference in outcomes between students who undertook different forms of work may be attributed to factors associated with the experience of work. Whether this conclusion is correct depends, of course, on whether we have been able to include the main factors influencing both the types of work experience respondents undertake and their subsequent outcomes in the analysis. In the present study, the data

used does have complete information on some of the background characteristics, such as age and parental occupation that are likely to influence the type of work experience students gained while at university. The data used does not, however, have information on factors such as labour market experience prior to HE or the social contacts of respondents. To the extent that such factors have been important in influencing either the work experience undertaken by respondents or their subsequent outcomes, the findings may still be subject to a degree of selection bias. It is difficult to predict the direction in which selection effects might bias estimates of the effect of work experience. However, respondents who might benefit the most from undertaking activities, such as vacation internships, are probably most likely to have been successful in obtaining them because they have (partly unmeasured) characteristics, such as family contacts, which other respondents lack. In this case, the correspondence of participation in particular types of work and positive subsequent labour market outcomes results from a shared association with pre-existing family factors, thus leading to an overestimation of the effects of work experience. Removing selection bias might be expected to be more difficult for some outcomes than others. For example, low self-confidence might itself be a reason for why some respondents did not have a job at university rather than a consequence of the respondent's work experience.

8 Conclusions

The report has presented a descriptive analysis of the forms of work undertaken by respondents while studying. The descriptive results showed that around 25 per cent of respondents had undertaken paid work during the entire period they were at university while around 15 per cent of respondents had not undertaken any paid work over the same period. Participation in paid work varied with gender and age with women more likely to undertake paid work than men and respondents who were aged either 19 to 20 years or 21 to 25 years more likely to undertake paid work than those who were aged 18 years and under. The socioeconomic status of the respondent's family did not have a strong association with participation in paid work, however, respondents from higher socioeconomic backgrounds were more likely to only work during vacations in comparison to those from lower socioeconomic backgrounds. A lower proportion of respondents were found to have undertaken unpaid work than paid work. In common with paid work, participation in unpaid work was stratified by gender with women more likely to undertake unpaid work than men. Socioeconomic inequalities in participation in unpaid work were less significant than those in paid work, however, perhaps reflecting that all respondents have the resources and opportunities to do unpaid work. The relationship between participation in unpaid internships and type of institution was noteworthy with respondents who attended specialist institutions being more likely to have undertaken unpaid internships than respondents at remaining institutions.

In order to examine the effect of undertaking different forms of work on respondents' labour market outcomes, a series of regression analyses were undertaken. The results suggest that work-based learning combined with paid work was associated with the most positive labour market outcomes while not undertaking any form of work experience while studying was associated with the least positive labour market outcomes. The results suggest that, in most cases, work experience did not provide the pathway through which respondents background characteristics influenced their labour market outcomes but that work experience had an effect on labour market outcomes that was at least partly independent of the respondent's background characteristics. In most cases the association between labour market outcomes and family background characteristics was also relatively weak. This is not interpreted as showing that family characteristics are unimportant for labour market outcomes but rather that factors such as subject and institution type are the main pathways through which students' social origins influence their outcomes.

This study has some weaknesses. In common with other longitudinal studies of the student population the study has had a high level of both initial non-response and dropout. Dropout from the study has not been random. The main factors influencing non-response and dropout have been included in the analysis, however. The overall findings therefore seem likely to be robust although the results may not be representative for small populations such as particular ethnic groups. The study also does not give much insight into what factors associated with work experience might account for the better labour market outcomes of students who worked while studying. The study does provide information not available in previous studies, however, and serves as a baseline against which further studies can evaluate changes in the work-related activities undertaken by students.

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Appendix A Tables

Appendix Table 1 Involvement in paid work at stage 2 by gender

Report of paid work	Gender					
	Female			Male		
	N	Col%	Row%	N	Col%	Row%
None	5223	28.9	60.9	3355	33.7	39.1
Term only	502	2.8	65.7	262	2.6	34.3
Vacation and term	6567	36.3	68.5	3022	30.4	31.5
Vacation only	5786	32.0	63.6	3313	33.3	36.4
Total	18078			9952		

Appendix Table 2 Involvement in paid work at stage 3 by gender

Report of paid work	Gender					
	Female			Male		
	N	Col%	Row%	N	Col%	Row%
None	1814	21.8	64.6	993	26.1	35.4
Term only	309	3.7	70.4	130	3.4	29.6
Vacation and term	3498	42.1	72.9	1301	34.2	27.1
Vacation only	2691	32.4	66.1	1382	36.3	33.9
Total	8312			3806		

Appendix Table 3 Involvement in paid work at stage 2 by age

Report of paid work	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	4709	29.2	54.9	1753	28.4	20.4	712	27.4	8.3	1404	44.4	16.4
Term only	430	2.7	56.3	182	2.9	23.8	68	2.6	8.9	84	2.7	11.0
Vacation and term	4809	29.9	50.2	2225	36.1	23.2	1266	48.7	13.2	1289	40.8	13.4
Vacation only	6152	38.2	67.6	2010	32.6	22.1	553	21.3	6.1	384	12.1	4.2
Total	16100			6170			2599			3161		

Appendix Table 4 Involvement in paid work at stage 3 by age

Report of paid work	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	1489	19.8	53.0	534	21.7	19.0	196	23.1	7.0	588	45.5	20.9
Term only	288	3.8	65.6	93	3.8	21.2	20	2.4	4.6	38	2.9	8.7
Vacation and term	2797	37.2	58.3	1066	43.4	22.2	456	53.8	9.5	480	37.2	10.0
Vacation only	2949	39.2	72.4	763	31.1	18.7	176	20.8	4.3	185	14.3	4.5
Total	7523			2456			848			1291		

Appendix Table 5 Involvement in paid work at stage 2 by ethnicity

Report of paid work	Ethnicity														
	Asian			White			Black			Mixed			Other		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	1202	51.9	14.0	6631	28.0	77.4	341	37.3	4.0	262	34.2	3.1	136	42.2	1.6
Term only	80	3.5	10.5	610	2.6	79.8	37	4.0	4.8	31	4.1	4.1	6	1.9	0.8
Vacation and term	583	25.2	6.1	8267	34.9	86.3	357	39.0	3.7	262	34.2	2.7	115	35.7	1.2
Vacation only	451	19.5	5.0	8186	34.5	90.0	180	19.7	2.0	210	27.5	2.3	65	20.2	0.7
Total	2316			23694			915			765			322		

Appendix Table 6 Involvement in paid work at stage 3 by ethnicity

Report of paid work	Ethnicity														
	Asian			White			Black			Mixed			Other		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	210	32.6	7.5	2422	22.4	86.3	46	21.1	1.6	82	26.2	2.9	45	33.6	1.6
Term only	23	3.6	5.2	389	3.6	88.6	7	3.2	1.6	15	4.8	3.4	5	3.7	1.1
Vacation and term	221	34.3	4.6	4286	39.7	89.3	115	52.8	2.4	129	41.2	2.7	48	35.8	1.0
Vacation only	190	29.5	4.7	3708	34.3	91.1	50	22.9	1.2	87	27.8	2.1	36	26.9	0.9
Total	644			10805			218			313			134		

Appendix Table 7 Involvement in paid work at stage 2 by parental occupation

Report of paid work	Parental Occupation											
	Managerial/ professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	4222	29.1	49.2	1676	29.5	19.5	2161	32.2	25.2	519	46.1	6.1
Term only	398	2.7	52.1	170	3.0	22.3	171	2.5	22.4	25	2.2	3.3
Vacation and term	4478	30.8	46.7	2037	35.9	21.2	2721	40.6	28.4	353	31.3	3.7
Vacation only	5423	37.3	59.6	1790	31.6	19.7	1656	24.7	18.2	230	20.4	2.5
Total	14521			5673			6709			1127		

