



**IOP** Institute of Physics

Institute of Physics: Tracking the careers of UK  
physics students – 2006 follow-up study

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# 1. Introduction

## 1.1 Background

The Institute of Physics (the Institute) has recognised a gap in knowledge regarding the aspirations and future careers of UK physics graduates. Such information is vital when planning projects aimed at encouraging participation in physics from a wider, more diverse community, as well as informing potential physics students of the opportunities available to them.

In 2005, the Institute embarked on a five year longitudinal tracking project to investigate the backgrounds and aspirations of final year physics undergraduates and track the development of their careers over the coming years. In particular:

To investigate the profiles of final year physics undergraduates in terms of gender, ethnicity, disability, age and socio-economic backgrounds

- To determine the career aspirations of final year physics undergraduate students
- To determine what careers physics graduates embark upon
- To explore how these dimensions vary across specific demographics, with particular focus upon minority groups such as women, Black and Minority Ethnic (BME) groups and lower occupational groups

The first report from this study was published in 2006, and this report presents the findings from the second year of research: a follow-up survey conducted by the 2006 graduating cohort.

## 1.2 Methodology

An electronic database was developed for distribution to physics graduates who had previously taken part in the study (in this case, the 2006 cohort). The database was only accessible using a unique ID distributed to the cohort together with an email invitation. Within the database, respondents were able to update and amend their details accordingly, and provide further information about their current activities.

## 2. 2006 graduating cohort follow-up survey

This section provides details about the results of the follow up exercise with the 2006 cohort. This exercise produced responses from 39.6% of members of the original cohort (409 out of 1034). No longitudinal analysis has been carried out on this data at this stage of the project, as this will be more appropriate and more robust as more data is gathered year on year throughout the life of the project. The analysis provided here is an overview of some of the top line data from the 2006 cohort database update.

Respondents were given the opportunity to update some of their profile information which had been gathered previously in the project. Some of this was information gathered for practical purposes of administering the project; specifically, contact details such as email and addresses. They were also given the opportunity to update information about some of their other profile information, such as any care responsibilities or any disabilities. Finally, respondents were asked to provide information about their current activities; specifically, if they were employed or in further education and details about these.

### 2.1 Gender

The gender split of the 2006 follow-up sample was:

Female: n = 130 (32%)

Male: n = 279 (68%)

This is similar to the original gender split of the original 2006 graduating cohort:

Female: n = 304 (29%)

Male: n = 729 (71%)

### 2.2 Nationality

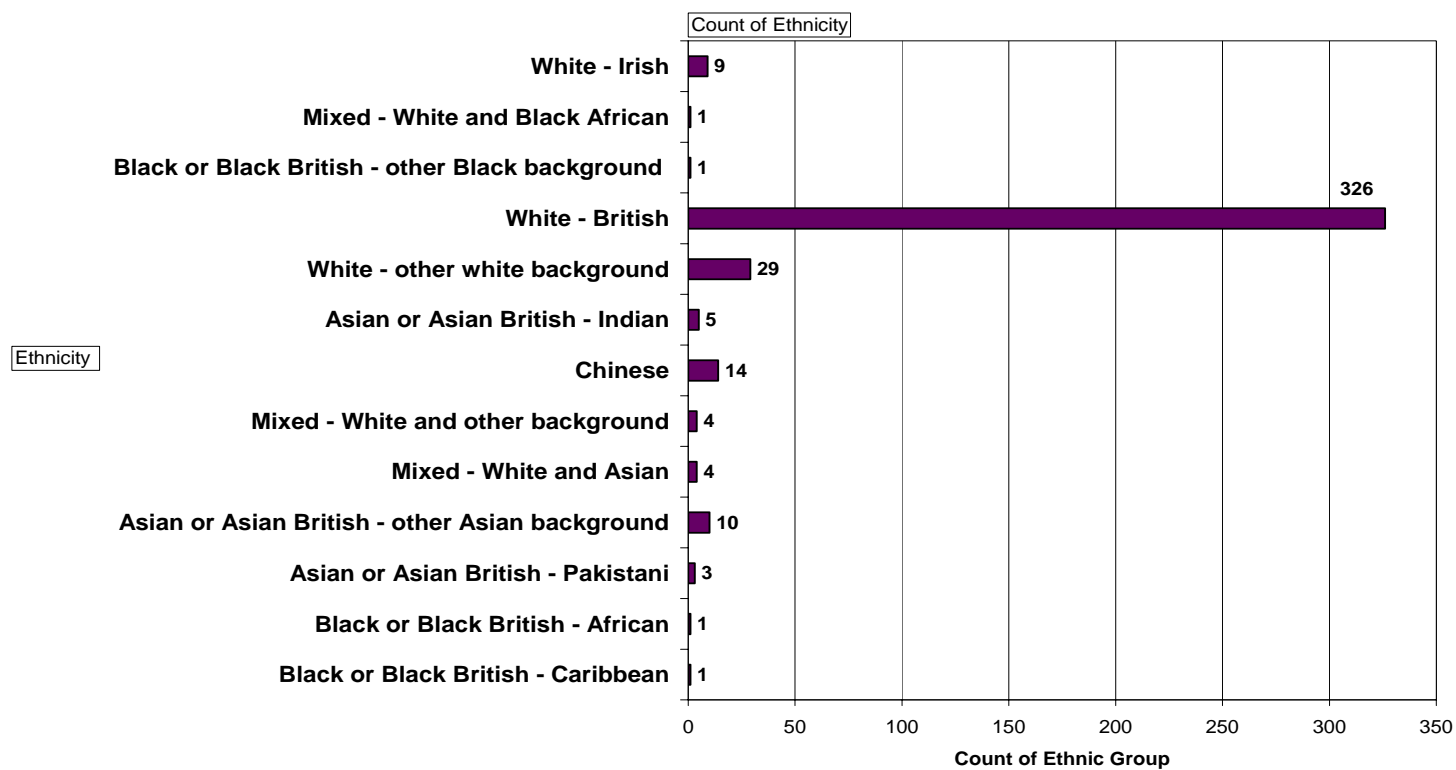
African: n =1	Irish: n = 8
Asian: n =13	North American: n =3
Australasian: n = 1	Other European: n = 18
British: n = 350	Blank: n = 3
Dual: n = 12	

## 2.3 Ethnicity

Figure 1 shows the ethnicity breakdown of the 2006 follow-up cohort:

Figure 1: count of ethnicity groups

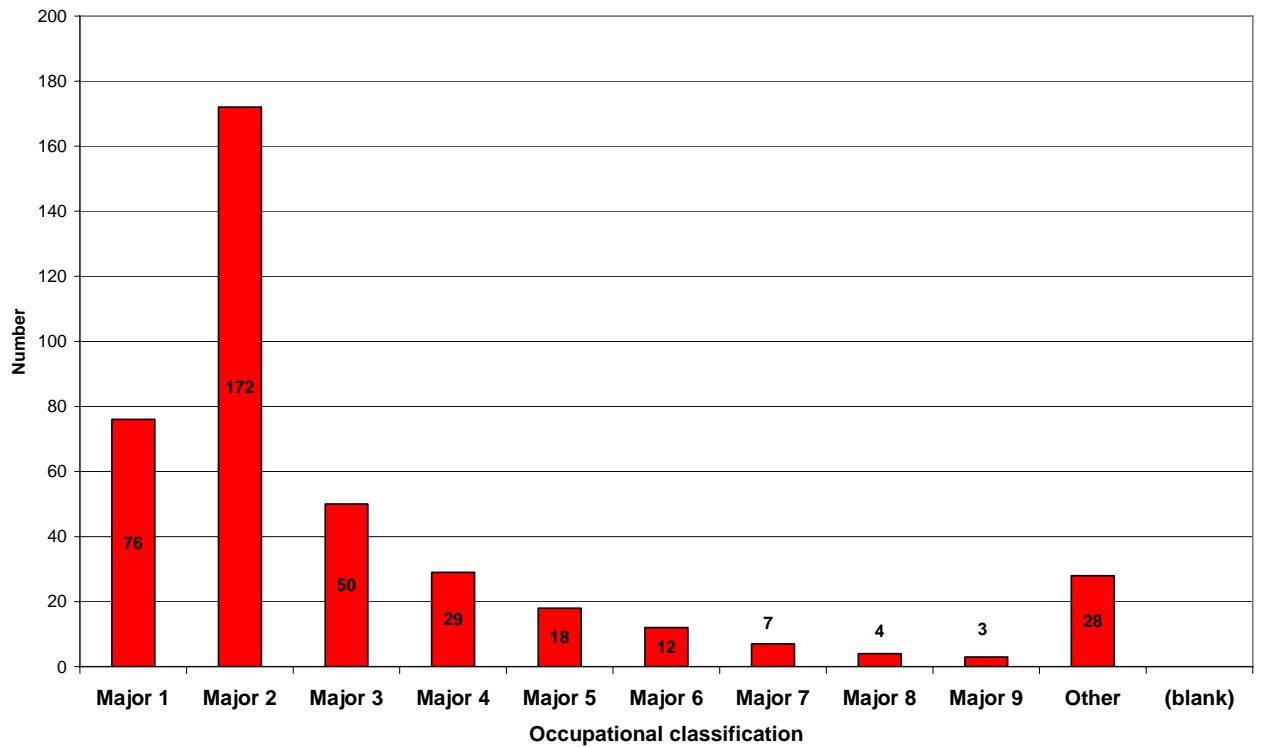
Responded to 2007 follow up Yes



## 2.4 Socio-economic background

Figure 2 shows the socio-economic backgrounds, derived from the parents' occupation. Appendix 1 lists the full description for each category.

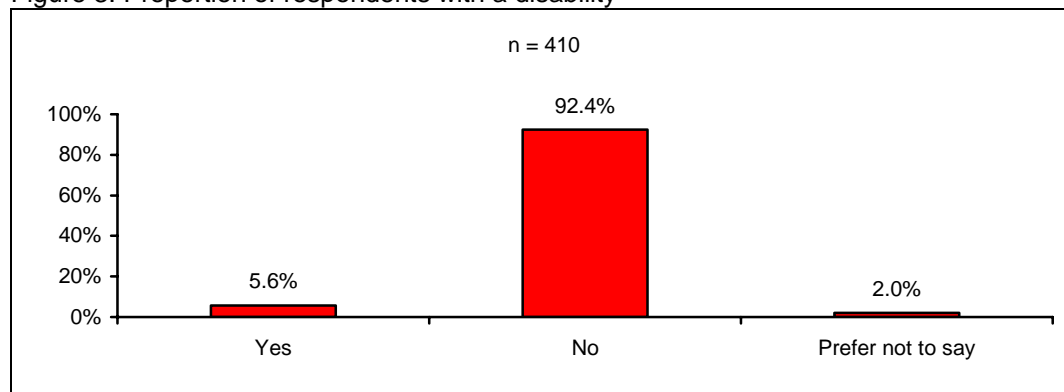
Figure 2: Breakdown of socio-economic background



## 2.5 Disability

5.6% (n=23) of the sample self defined themselves as disabled (see Figure 3). Respondents were able to specify their disabilities. There was a range of mental and physical disabilities given, the most common (45%, n=10) being dyslexia.