Appendix Table 8 Involvement in paid work at stage 2 by parental education

Report of paid work	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	4632	31.0	54.0	1963	28.5	22.9	1983	31.8	23.1
Term only	393	2.6	51.4	188	2.7	24.6	183	2.9	24.0
Vacation and term	5800	38.9	60.5	2312	33.6	24.1	1477	23.7	15.4
Vacation only	4097	27.5	45.0	2415	35.1	26.5	2587	41.5	28.4
Total	14922			6878			6230		

Appendix Table 9 Involvement in paid work at stage 3 by parental occupation

Report of paid work	Parental Occupation											
	Managerial/ professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	1379	22.1	49.1	547	24.5	19.5	614	24.8	21.9	267	23.1	9.5
Term only	240	3.8	54.7	82	3.7	18.7	85	3.4	19.4	32	2.8	7.3
Vacation and term	2243	35.9	46.7	901	40.3	18.8	1140	46.0	23.8	515	44.6	10.7
Vacation only	2387	38.2	58.6	705	31.5	17.3	639	25.8	15.7	342	29.6	8.4
Total	6249			2235			2478			1156		

Appendix Table 10 Involvement in paid work at stage 2 by parental education

Report of paid work	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	1552	24.6	55.3	639	21.2	22.8	616	22.0	21.9
Term only	217	3.4	49.4	114	3.8	26.0	108	3.9	24.6
Vacation and term	2742	43.5	57.1	1163	38.6	24.2	894	31.9	18.6
Vacation only	1788	28.4	43.9	1098	36.4	27.0	1187	42.3	29.1
Total	6299			3014			2805		

Appendix Table 11 Involvement in paid work at stage 2 by institution type

Report of paid work	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	2717	30.8	33.0	2059	29.3	25.0	2196	30.2	26.7	1027	33.4	12.5	222	27.2	2.7
Term only	190	2.2	26.6	188	2.7	26.3	204	2.8	28.6	103	3.4	14.4	29	3.6	4.1
Vacation and term	1964	22.3	21.6	2363	33.7	26.0	3015	41.4	33.2	1400	45.6	15.4	350	42.9	3.8
Vacation only	3937	44.7	43.9	2409	34.3	26.9	1866	25.6	20.8	543	17.7	6.1	214	26.3	2.4
Total	8808			7019			7281			3073			815		

Appendix Table 12 Involvement in paid work at stage 3 by institution type

Report of paid work	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	928	22.7	34.8	655	20.8	24.6	722	24.9	27.1	291	25.1	10.9	69	22.9	2.6
Term only	152	3.7	36.4	130	4.1	31.1	82	2.8	19.6	45	3.9	10.8	9	3.0	2.2
Vacation and term	1183	28.9	25.9	1301	41.3	28.5	1335	46.0	29.3	594	51.3	13.0	149	49.5	3.3
Vacation only	1832	44.7	46.3	1061	33.7	26.8	764	26.3	19.3	228	19.7	5.8	74	24.6	1.9
Total	4095			3147			2903			1158			301		

Appendix Table 13 Distribution of number of hours worked during term-time at stage 2 and stage 3

Hours	Number of Hours Worked During Term			
	Stage 2		Stage 3	
	N	Col%	N	Col%
0-4	1068	11.9	933	18.0
5-9	2699	30.0	1711	33.0
10-14	2173	24.2	1134	21.8
15-19	1987	22.1	977	18.8
20-24	516	5.7	237	4.6
25-29	226	2.5	89	1.7
30-34	100	1.1	29	0.6
35-39	158	1.8	62	1.2
40-44	22	0.2	6	0.1
45-49	26	0.3	5	0.1
50-100	17	0.2	7	0.1
Total	8992		5190	

Appendix Table 14 Distribution of number of hours worked during term-time at stage 2 by gender

Hours	Gender					
	Male			Female		
	N	Col %	Row %	N	Col %	Row %
0-4	361	12.8	33.8	707	11.4	66.2
5-9	754	26.8	27.9	1945	31.5	72.1
10-14	644	22.9	29.6	1529	24.7	70.4
15-19	665	23.7	33.5	1322	21.4	66.5
20-24	170	6.0	32.9	346	5.6	67.1
25-29	82	2.9	36.3	144	2.3	63.7
30-34	32	1.1	32.0	68	1.1	68.0
35-39	75	2.7	47.5	83	1.3	52.5
40-44	6	0.2	27.3	16	0.3	72.7
45-49	14	0.5	53.8	12	0.2	46.2
50-100	8	0.3	47.1	9	0.1	52.9
Total	2811			6181		

Appendix Table 15 Distribution of number of hours worked during term-time at stage 2 by age

Hours	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	623	13.6	58.3	230	11.0	21.5	86	7.7	8.1	129	10.8	12.1
5-9	1520	33.1	56.3	643	30.9	23.8	250	22.4	9.3	286	23.9	10.6
10-14	1173	25.5	54.0	532	25.5	24.5	249	22.3	11.5	219	18.3	10.1
15-19	867	18.9	43.6	461	22.1	23.2	318	28.5	16.0	341	28.5	17.2
20-24	197	4.3	38.2	101	4.8	19.6	113	10.1	21.9	105	8.8	20.3
25-29	94	2.0	41.6	52	2.5	23.0	39	3.5	17.3	41	3.4	18.1
30-34	38	0.8	38.0	19	0.9	19.0	23	2.1	23.0	20	1.7	20.0
35-39	57	1.2	36.1	28	1.3	17.7	32	2.9	20.3	41	3.4	25.9
40-44	10	0.2	45.5	6	0.3	27.3	2	0.2	9.1	4	0.3	18.2
45-49	11	0.2	42.3	4	0.2	15.4	2	0.2	7.7	9	0.8	34.6
50-100	5	0.1	29.4	8	0.4	47.1	2	0.2	11.8	2	0.2	11.8
Total	4595			2084			1116			1197		

Appendix Table 16 Distribution of number of hours worked during term-time at stage 2 by parental occupation

Hours	Parental Occupation											
	Managerial/ professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	623	14.7	58.3	210	10.8	19.7	214	8.6	20.0	21	6.5	2.0
5-9	1328	31.3	49.2	569	29.4	21.1	716	28.8	26.5	86	26.6	3.2
10-14	963	22.7	44.3	482	24.9	22.2	647	26.0	29.8	81	25.1	3.7
15-19	873	20.6	43.9	437	22.5	22.0	586	23.5	29.5	91	28.2	4.6
20-24	209	4.9	40.5	124	6.4	24.0	170	6.8	32.9	13	4.0	2.5
25-29	109	2.6	48.2	41	2.1	18.1	63	2.5	27.9	13	4.0	5.8
30-34	41	1.0	41.0	20	1.0	20.0	33	1.3	33.0	6	1.9	6.0
35-39	67	1.6	42.4	39	2.0	24.7	43	1.7	27.2	9	2.8	5.7
40-44	10	0.2	45.5	7	0.4	31.8	4	0.2	18.2	1	0.3	4.5
45-49	10	0.2	38.5	6	0.3	23.1	8	0.3	30.8	2	0.6	7.7
50-100	8	0.2	47.1	3	0.2	17.6	6	0.2	35.3	–	–	–
Total	4241			1938			2490			323		

Appendix Table 17 Distribution of number of hours worked during term-time at stage 2 by parental education

Hours	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	523	9.7	49.0	264	12.2	24.7	281	19.3	26.3
5-9	1579	29.4	58.5	667	30.9	24.7	453	31.1	16.8
10-14	1346	25.0	61.9	529	24.5	24.3	298	20.5	13.7
15-19	1270	23.6	63.9	445	20.6	22.4	272	18.7	13.7
20-24	338	6.3	65.5	113	5.2	21.9	65	4.5	12.6
25-29	127	2.4	56.2	59	2.7	26.1	40	2.7	17.7
30-34	65	1.2	65.0	24	1.1	24.0	11	0.8	11.0
35-39	95	1.8	60.1	37	1.7	23.4	26	1.8	16.5
40-44	12	0.2	54.5	8	0.4	36.4	2	0.1	9.1
45-49	13	0.2	50.0	8	0.4	30.8	5	0.3	19.2
50-100	9	0.2	52.9	6	0.3	35.3	2	0.1	11.8
Total	5377			2160			1455		