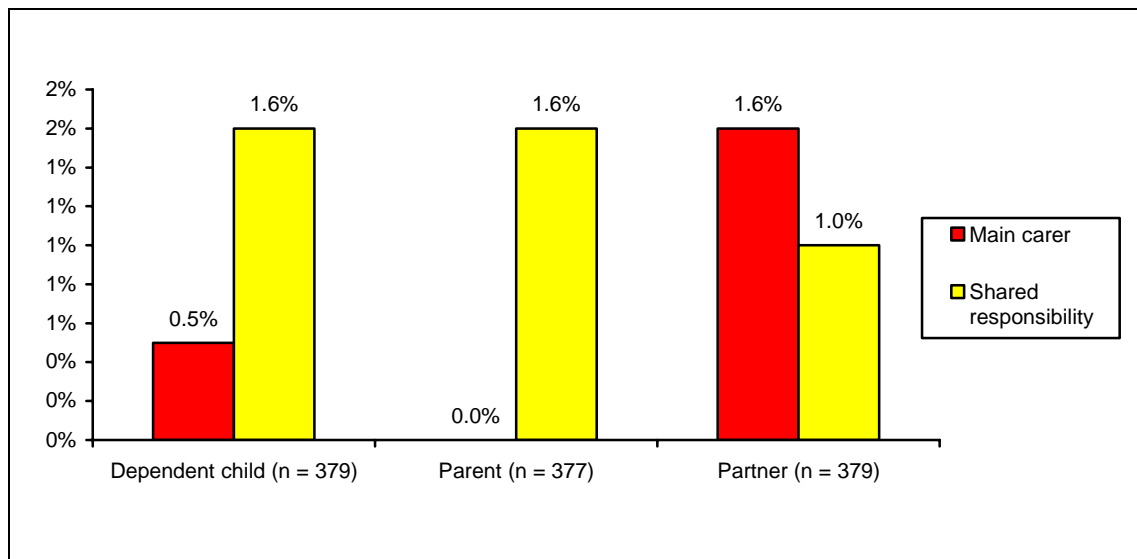
Figure 3: Proportion of respondents with a disability



## 2.6 Care Responsibilities

A small proportion of respondents reported having responsibility for dependents (Figure 4). 0.5% (n=2) were the main carer for a dependent child and 1.6% (n=6) were the main carer for a partner. 1.6% (n=6) shared responsibilities for caring for a dependent child; the same number shared responsibilities for a dependent parent. Five other respondents indicated that they cared for someone in some capacity.

Figure 4: Proportion of respondents with care responsibilities for a child, parent or partner



## 2.7 Educational Information

The spread of institutions attended was varied as can be seen in Appendix 2. The most commonly mentioned institutions were Durham University (8.5%) and University of Manchester (7.3%).

43.3% (n=168) of respondents stated that they had achieved a first class degree classification and 34.5% (n=134) achieved an upper second classification (Figure 5). Over half of respondents (56.7% n=229) stated that they were currently continuing in education (Figure 6).

Figure 5: Degree Classification

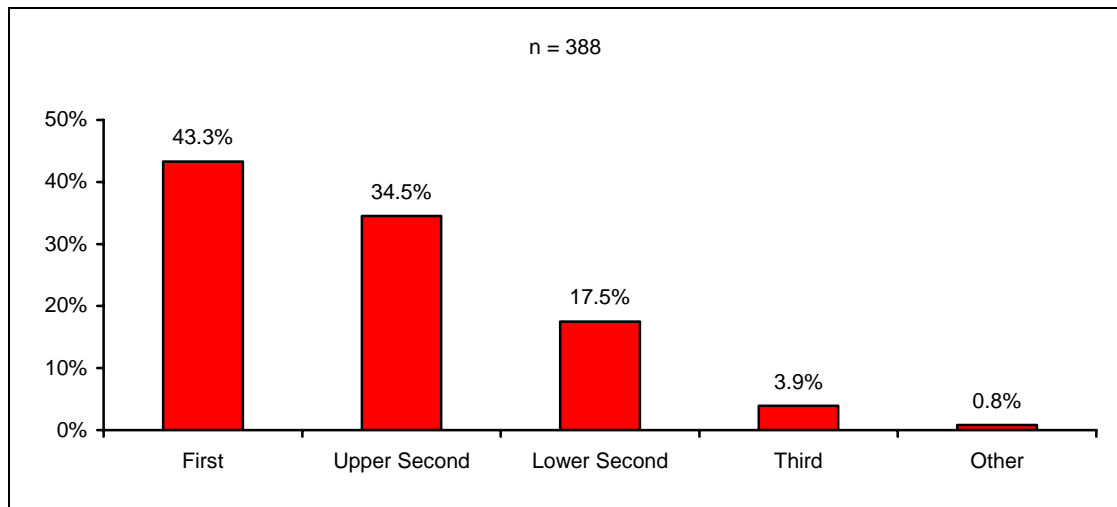
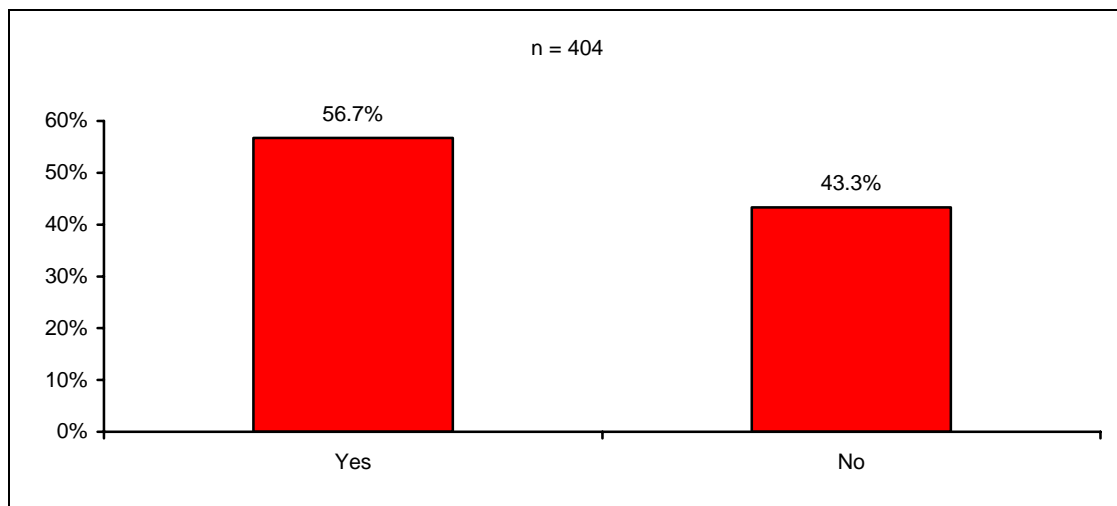


Figure 6: Continuing in Education

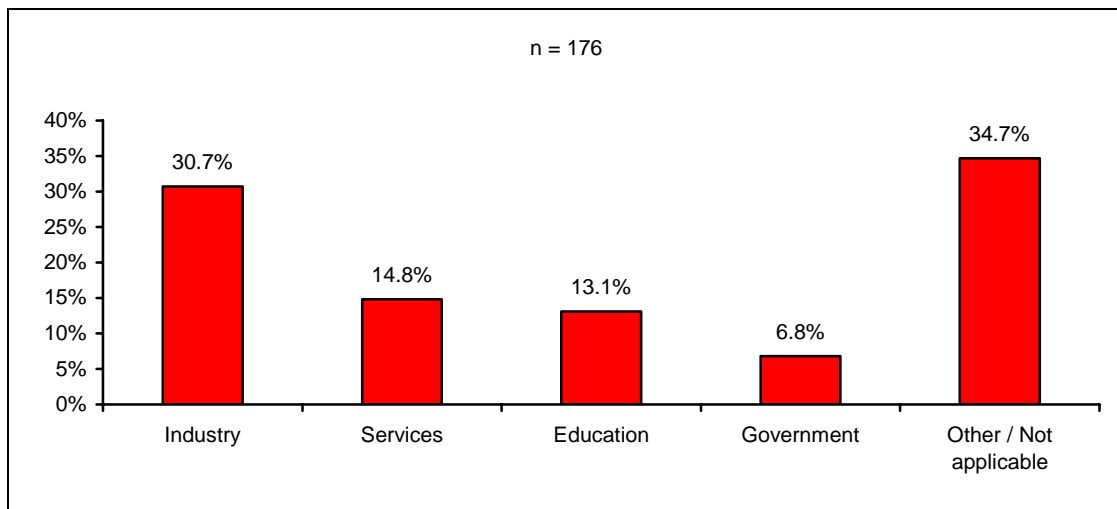


## 2.8 Employment

### 2.8.1 Employment sector

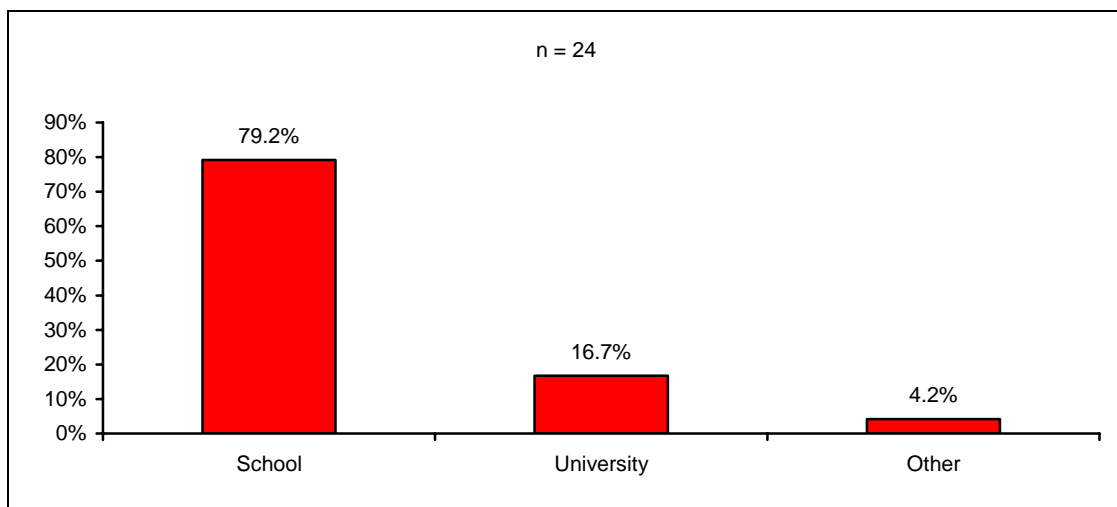
The largest proportion 30.7% (n=54) of respondents stated that were currently employed in the industry sector. 34.7% (n=61) stated that they were working in a sector that was not listed or that the questions were not applicable to them (Figure 7).

Figure 7: Employment Sector



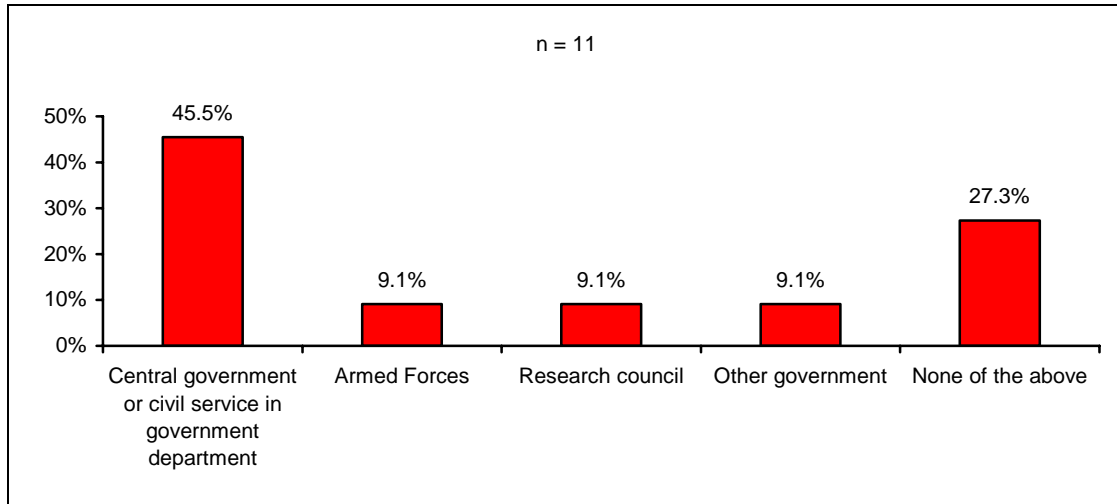
13.1% (n=24) of respondents stated they were currently working in the education sector, of this the majority (79.2%) were working in schools and 16.7% were working in universities (Figure 8).