Appendix Table 18 Distribution of number of hours worked during term-time at stage 3 by age

Hours	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	612	20.0	65.6	178	15.5	19.1	61	13.0	6.5	82	16.0	8.8
5-9	1087	35.5	63.5	378	32.9	22.1	121	25.7	7.1	125	24.5	7.3
10-14	670	21.9	59.1	270	23.5	23.8	115	24.5	10.1	79	15.5	7.0
15-19	515	16.8	52.7	225	19.6	23.0	107	22.8	11.0	130	25.4	13.3
20-24	101	3.3	42.6	59	5.1	24.9	32	6.8	13.5	45	8.8	19.0
25-29	37	1.2	41.6	17	1.5	19.1	12	2.6	13.5	23	4.5	25.8
30-34	12	0.4	41.4	5	0.4	17.2	6	1.3	20.7	6	1.2	20.7
35-39	19	0.6	30.6	11	1.0	17.7	14	3.0	22.6	18	3.5	29.0
40-44	1	0.0	16.7	2	0.2	33.3	1	0.2	16.7	2	0.4	33.3
45-49	3	0.1	60.0	2	0.2	40.0	–	–	–	–	–	–
50-100	4	0.1	57.1	1	0.1	14.3	1	0.2	14.3	1	0.2	14.3
Total	3061			1148			470			511		

Appendix Table 19 Distribution of number of hours worked during term-time at stage 3 by gender

Hours	Gender					
	Male			Female		
	N	Col%	Row%	N	Col%	Row%
0-4	273	19.3	29.3	660	17.5	70.7
5-9	434	30.7	25.4	1277	33.8	74.6
10-14	302	21.3	26.6	832	22.0	73.4
15-19	270	19.1	27.6	707	18.7	72.4
20-24	70	4.9	29.5	167	4.4	70.5
25-29	30	2.1	33.7	59	1.6	66.3
30-34	7	0.5	24.1	22	0.6	75.9
35-39	20	1.4	32.3	42	1.1	67.7
40-44	6	0.4	100.0	–	–	–
45-49	–	–	–	5	0.1	100.0
50-100	3	0.2	42.9	4	0.1	57.1
Total	1415			3775		

Appendix Table 20 Distribution of number of hours worked during term-time at stage 3 by parental occupation

Hours	Parental Occupation											
	Managerial/ professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	525	21.3	56.3	171	17.6	18.3	174	14.4	18.6	63	11.6	6.8
5-9	855	34.7	50.0	307	31.6	17.9	380	31.4	22.2	169	31.2	9.9
10-14	495	20.1	43.7	206	21.2	18.2	290	24.0	25.6	143	26.4	12.6
15-19	417	16.9	42.7	188	19.3	19.2	257	21.2	26.3	115	21.3	11.8
20-24	92	3.7	38.8	62	6.4	26.2	48	4.0	20.3	35	6.5	14.8
25-29	38	1.5	42.7	12	1.2	13.5	30	2.5	33.7	9	1.7	10.1
30-34	10	0.4	34.5	9	0.9	31.0	7	0.6	24.1	3	0.6	10.3
35-39	25	1.0	40.3	13	1.3	21.0	20	1.7	32.3	4	0.7	6.5
40-44	2	0.1	33.3	2	0.2	33.3	2	0.2	33.3	–	–	–
45-49	3	0.1	60.0	1	0.1	20.0	1	0.1	20.0	–	–	–
50-100	4	0.2	57.1	2	0.2	28.6	1	0.1	14.3	–	–	–
Total	2466			973			1210			541		

Appendix Table 21 Distribution of number of hours worked during term-time at stage 3 by parental education

Hours	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	442	15.1	47.4	217	17.2	23.3	274	27.6	29.4
5-9	967	33.0	56.5	434	34.4	25.4	310	31.2	18.1
10-14	663	22.6	58.5	272	21.5	24.0	199	20.0	17.5
15-19	583	19.9	59.7	240	19.0	24.6	154	15.5	15.8
20-24	163	5.6	68.8	51	4.0	21.5	23	2.3	9.7
25-29	48	1.6	53.9	26	2.1	29.2	15	1.5	16.9
30-34	20	0.7	69.0	6	0.5	20.7	3	0.3	10.3
35-39	40	1.4	64.5	14	1.1	22.6	8	0.8	12.9
40-44	4	0.1	66.7	1	0.1	16.7	1	0.1	16.7
45-49	1	0.0	20.0	2	0.2	40.0	2	0.2	40.0
50-100	3	0.1	42.9	–	–	–	4	0.4	57.1
Total	2934			1263			993		

Appendix Table 22 Distribution of number of hours worked during term-time at stage 2 by institution type

Hours	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	401	20.9	39.4	252	11.3	24.8	213	7.7	20.9	109	8.4	10.7	43	13.6	4.2
5-9	626	32.6	24.3	735	33.1	28.5	780	28.2	30.3	348	26.9	13.5	87	27.4	3.4
10-14	430	22.4	20.7	521	23.5	25.0	747	27.0	35.9	305	23.6	14.6	79	24.9	3.8
15-19	330	17.2	17.6	462	20.8	24.7	689	24.9	36.8	324	25.0	17.3	67	21.1	3.6
20-24	57	3.0	11.9	122	5.5	25.5	177	6.4	37.0	105	8.1	21.9	18	5.7	3.8
25-29	27	1.4	13.2	54	2.4	26.3	73	2.6	35.6	39	3.0	19.0	12	3.8	5.9
30-34	13	0.7	15.1	17	0.8	19.8	28	1.0	32.6	25	1.9	29.1	3	0.9	3.5
35-39	28	1.5	20.0	44	2.0	31.4	39	1.4	27.9	26	2.0	18.6	3	0.9	2.1
40-44	3	0.2	15.0	6	0.3	30.0	5	0.2	25.0	6	0.5	30.0	–	–	–
45-49	4	0.2	17.4	5	0.2	21.7	5	0.2	21.7	6	0.5	26.1	3	0.9	13.0
50-100	3	0.2	17.6	3	0.1	17.6	7	0.3	41.2	2	0.2	11.8	2	0.6	11.8
Total	1922			2221			2763			1295			317		

Appendix Table 23 Distribution of number of hours worked during term-time at stage 3 by institution type

Hours	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
0-4	356	26.8	39.9	264	18.6	29.6	171	12.2	19.1	72	11.4	8.1	30	19.2	3.4
5-9	477	35.9	29.4	483	34.1	29.8	447	31.9	27.6	171	27.2	10.5	44	28.2	2.7
10-14	250	18.8	23.1	328	23.1	30.3	346	24.7	32.0	123	19.6	11.4	34	21.8	3.1
15-19	188	14.1	20.0	247	17.4	26.3	313	22.3	33.3	162	25.8	17.3	29	18.6	3.1
20-24	29	2.2	13.1	52	3.7	23.4	79	5.6	35.6	52	8.3	23.4	10	6.4	4.5
25-29	12	0.9	14.3	25	1.8	29.8	23	1.6	27.4	20	3.2	23.8	4	2.6	4.8
30-34	3	0.2	11.1	8	0.6	29.6	6	0.4	22.2	9	1.4	33.3	1	0.6	3.7
35-39	11	0.8	21.2	9	0.6	17.3	10	0.7	19.2	18	2.9	34.6	4	2.6	7.7
40-44	1	0.1	20.0	–	–	–	2	0.1	40.0	2	0.3	40.0	–	–	–
45-49	–	–	–	1	0.1	25.0	3	0.2	75.0	–	–	–	–	–	–
50-100	2	0.2	40.0	1	0.1	20.0	2	0.1	40.0	–	–	–	–	–	–
Total	1329			1418			1402			629			156		

Appendix Table 24 Reasons for doing paid work during term-time by institution type at stage 2