Figure 8: Area of Education sector



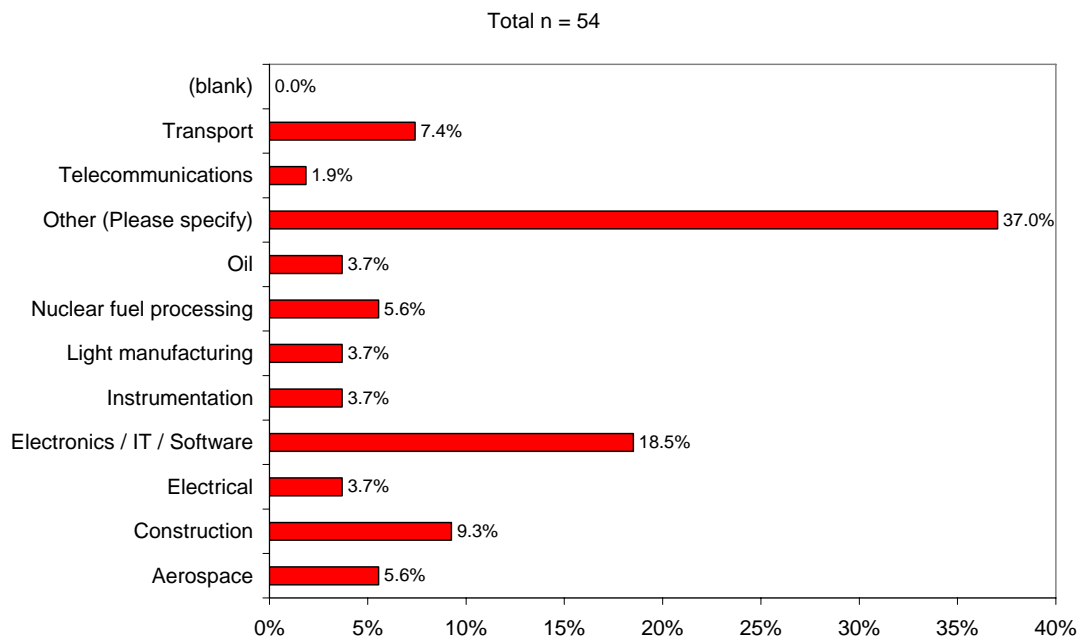
6.8% (n=11) of respondents were working in the government sector, of this 45.5% (n=5) were working in central government or civil service in a government department (Figure 9).

Figure 9: Area of Government sector



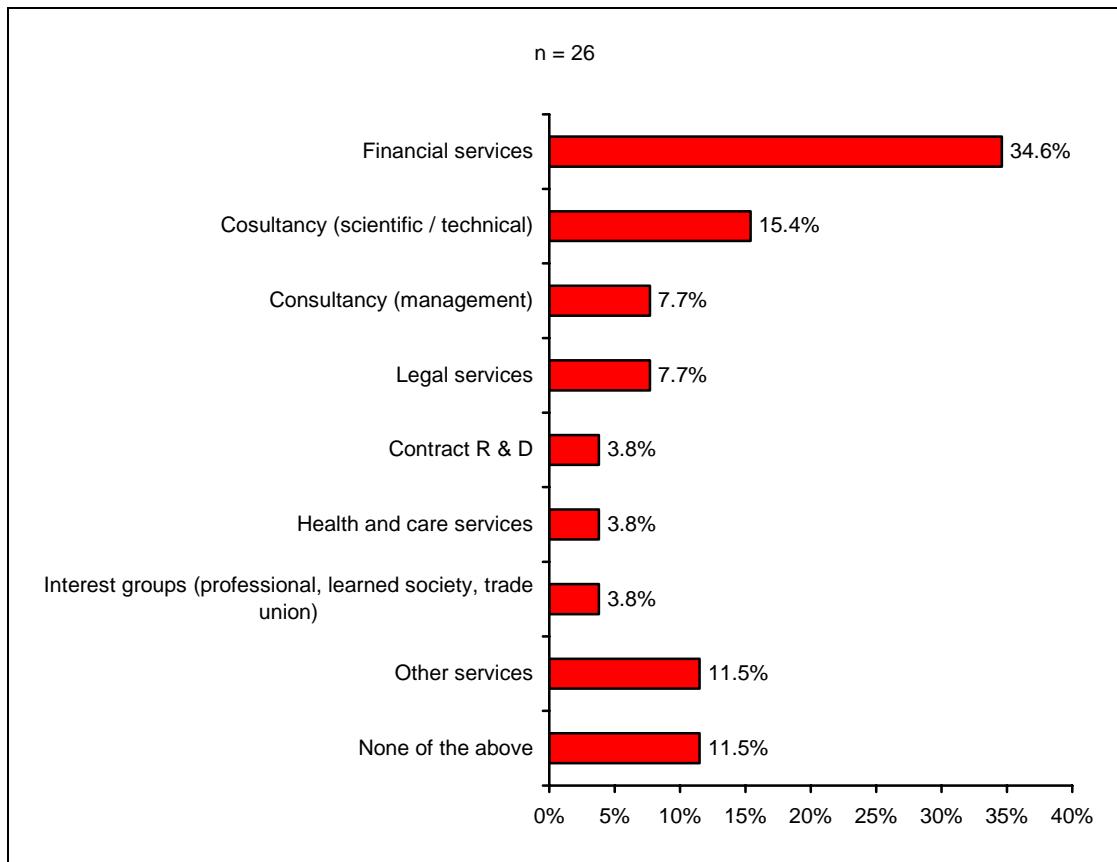
30.7% (n=54) of respondents were working in industries, and the spread of the types of industries respondents were working in was quite varied (Figure 10). 18.5% (n=10) were working in electronics / IT or software industries. 37% of these respondents stated they were working in an industry area that was not listed; however, the other responses provided display a wide range of industries.

Figure 10: Type of Industry



14.8% (n=26) of respondents stated they were working in the services sector, 34.6% (n=9) of which were working in financial services (see Figure 11).

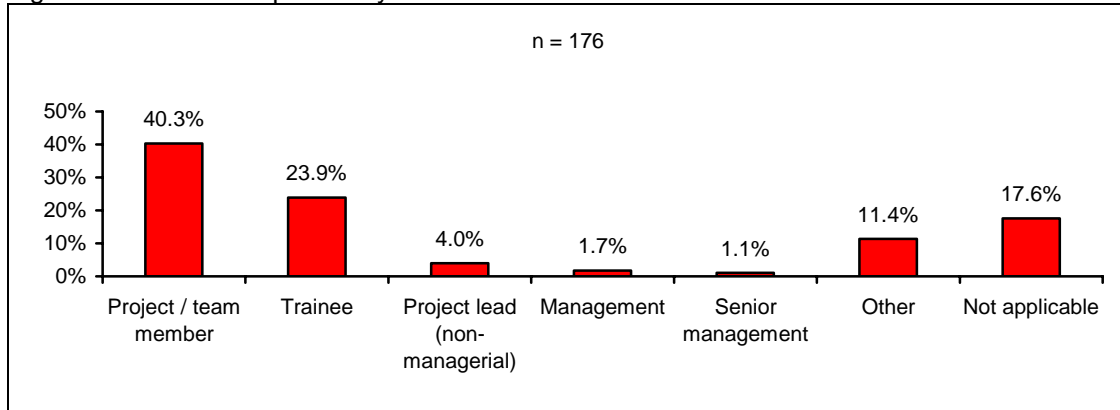
Figure 11: Type of Service



### 2.8.2 Level of responsibility

40.3% (n=71) of respondents were working in positions where they had the responsibility of being a project / team member whilst 23.9% were working as trainees (Figure 12). Very few respondents were working in management level roles (1.7% n=3) and even fewer were working in senior management level positions (1.1%).

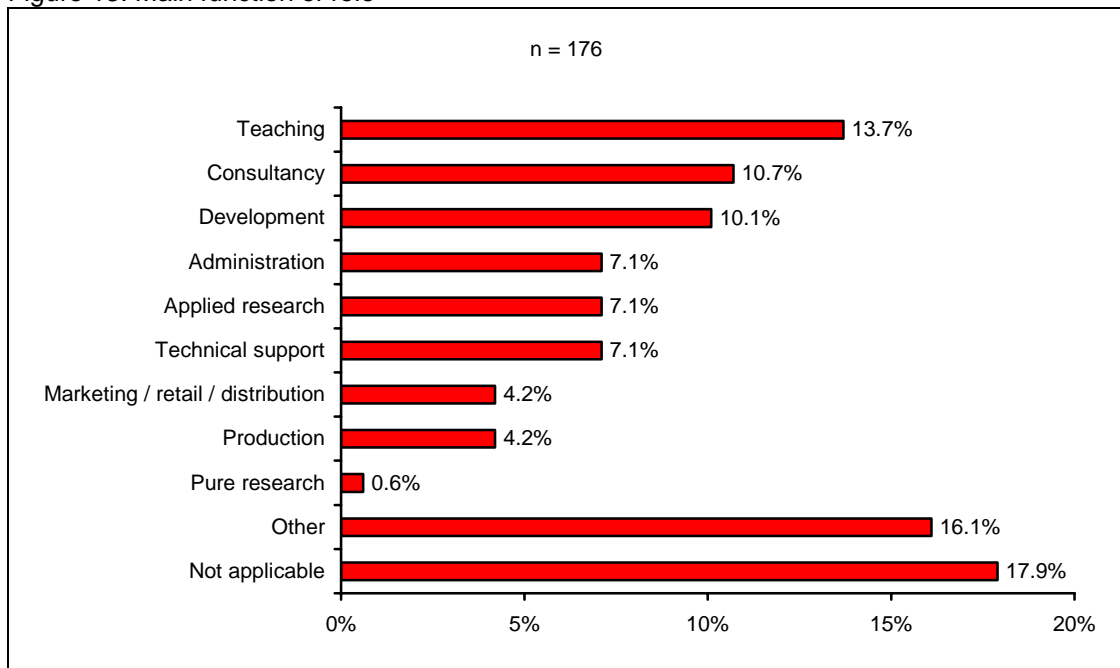
Figure 12: Level of responsibility



### 2.8.3 Function of role

Respondents were asked to state the main function of their role; as can be seen in Figure 13, respondents were carrying out a variety of roles. The most commonly mentioned functions were teaching, consultancy and development. Respondents who answered 'other' or 'not applicable' to this question were given the opportunity to elaborate on their answer and specify the main function of their role. The responses received were very broad and showed no specific trend, although four were carrying out technical support of some nature.