Reason	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Living costs	1540	71.5	1970	77.2	2586	80.3	1181	78.6	301	79.4
Study materials	1255	58.3	1657	65.0	2243	69.7	1047	69.7	280	73.9
Leisure activities	1727	80.2	1982	77.7	2440	75.8	1078	71.7	274	72.3
Avoid debt	1330	61.7	1670	65.5	2121	65.9	996	66.3	239	63.1
Holidays	1056	49.0	1277	50.1	1731	53.8	807	53.7	188	49.6
Work experience course	298	13.8	421	16.5	581	18.0	344	22.9	100	26.4
Work experience general	949	44.1	1181	46.3	1430	44.4	684	45.5	148	39.1
Course requirement	47	2.2	118	4.6	162	5.0	137	9.1	29	7.7
Skills	355	16.5	512	20.1	666	20.7	349	23.2	80	21.1
Other	67	3.1	104	4.1	105	3.3	67	4.5	12	3.2
Total	2154		2551		3219		1503		379	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 25 Reasons for doing paid work during term-time by institution type at stage 3

Reason	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Living costs	1020	76.9	1168	82.0	1226	86.8	530	83.5	127	80.4
Study materials	705	53.2	881	61.8	972	68.8	448	70.6	104	65.8
Leisure activities	1075	81.1	1147	80.5	1114	78.9	486	76.5	119	75.3
Avoid debt	712	53.7	843	59.2	909	64.4	400	63.0	96	60.8
Holidays	640	48.3	698	49.0	746	52.8	330	52.0	82	51.9
Work experience course	208	15.7	238	16.7	297	21.0	159	25.0	46	29.1
Work experience particular industry	217	16.4	244	17.1	258	18.3	143	22.5	44	27.8
Work experience general	674	50.8	722	50.7	699	49.5	298	46.9	72	45.6
Course requirement	28	2.1	35	2.5	54	3.8	45	7.1	7	4.4
Skills	232	17.5	255	17.9	295	20.9	148	23.3	37	23.4
Other	57	4.3	51	3.6	47	3.3	24	3.8	2	1.3
Total	1326		1425		1412		635		158	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 26 Reasons for doing paid work during term-time at stage 2 by hours of work

Reason	Number of Hours Worked per week During Term			
	16 hours or less		more than 16 hours	
	N	Col%	N	Col%
Living costs	4818	76.4	1735	87.5
Study materials	4139	65.6	1498	75.5
Leisure activities	4920	78.0	1569	79.1
Avoid debt	4095	64.9	1436	72.4
Holidays	3211	50.9	1135	57.2
Work experience	3934	62.4	1410	71.1
Course requirement	235	3.7	202	10.2
Skills	1208	19.2	507	25.6
Other	238	3.8	94	4.7
Total	6306		1983	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 27 How obtained paid work at stage 2 by institution type

How obtained work	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Worked for employer before	2788	48.1	2339	49.4	2464	50.8	1001	51.3	275	49.1
Department contact	129	2.2	98	2.1	88	1.8	49	2.5	23	4.1
Careers service	475	8.2	414	8.7	338	7.0	132	6.8	32	5.7
Employer advert	989	17.1	919	19.4	963	19.8	361	18.5	115	20.5
Agency	643	11.1	417	8.8	411	8.5	179	9.2	41	7.3
Direct application	2489	42.9	2045	43.2	1931	39.8	811	41.5	267	47.7
Internet	559	9.6	472	10.0	434	8.9	188	9.6	64	11.4
Other	426	7.3	293	6.2	300	6.2	128	6.6	38	6.8
Total	5799		4736		4855		1952		560	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 28 How obtained paid work at stage 3 by institution type

How obtained work	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Worked for employer before	1125	35.6	971	39.2	875	40.4	336	39.2	87	37.5
Department contact	222	7.0	113	4.6	68	3.1	24	2.8	22	9.5
Careers service	431	13.6	324	13.1	214	9.9	63	7.3	18	7.8
Employer advert	727	23.0	517	20.9	446	20.6	158	18.4	40	17.2
Agency	273	8.6	189	7.6	176	8.1	51	5.9	13	5.6
Direct application	1235	39.1	973	39.3	802	37.0	337	39.3	101	43.5
Family/friends	836	26.5	595	24.0	486	22.4	182	21.2	47	20.3
Other	138	4.4	112	4.5	102	4.7	51	5.9	16	6.9
Total	3160		2476		2167		858		232	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 29 How obtained paid work at stage 2 by parental occupation type

How obtained work	Parental Occupation							
	Managerial /professional		Intermediate		Routine/manual		NA/missing	
	N	Col%	N	Col%	N	Col%	N	Col%
Worked for employer before	4874	49.6	1888	49.6	2158	49.6	249	43.2
Department contact	247	2.5	82	2.2	74	1.7	11	1.9
Careers service	805	8.2	270	7.1	298	6.9	46	8.0
Employer advert	1753	17.9	741	19.5	878	20.2	118	20.5
Agency	1003	10.2	367	9.6	328	7.5	45	7.8
Direct application	4235	43.1	1553	40.8	1782	41.0	252	43.7
Internet	930	9.5	345	9.1	442	10.2	66	11.4
Other	694	7.1	247	6.5	272	6.3	26	4.5
Total	9819		3809		4350		577	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 30 How obtained paid work at stage 2 by parental education

How obtained work	Parental Education					
	Neither/NA		One parent		Two parents	
	N	Col%	N	Col%	N	Col%
Worked for employer before	4982	50.6	2323	49.8	1864	46.1
Department contact	196	2.0	105	2.3	113	2.8
Careers service	698	7.1	365	7.8	356	8.8
Employer advert	1869	19.0	889	19.1	732	18.1
Agency	835	8.5	466	10.0	442	10.9
Direct application	3991	40.5	2033	43.6	1798	44.5
Internet	897	9.1	444	9.5	442	10.9
Other	635	6.4	326	7.0	278	6.9
Total	9852		4661		4042	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 31 How obtained paid work at stage 3 by parental occupation type

How obtained work	Parental Occupation							
	Managerial/ professional		Intermediate		Routine/manual		NA/missing	
	N	Col%	N	Col%	N	Col%	N	Col%
Worked for employer before	1863	38.4	624	37.2	736	39.7	327	36.9
Department contact	264	5.4	94	5.6	82	4.4	29	3.3
Careers service	608	12.5	185	11.0	196	10.6	101	11.4
Employer advert	1007	20.8	336	20.0	417	22.5	205	23.2
Agency	397	8.2	147	8.8	113	6.1	74	8.4
Direct application	1878	38.7	654	39.0	681	36.8	367	41.5
Family/friends	1218	25.1	408	24.3	385	20.8	219	24.7
Other	239	4.9	86	5.1	90	4.9	37	4.2
Total	4849		1676		1853		885	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 32 How obtained paid work at stage 3 by parental education

How obtained work	Parental Education					
	Neither/NA		One parent		Two parents	
	N	Col%	N	Col%	N	Col%
Worked for employer before	1899	40.3	876	37.0	775	35.5
Department contact	205	4.3	116	4.9	148	6.8
Careers service	504	10.7	276	11.7	310	14.2
Employer advert	934	19.8	542	22.9	489	22.4
Agency	356	7.6	192	8.1	183	8.4
Direct application	1772	37.6	947	40.0	861	39.4
Family/friends	1025	21.7	592	25.0	613	28.1
Other	241	5.1	111	4.7	100	4.6
Total	4713		2367		2183	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 33 Involvement in unpaid work at stage 2 by gender

Unpaid work	Gender					
	Male			Female		
	N	Col%	Row%	N	Col%	Row%
None	7698	77.8	37.9	12600	70.3	62.1
Internship	543	5.5	24.5	1674	9.3	75.5
Related to studies	469	4.7	27.6	1229	6.9	72.4
Not related to studies	1001	10.1	34.1	1933	10.8	65.9
Other	418	4.2	29.5	1001	5.6	70.5
Total	10129			18437		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 34 Involvement in unpaid work at stage 3 by gender

Unpaid work	Gender					
	Male			Female		
	N	Col%	Row%	N	Col%	Row%
None	2645	69.9	34.8	4960	60.1	65.2
Internship	330	8.7	25.5	962	11.7	74.5
Related to studies	254	6.7	20.7	975	11.8	79.3
Not related to studies	393	10.4	28.6	983	11.9	71.4
Other	275	7.3	26.7	754	9.1	73.3
Total	3897			8634		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 35 Involvement in unpaid work at stage 2 by age

Unpaid work	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	11898	74.4	58.6	4452	72.7	21.9	1815	70.0	8.9	2133	68.4	10.5
Internship	1129	7.1	50.9	508	8.3	22.9	273	10.5	12.3	307	9.8	13.8
Related to studies	809	5.1	47.6	354	5.8	20.8	231	8.9	13.6	304	9.7	17.9
Not related to studies	1776	11.1	60.5	677	11.1	23.1	205	7.9	7.0	276	8.8	9.4
Other	766	4.8	54.0	305	5.0	21.5	132	5.1	9.3	216	6.9	15.2
Total	16378			6296			2656			3236		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 36 Involvement in unpaid work at stage 3 by age

Unpaid work	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	4672	62.5	61.4	1530	62.8	20.1	547	64.9	7.2	856	67.0	11.3
Internship	780	10.4	60.4	286	11.7	22.1	115	13.6	8.9	111	8.7	8.6
Related to studies	758	10.1	61.7	246	10.1	20.0	78	9.3	6.3	147	11.5	12.0
Not related to studies	967	12.9	70.3	254	10.4	18.5	57	6.8	4.1	98	7.7	7.1
Other	633	8.5	61.5	228	9.4	22.2	65	7.7	6.3	103	8.1	10.0
Total	7810			2544			862			1315		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 37 Involvement in unpaid work at stage 2 by ethnicity

Unpaid work	Ethnicity														
	Asian			Black			White			Mixed			Other		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	1665	72.0	8.2	638	70.0	3.1	17209	73.2	84.8	559	73.3	2.8	215	67.2	1.1
Internship	161	7.0	7.3	80	8.8	3.6	1889	8.0	85.3	56	7.3	2.5	29	9.1	1.3
Related to studies	156	6.7	9.2	66	7.2	3.9	1406	6.0	82.9	50	6.6	2.9	19	5.9	1.1
Not related to studies	326	14.1	11.1	115	12.6	3.9	2365	10.1	80.7	82	10.7	2.8	44	13.8	1.5
Other	96	4.2	6.8	36	4.0	2.5	1221	5.2	86.1	39	5.1	2.8	26	8.1	1.8
Total	2404			935			24090			786			333		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 38 Involvement in unpaid work at stage 3 by ethnicity

Unpaid work	Ethnicity														
	Asian			Black			White			Mixed			Other		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	416	64.7	5.5	142	65.4	1.9	6777	63.2	89.1	185	59.5	2.4	82	61.2	1.1
Internship	76	11.8	5.9	24	11.1	1.9	1130	10.5	87.5	48	15.4	3.7	14	10.4	1.1
Related to studies	71	11.0	5.8	27	12.4	2.2	1088	10.1	88.5	33	10.6	2.7	10	7.5	0.8
Not related to studies	73	11.4	5.3	25	11.5	1.8	1219	11.4	88.6	37	11.9	2.7	22	16.4	1.6
Other	41	6.4	4.0	8	3.7	0.8	935	8.7	91.0	32	10.3	3.1	12	9.0	1.2
Total	677			226			11149			335			140		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 39 Involvement in unpaid work at stage 2 by parental occupation

Unpaid work	Parental Occupation											
	Managerial/professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	10471	72.6	51.6	4131	73.3	20.4	4880	73.3	24.0	816	73.1	4.0
Internship	1088	7.5	49.1	456	8.1	20.6	580	8.7	26.2	93	8.3	4.2
Related to studies	853	5.9	50.2	327	5.8	19.3	428	6.4	25.2	90	8.1	5.3
Not related to studies	1656	11.5	56.4	574	10.2	19.6	590	8.9	20.1	114	10.2	3.9
Other	733	5.1	51.7	291	5.2	20.5	346	5.2	24.4	49	4.4	3.5
Total	14418			5634			6662			1117		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 40 Involvement in unpaid work at stage 3 by parental occupation

Unpaid work	Parental Occupation											
	Managerial/professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	3782	61.0	49.7	1442	64.9	19.0	1639	66.5	21.6	742	64.8	9.8
Internship	713	11.5	55.2	242	10.9	18.7	206	8.4	15.9	131	11.4	10.1
Related to studies	655	10.6	53.3	213	9.6	17.3	256	10.4	20.8	105	9.2	8.5
Not related to studies	794	12.8	57.7	247	11.1	18.0	219	8.9	15.9	116	10.1	8.4
Other	546	8.8	53.1	170	7.7	16.5	218	8.8	21.2	95	8.3	9.2
Total	6203			2222			2464			1145		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 41 Involvement in unpaid work at stage 2 by parental education

Unpaid work	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col %	Row %	N	Col %	Row %	N	Col %	Row %
None	10858	73.2	53.5	4972	72.9	24.5	4468	72.3	22.0
Internship	1268	8.6	57.2	524	7.7	23.6	425	6.9	19.2
Related to studies	882	5.9	51.9	398	5.8	23.4	418	6.8	24.6
Not related to studies	1414	9.5	48.2	751	11.0	25.6	769	12.4	26.2
Other	770	5.2	54.3	349	5.1	24.6	300	4.9	21.1
Total	14824			6823			6184		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 42 Involvement in unpaid work at stage 3 by parental education

Unpaid work	Parental Education								
	Neither/NA			One parent			Two parents		
	N	Col %	Row %	N	Col %	Row %	N	Col %	Row %
None	4102	65.5	53.9	1861	62.3	24.5	1642	58.8	21.6
Internship	599	9.6	46.4	338	11.3	26.2	355	12.7	27.5
Related to studies	609	9.7	49.6	307	10.3	25.0	313	11.2	25.5
Not related to studies	600	9.6	43.6	359	12.0	26.1	417	14.9	30.3
Other	542	8.7	52.7	250	8.4	24.3	237	8.5	23.0
Total	6258			2985			2791		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 43 Involvement in unpaid work at stage 2 by institution type

Unpaid work	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
None	6459	74.0	32.9	5266	75.4	26.8	5295	73.4	27.0	2081	67.9	10.6	523	64.8	2.7
Internship	499	5.7	23.8	392	5.6	18.7	692	9.6	33.0	386	12.6	18.4	127	15.7	6.1
Related to studies	525	6.0	32.6	385	5.5	23.9	412	5.7	25.6	232	7.6	14.4	55	6.8	3.4
Not related to studies	1117	12.8	39.5	760	10.9	26.9	619	8.6	21.9	265	8.6	9.4	68	8.4	2.4
Other	383	4.4	28.5	330	4.7	24.6	381	5.3	28.3	187	6.1	13.9	63	7.8	4.7
Total	8732			6980			7217			3066			807		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 44 Involvement in unpaid work at stage 3 by institution type

Unpaid work	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Internship	405	10.0	33.4	284	9.1	23.4	316	11.0	26.1	140	12.2	11.6	67	22.4	5.5
Related to studies	441	10.8	37.7	307	9.8	26.3	270	9.4	23.1	129	11.2	11.0	22	7.4	1.9
Not related to studies	589	14.5	44.4	408	13.0	30.7	227	7.9	17.1	84	7.3	6.3	20	6.7	1.5
Other	315	7.7	31.9	281	9.0	28.4	263	9.1	26.6	101	8.8	10.2	28	9.4	2.8
None	2523	62.0	34.6	1961	62.7	26.9	1892	65.7	25.9	747	64.9	10.2	173	57.9	2.4
Total	4067			3128			2879			1151			299		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 45 Hours unpaid worked per week at stage 2 by institution type