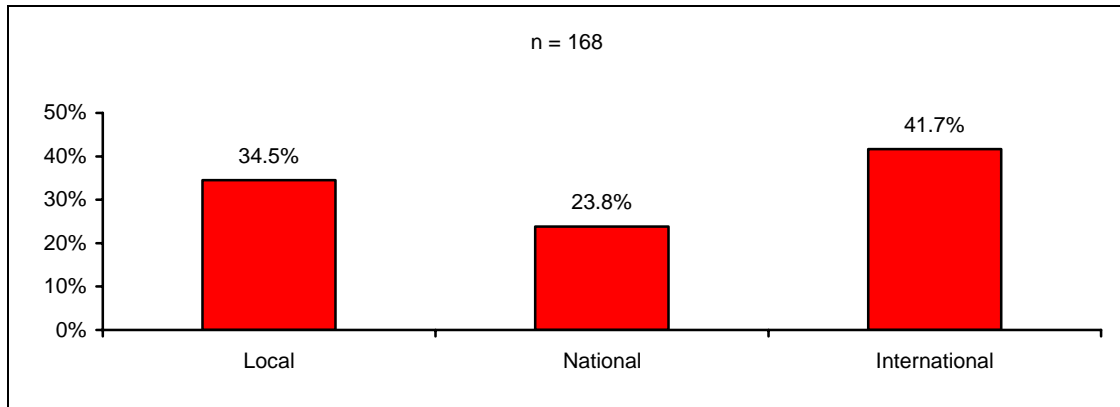
Figure 13: Main function of role



## 2.8.4 Type of organisation

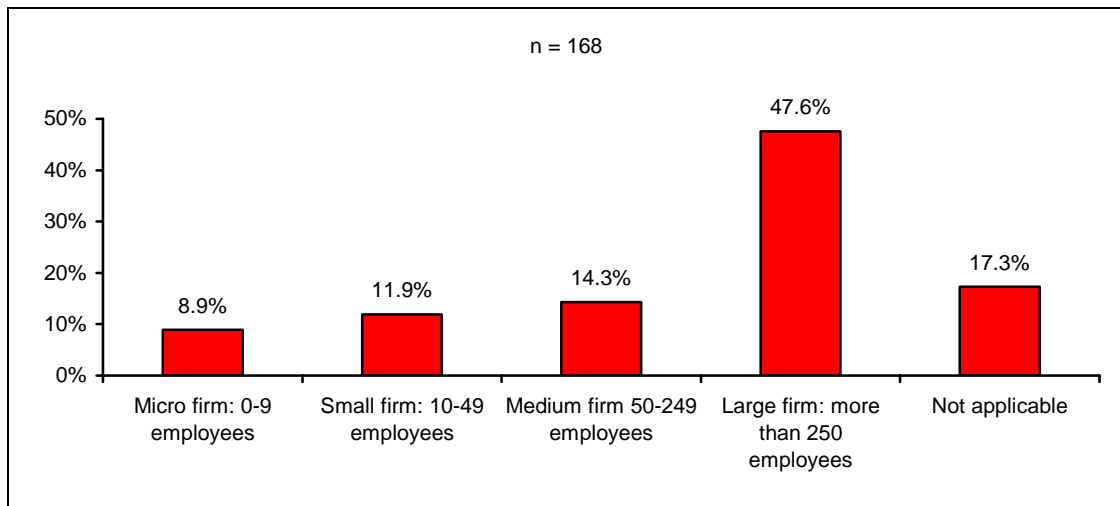
The geographic spread of organisations was quite well distributed amongst all local, national and international organisations (see Figure 14). More respondents worked in international organisations (41.7% n=70) than local or national organisations.

Figure 14: Geographic spread of organisations



Many respondents (47.6% n=80) were working in large firms, with more than 250 employees (Figure 15).

Figure 15: Size of organisations



### 2.8.5 Earnings and mode of work

Most respondents (89.1%) were earning less than £30,000 a year (Figure 16). 32% of respondents stated they were earning anything up to £19,999 (n=47) and 38.1% (n=56) stated they were earning between £20,000 and £24,999 a year. The majority (91%) of respondents stated that they were working full time (Figure 17).

Figure 16: Salary of respondents

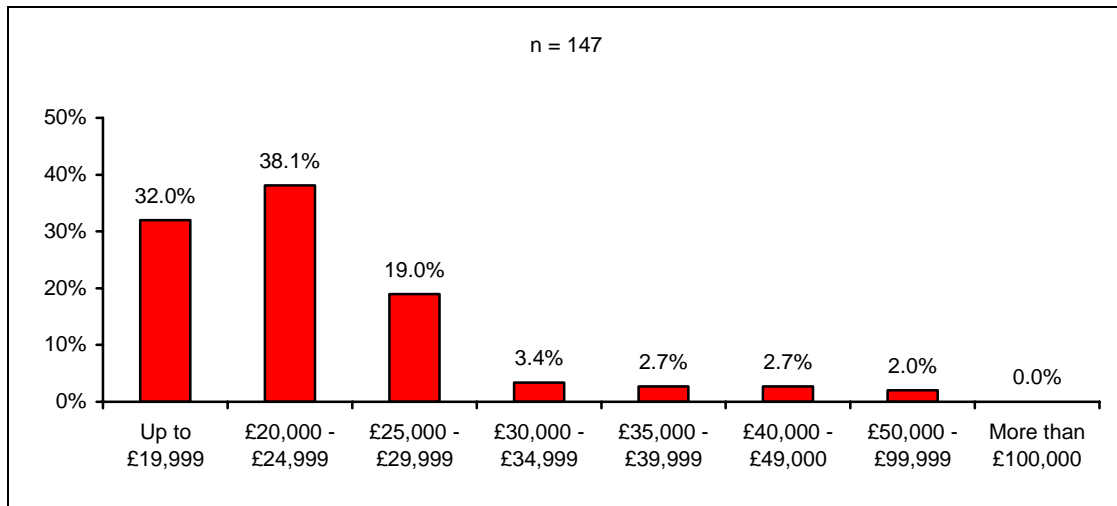
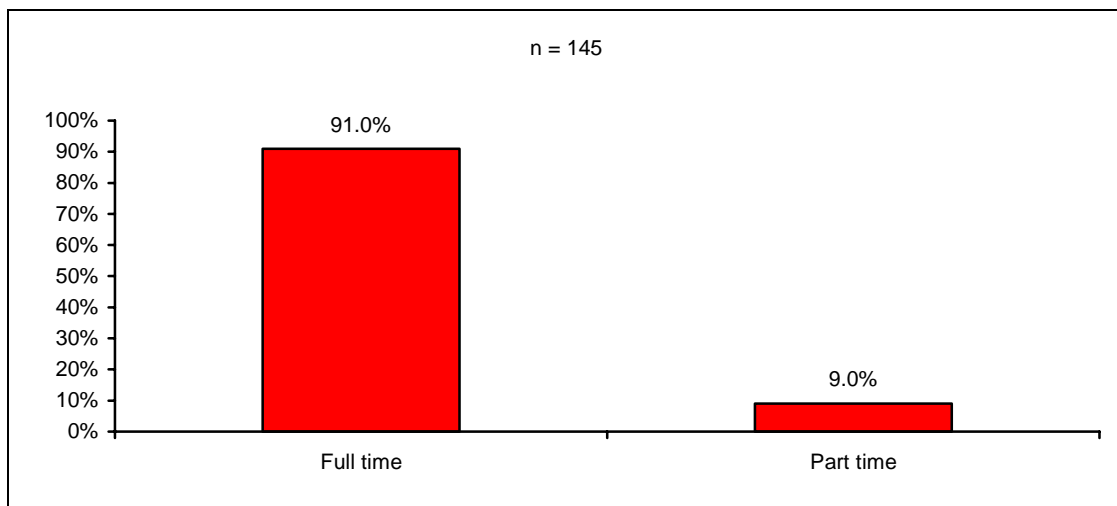


Figure 17: Mode of work; Full time / part time



### 2.8.6 Relation of occupation to physics

61% (n=92) of respondents stated that their current occupation was either not at all related or not particularly related to physics (Figure 18). However, 78% (n=117) of respondents stated that they found their physics background either quite useful or very useful in their current occupation (Figure 19).