Hours	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
< 1	445	19.8	40.4	284	16.8	25.8	235	12.4	21.3	96	9.9	8.7	42	15.3	3.8
1-4	865	38.6	33.6	664	39.2	25.8	669	35.3	26.0	310	32.0	12.0	69	25.1	2.7
5-8	179	8.0	22.3	174	10.3	21.7	225	11.9	28.0	196	20.2	24.4	29	10.5	3.6
> 8	87	3.9	18.9	119	7.0	25.9	144	7.6	31.3	90	9.3	19.6	20	7.3	4.3
Placement < 1 week during term	111	4.9	26.8	114	6.7	27.5	109	5.8	26.3	48	5.0	11.6	32	11.6	7.7
Placement > 1 week during term	130	5.8	14.3	147	8.7	16.2	365	19.3	40.1	221	22.8	24.3	47	17.1	5.2
Placement < 1 week outside term	175	7.8	43.9	100	5.9	25.1	83	4.4	20.8	31	3.2	7.8	10	3.6	2.5
Placement > 1 week outside term	480	21.4	42.2	238	14.0	20.9	267	14.1	23.5	95	9.8	8.4	57	20.7	5.0
Total	2243			1694			1894			968			275		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 46 Hours unpaid worked per week at stage 3 by institution type

Hours	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
<1	118	12.8	41.1	83	10.3	28.9	49	7.0	17.1	26	8.6	9.1	11	14.1	3.8
1-4	453	49.2	35.5	400	49.6	31.3	285	40.6	22.3	109	36.0	8.5	30	38.5	2.3
5-8	207	22.5	28.8	207	25.7	28.8	198	28.2	27.5	95	31.4	13.2	12	15.4	1.7
>8	142	15.4	27.0	116	14.4	22.1	170	24.2	32.3	73	24.1	13.9	25	32.1	4.8
Total	920			806			702			303			78		

Appendix Table 47 Reasons for doing unpaid work at stage 2 by institution type

Reason	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Learn skills	1261	55.8	982	57.5	1111	58.1	574	58.5	167	59.0
Someone asked	457	20.2	390	22.8	388	20.3	153	15.6	73	25.8
Meet people	874	38.7	641	37.5	602	31.5	260	26.5	95	33.6
Connected to my interests	1031	45.6	772	45.2	863	45.2	462	47.0	148	52.3
Help the community	1315	58.2	948	55.5	818	42.8	404	41.1	91	32.2
Gain experience	1065	47.1	850	49.7	1097	57.4	599	61.0	198	70.0
Had experience in area	576	25.5	453	26.5	491	25.7	272	27.7	104	36.7
Part of course	301	13.3	255	14.9	582	30.5	343	34.9	76	26.9
Spare time	646	28.6	476	27.9	447	23.4	194	19.8	54	19.1
Other	95	4.2	67	3.9	69	3.6	24	2.4	8	2.8
Total	2262		1709		1911		982		283	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 48 Reasons for doing unpaid work at stage 3 by institution type

Reason	Institution Type									
	Highest		High		Medium		Lowest		Specialist	
	N	Col%	N	Col%	N	Col%	N	Col%	N	Col%
Learn skills	980	63.7	766	65.9	632	64.4	253	62.8	90	72.0
Someone asked	166	10.8	150	12.9	129	13.1	57	14.1	31	24.8
Meet people	484	31.4	333	28.7	247	25.2	90	22.3	39	31.2
Connected to my interests	820	53.3	575	49.5	488	49.7	214	53.1	72	57.6
Help the community	845	54.9	597	51.4	415	42.3	196	48.6	39	31.2
Gain experience	952	61.9	725	62.4	665	67.8	280	69.5	98	78.4
Had experience in area	338	22.0	276	23.8	220	22.4	119	29.5	38	30.4
Part of course	92	6.0	99	8.5	199	20.3	79	19.6	24	19.2
Spare time	315	20.5	237	20.4	172	17.5	58	14.4	13	10.4
Other	60	3.9	56	4.8	46	4.7	18	4.7	5	4.0
Total	1539		1162		981		403		125	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 49 Participation in work placements at stage 3 separately for three-year and four-year courses

Four Year Course Institution Type	Type of Work Placement: Work Placement Year		Shorter Work Placement		None		
	N	Row%	N	Row%	N	Row%	Total
Highest	121	7.8	258	16.5	1194	76.5	1560
High	228	24.5	180	19.3	550	59.0	932
Medium	265	42.9	173	28.0	199	32.3	617
Lowest	18	14.4	50	40.0	58	46.4	125
Specialist	13	24.5	15	28.3	27	50.9	53

Note: percentages may not add to 100 per cent due to multiple response options

Three Year Course Institution Type	Type of Work Placement: Work Placement Year		Shorter Work Placement		None		
	N	Row%	N	Row%	N	Row%	Total
Highest	11	0.5	215	10.1	1910	89.5	2133
High	27	1.4	272	14.2	1623	84.6	1918
Medium	50	2.4	688	33.5	1320	64.4	2051
Lowest	29	3.1	305	32.9	598	64.4	928
Specialist	8	3.6	72	32.4	145	65.3	222

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 50 Participation in work placements at stage 3 by subject

Subject	Type of Work Placement: Work Placement Year		Shorter Work Placement		None		
	N	Row%	N	Row%	N	Row%	Total
Medicine/dentistry	9	8.7	40	38.8	57	55.3	103
Subjects Allied to Medicine	96	8.8	660	60.7	357	32.8	1088
Biology/Veterinary Science etc.	101	6.8	176	11.8	1213	81.6	1486
Physical Sciences	53	6.4	67	8.1	713	86.1	828
Maths/Comp.	102	14.5	66	9.4	541	76.8	704
Engineering	63	15.2	96	23.1	260	62.7	415
Architecture/planning	26	22.4	21	18.1	72	62.1	116
Social Studies	65	6.3	227	21.9	752	72.6	1036
Law	13	2.5	53	10.1	460	88.0	523
Business	168	25.2	83	12.4	425	63.7	667
Mass communication & documentation	6	3.1	78	40.6	109	56.8	192
Linguistics & classics	1	0.2	26	4.7	526	95.1	553
Languages	7	1.0	48	7.2	617	92.0	671
History/Philosophical studies	5	0.8	48	7.4	594	92.0	646
Creative Arts/Design	16	1.7	193	20.7	727	77.9	933
Education	32	7.2	306	68.9	111	25.0	444
Interdisciplinary Subjects	56	5.0	194	17.4	871	78.1	1115

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 51 Number of work-related activities at stage 4 separately for respondents reporting one, two or three or more work-related activities

Type of activity	Number of activities					
	One		Two		Three or more	
	N	Col%	N	Col%	N	Col%
Paid work money	1809	44.1	1418	64.6	1108	74.1
Paid work career-related	327	8.0	701	31.9	980	65.6
Unpaid work career-related	564	13.7	933	42.5	1038	69.4
Sandwich year	419	10.2	242	11.0	266	17.8
Structured work placement	603	14.7	479	21.8	578	38.7
Assessed project work	90	2.2	172	7.8	393	26.3
Vacation internship	169	4.1	329	15.0	490	32.8
Other	125	3.0	118	5.4	150	10.0
Total	4106		2196		1495	

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 52 Work-related activities at stage 4 by age

Type of activity	Age Group											
	18 and under			19-20 years			21-25 years			26 years and over		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	649	10.5	69.6	204	10.1	21.9	55	8.0	5.9	24	2.7	2.6
Structured work placement	867	14.0	50.6	330	16.3	19.3	185	26.9	10.8	330	37.8	19.3
Assessed project work	398	6.4	59.5	139	6.9	20.8	62	9.0	9.3	70	8.0	10.5
Vacation internship	755	12.2	74.5	193	9.5	19.0	40	5.8	3.9	26	3.0	2.6
Paid work career-related	1337	21.7	64.8	401	19.8	19.4	156	22.6	7.6	168	19.2	8.1
Paid work money	2950	47.8	66.9	938	46.3	21.3	297	43.1	6.7	226	25.9	5.1
Unpaid work career-related	1658	26.9	64.1	590	29.1	22.8	176	25.5	6.8	163	18.7	6.3
Other	243	3.9	60.3	74	3.6	18.4	28	4.1	6.9	58	6.6	14.4
Total	6175			2028			689			873		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 53 Work-related activities at stage 4 by gender

Type of activity	Gender					
	Male			Female		
	N	Col%	Row%	N	Col%	Row%
Sandwich year	422	11.8	45.3	510	8.2	54.7
Structured work placement	384	10.8	22.4	1328	21.4	77.6
Assessed project work	221	6.2	33.0	448	7.2	67.0
Vacation internship	524	14.7	51.7	490	7.9	48.3
Paid work career-related	815	22.8	39.5	1247	20.1	60.5
Paid work money	1508	42.3	34.2	2903	46.9	65.8
Unpaid work career-related	707	19.8	27.3	1880	30.3	72.7
Other	160	4.5	39.7	243	3.9	60.3
Total	3569			6196		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 54 Work-related activities at stage 4 by ethnic group

Type of activity	Ethnicity														
	Asian			Black			White			Mixed			Other		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	71	12.1	7.6	23	10.1	2.5	806	9.4	86.5	24	8.5	2.6	8	9.5	0.9
Structured work placement	83	14.1	4.8	38	16.7	2.2	1540	17.9	90.0	39	13.8	2.3	12	14.3	0.7
Assessed project work	35	6.0	5.2	19	8.3	2.8	590	6.9	88.2	20	7.1	3.0	5	6.0	0.7
Vacation internship	87	14.8	8.6	31	13.6	3.1	855	10.0	84.3	32	11.3	3.2	9	10.7	0.9
Paid work career-related	113	19.3	5.5	46	20.2	2.2	1839	21.4	89.2	49	17.3	2.4	15	17.9	0.7
Paid work money	181	30.8	4.1	88	38.6	2.0	3992	46.5	90.5	120	42.4	2.7	29	34.5	0.7
Unpaid work career-related	141	24.0	5.5	54	23.7	2.1	2281	26.6	88.2	85	30.0	3.3	25	29.8	1.0
Other	13	2.2	3.2	13	5.7	3.2	354	4.1	87.8	16	5.7	4.0	7	8.3	1.7
Total	587			228			8581			283			84		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 55 Work-related activities at stage 4 by tariff score

Type of activity	Tariff Score																							
	Non-standard			1-239			240-299			300-359			360-419			420-479			480-539			540+		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	112	6.2	12.0	104	10.4	11.2	115	12.6	12.3	164	12.5	17.6	160	11.1	17.2	120	9.2	12.9	89	9.1	9.5	68	6.7	7.3
Structured work placement	547	30.5	32.0	209	21.0	12.2	169	18.6	9.9	234	17.8	13.7	198	13.8	11.6	154	11.8	9.0	103	10.5	6.0	98	9.6	5.7
Assessed project work	155	8.6	23.2	84	8.4	12.6	77	8.5	11.5	110	8.4	16.4	79	5.5	11.8	75	5.7	11.2	49	5.0	7.3	40	3.9	6.0
Vacation internship	94	5.2	9.3	35	3.5	3.5	41	4.5	4.0	91	6.9	9.0	135	9.4	13.3	162	12.4	16.0	211	21.5	20.8	245	24.0	24.2
Paid work career-related	355	19.8	17.2	159	15.9	7.7	159	17.5	7.7	242	18.4	11.7	277	19.3	13.4	286	21.9	13.9	272	27.7	13.2	312	30.5	15.1
Paid work money	632	35.2	14.3	349	35.0	7.9	360	39.6	8.2	614	46.6	13.9	682	47.5	15.5	680	52.1	15.4	561	57.1	12.7	533	52.2	12.1
Unpaid work career-related	414	23.1	16.0	230	23.1	8.9	227	24.9	8.8	340	25.8	13.1	407	28.3	15.7	384	29.4	14.8	302	30.8	11.7	283	27.7	10.9
Other	104	5.8	25.8	47	4.7	11.7	23	2.5	5.7	40	3.0	9.9	60	4.2	14.9	54	4.1	13.4	30	3.1	7.4	45	4.4	11.2
Total	1796			997			910			1317			1436			1305			982			1022		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 56 Work-related activities at stage 4 by parental occupation

Type of activity	Parental Occupation											
	Managerial/ professional			Intermediate			Routine/manual			NA/missing		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	520	9.3	55.8	187	10.8	20.1	177	8.8	19.0	48	10.7	5.2
Structured work placement	880	15.8	51.4	332	19.1	19.4	433	21.6	25.3	67	15.0	3.9
Assessed project work	369	6.6	55.2	143	8.2	21.4	133	6.6	19.9	24	5.4	3.6
Vacation internship	722	13.0	71.2	157	9.0	15.5	104	5.2	10.3	31	6.9	3.1
Paid work career-related	1288	23.1	62.5	336	19.4	16.3	356	17.7	17.3	82	18.3	4.0
Paid work money	2671	47.9	60.6	741	42.7	16.8	826	41.1	18.7	173	38.6	3.9
Unpaid work career-related	1593	28.6	61.6	430	24.8	16.6	452	22.5	17.5	112	25.0	4.3
Other	228	4.1	56.6	72	4.1	17.9	91	4.5	22.6	12	2.7	3.0
Total	5572			1736			2009			448		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 57 Work-related activities at stage 4 by parental education

Type of activity	Parental Education								
	Neither/not declared			One parent			Both parents		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	529	10.5	56.8	226	9.1	24.2	177	8.0	19.0
Structured work placement	1007	19.9	58.8	385	15.5	22.5	320	14.4	18.7
Assessed project work	369	7.3	55.2	165	6.6	24.7	135	6.1	20.2
Vacation internship	313	6.2	30.9	303	12.2	29.9	398	17.9	39.3
Paid work career-related	938	18.6	45.5	558	22.4	27.1	566	25.4	27.4
Paid work money	2126	42.1	48.2	1194	48.0	27.1	1091	49.0	24.7
Unpaid work career-related	1159	23.0	44.8	724	29.1	28.0	704	31.6	27.2
Other	216	4.3	53.6	98	3.9	24.3	89	4.0	22.1
Total	5049			2490			2226		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 58 Work-related activities at stage 4 by institution type

Type of activity	Institution Type														
	Highest			High			Medium			Lowest			Specialist		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	266	7.7	29.3	282	12.2	31.1	293	13.6	32.3	36	4.6	4.0	31	10.8	3.4
Structured work placement	392	11.3	25.9	304	13.1	20.1	523	24.3	34.6	219	28.0	14.5	73	25.5	4.8
Assessed project work	165	4.7	26.9	120	5.2	19.5	205	9.5	33.4	78	10.0	12.7	46	16.1	7.5
Vacation internship	643	18.5	68.7	176	7.6	18.8	64	3.0	6.8	28	3.6	3.0	25	8.7	2.7
Paid work career-related	878	25.3	46.4	452	19.5	23.9	334	15.5	17.6	152	19.5	8.0	77	26.9	4.1
Paid work money	1820	52.4	44.3	1123	48.5	27.4	772	35.8	18.8	268	34.3	6.5	123	43.0	3.0
Unpaid work career-related	948	27.3	39.9	559	24.2	23.6	542	25.1	22.8	204	26.1	8.6	120	42.0	5.1
Other	144	4.1	40.0	82	3.5	22.8	89	4.1	24.7	33	4.2	9.2	12	4.2	3.3
Total	3475			2314			2156			781			286		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 59 Work-related activities at stage 4 by broad subject group

Type of activity	Subject Group								
	Specialist vocational			Occupationally-oriented			Discipline-based academic		
	N	Col%	Row%	N	Col%	Row%	N	Col%	Row%
Sandwich year	192	8.7	21.1	527	11.1	58.0	189	9.2	20.8
Structured work placement	797	35.9	52.7	588	12.4	38.9	126	6.1	8.3
Assessed project work	218	9.8	35.5	323	6.8	52.6	73	3.5	11.9
Vacation internship	303	13.7	32.4	419	8.9	44.8	214	10.4	22.9
Paid work career-related	473	21.3	25.0	1003	21.2	53.0	417	20.2	22.0
Paid work money	779	35.1	19.0	2179	46.1	53.1	1148	55.6	28.0
Unpaid work career-related	533	24.0	22.5	1295	27.4	54.6	545	26.4	23.0
Other	95	4.3	26.4	183	3.9	50.8	82	4.0	22.8
Total	2217			4730			2065		

Note: percentages may not add to 100 per cent due to multiple response options

Appendix Table 60 Work-related activities at stage 4 by subject group

Subject	Type of Activity																
	Sandwich year		Structured work placement		Assessed project work		Vacation internship		Paid work career-related		Paid work money		Unpaid work career-related		Other		Total
	N	Row%	N	Row%	N	Row%	N	Row%	N	Row%	N	Row%	N	Row%	N	Row%	N
Medicine & dentistry	–	–	94	44.1	24	11.3	9	4.2	33	15.5	75	35.2	60	28.2	11	5.2	213
Subjects Allied to Medicine	47	6.3	452	60.6	91	12.2	44	5.9	156	20.9	209	28.0	193	25.9	34	4.6	746
Biology/Veterinary Science etc.	107	9.8	128	11.8	55	5.1	61	5.6	215	19.8	566	52.1	369	33.9	37	3.4	1087
Physical Sciences	70	10.5	33	4.9	39	5.8	85	12.7	150	22.5	327	49.0	112	16.8	24	3.6	668
Mathematical & Comp. Sci.	123	18.9	28	4.3	29	4.5	88	13.5	156	24.0	266	40.9	63	9.7	23	3.5	651
Engineering	104	19.5	53	9.9	44	8.3	146	27.4	163	30.6	207	38.8	45	8.4	19	3.6	533
Architecture/planning	33	25.2	17	13.0	14	10.7	13	9.9	33	25.2	43	32.8	23	17.6	5	3.8	131
Social Studies	32	4.6	114	16.4	35	5.0	82	11.8	139	20.0	354	50.9	188	27.0	22	3.2	696
Law	4	1.1	16	4.6	5	1.4	90	25.8	52	14.9	177	50.7	135	38.7	12	3.4	349
Business	156	30.6	40	7.9	42	8.3	49	9.6	121	23.8	213	41.8	86	16.9	18	3.5	509
Mass Communication & Documentation	5	3.2	38	24.1	16	10.1	6	3.8	32	20.3	68	43.0	81	51.3	12	7.6	158
Linguistics and Classics	6	1.5	12	2.9	4	1.0	34	8.3	77	18.8	248	60.6	134	32.8	11	2.7	409
Languages	111	19.8	57	10.1	17	3.0	51	9.1	117	20.8	310	55.2	164	29.2	31	5.5	562
Hist. & Philosophical Studies	2	0.5	24	5.6	13	3.1	44	10.3	73	17.1	263	61.7	135	31.7	16	3.8	426
Creative Arts & Design	20	2.6	121	15.4	93	11.9	47	6.0	165	21.0	307	39.2	269	34.3	42	5.4	784
Education	4	1.6	165	67.3	40	16.3	1	0.4	36	14.7	68	27.8	77	31.4	14	5.7	245
Interdisciplinary Subjects	84	9.9	119	14.1	53	6.3	86	10.2	175	20.7	405	47.9	239	28.3	29	3.4	845

Note: percentages may not add to 100 per cent due to multiple response options

Appendix B Regression Models

Description of Linear Regression Model

Regression models are used to describe how one variable varies as a function of another set of variables. In the linear model Y is related to X in a linear fashion. The usual name for Y is the dependent variable; X is variously called the predictor, covariate, independent or explanatory variable. More formally, the mean (or the expectation) of the response variable Y_i for individual i, is modelled as a linear function of the explanatory variables:

$$E(Y_i|X_i) = X_i\beta + \varepsilon_i \qquad (1)$$

where β are a vector of regression coefficients associated with X_i and ε_i is the unexplained part of the dependent variable Y_i, also termed the residual. The notation E(Y|X) shows that the mean is that of Y for a particular value of X or a conditional mean. The ε_i are assumed to have a $N(0,\sigma^2)$ normal distribution.

To illustrate the interpretation of the regression coefficients consider a model with the wage as the dependent variable and a single explanatory variable (e.g. age group with 4 categories: 18 years and under, 19-20 years, 21-25 years and 26 years and over). The linear model can then be expressed as:

$$E(Y_i|X_i) = \beta_0 + Age_{19-20\,years}\beta_2 + Age_{21-25\,years}\beta_3 + Age_{26\,yearsandover}\beta_4$$

where the effect of age is measured relative to that of the omitted age group (18 years and under). In this model the intercept term, β_0, gives the expected wage for respondents in the omitted age group (18 years and under) while the β_j coefficients where j = 2,3,4 indicate the change in the average wage compared to the reference group for respondents in the respective age groups.

One of the advantages of using a statistical model is that it provides measures of the uncertainty associated with the model coefficients. For example, a t-test can be used to test the null hypothesis that the true regression coefficients are zero where the test statistic is:

$$t = \frac{\beta}{SE(\beta)}$$

and SE(β) is the standard error of the estimated regression coefficient which quantifies the sampling variability of the estimate. The p-value associated with the test statistic gives the probability of observing a statistic as extreme as the value found assuming that the null hypothesis is true. In this report we follow the convention of using either one, two or three asterisks * to highlight the level of statistical significance of the coefficient estimates (one asterisk represents $p < 0.05$, two is $p < 0.01$ and three is $p < 0.001$). In this report we also follow the usual convention of using $p < 0.05$ as a threshold at which the null hypothesis that the coefficient is equal to zero is rejected.

Description of Logistic Regression Model

The logistic regression model is used to analyse outcomes where the response is either `No' or `Yes' (coded as 0 and 1, respectively). In the logistic model the probability of a `Yes' response for individual i, p_i, can written as:

$$P(Y_i = 1) = p_i = \frac{\exp(X_i\beta)}{1+\exp(X_i\beta)} \qquad (2)$$

or equivalently the logit of p_i can be expressed as:

$$\log it(p_i) = \log(\frac{p_i}{1-p_i}) = X_i\beta \qquad (3)$$

where X_i and β are as above. The logit transformation is used to ensure that p_i lies between 0 and 1. To illustrate the interpretation of the regression coefficients we again consider a model with unemployment as the dependent variable and - a single explanatory variable (e.g. age group with 4 categories: 18 years and under, 19-20 years, 21-25 years and 26 years and over). The logistic model can then be expressed as:

$$\log it(p_i) = \log(\frac{p_i}{1-p_i}) = \log(\frac{Y_i=1}{Y_i=0}) = \beta_0 + Age_{19-20\,years}\beta_2 + Age_{21-25\,years}\beta_3 + Age_{26\,yearsandover}\beta_4$$

where the effect of age is measured relative to that of the omitted age group (18 years and under).

The interpretation of the model usually uses the exponential transformation of the model coefficients which can be interpreted as the ratio of the odds of a positive response for the relevant category of the explanatory variable to the odds of a positive response for the omitted category of the explanatory variable. For example, in the above model the odds of a positive response for a respondent in the youngest age group (18 years and under) is given by:

$$\frac{p_1}{1-p_{1i}} = \exp(\beta_0)$$

while that for a respondent in the j^{th} age group is given by:

$$\frac{p_i}{1-p_i} = \exp(\beta_0 + \beta_j) \qquad j = 2,3,4$$

The ratio of the odds of a positive outcome for a respondent in the j^{th} age group relative to a respondent in the youngest age group is therefore given by:

$$\psi_{j1} = \frac{p_j / (1 - p_j)}{p_1 / (1 - p_1)} = \exp(\beta_j)$$

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