Figure 18: Relatedness of current occupation and physics

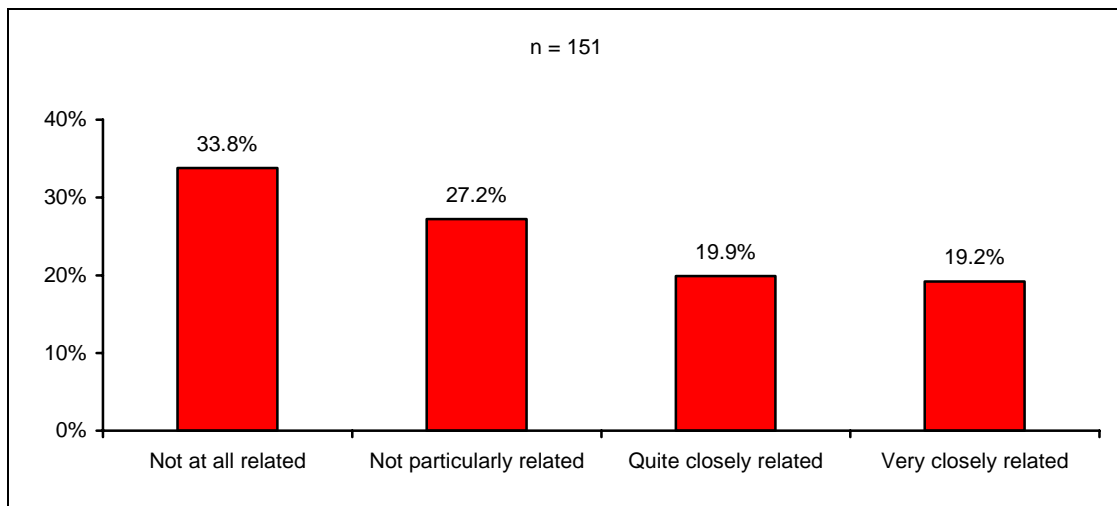
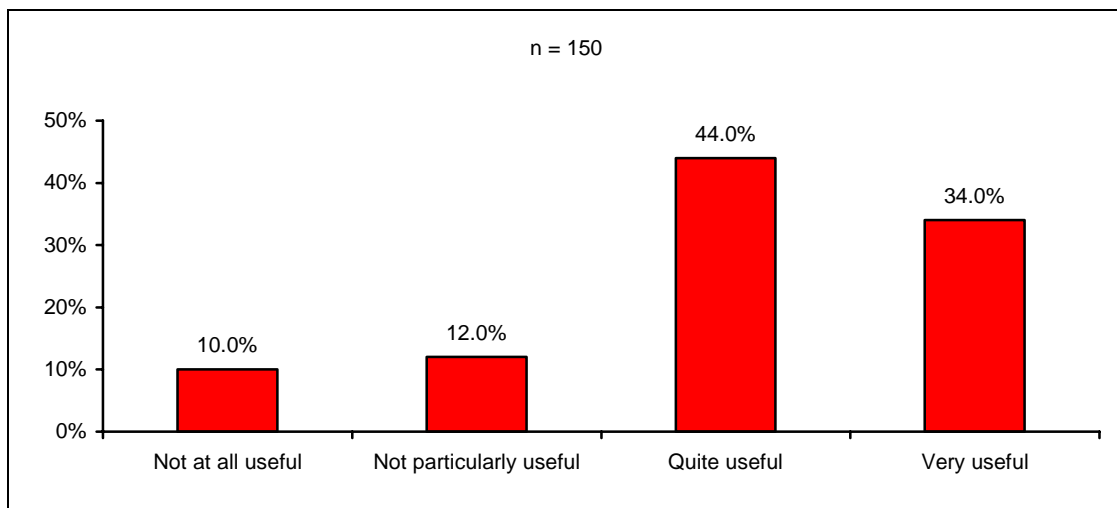


Figure 19: Usefulness of physics background in current occupation



### 2.8.7 Career Breaks

Most respondents (81.5%, n = 318) had not taken a career break (Figure 20). Of those who had, 50.7% (n = 35) had taken a break lasting between 7 and 12 months, and 42% (n = 29) had taken a break lasting between of up to 6 months (Figure 21).

Figure 20: Whether or not respondents have taken career breaks

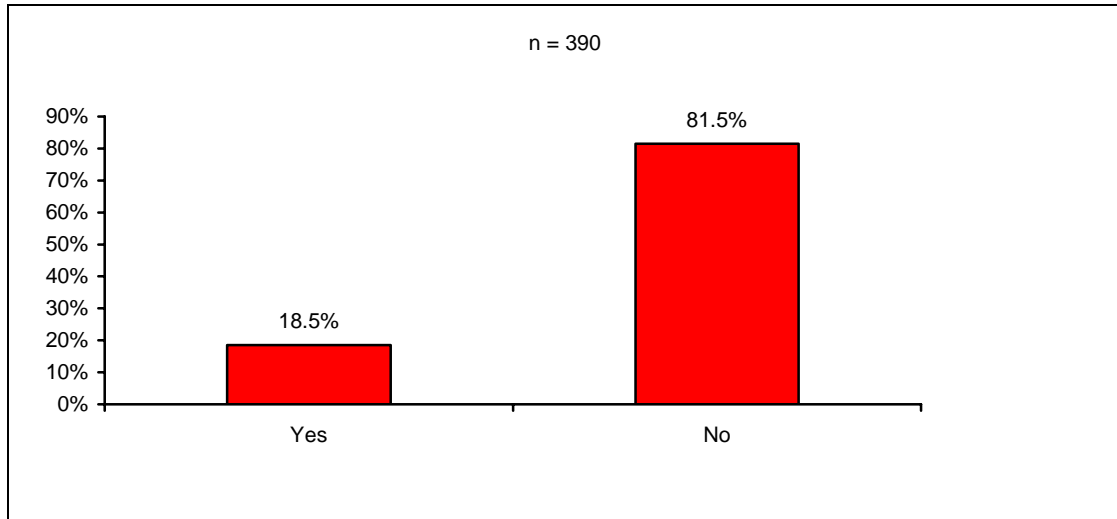
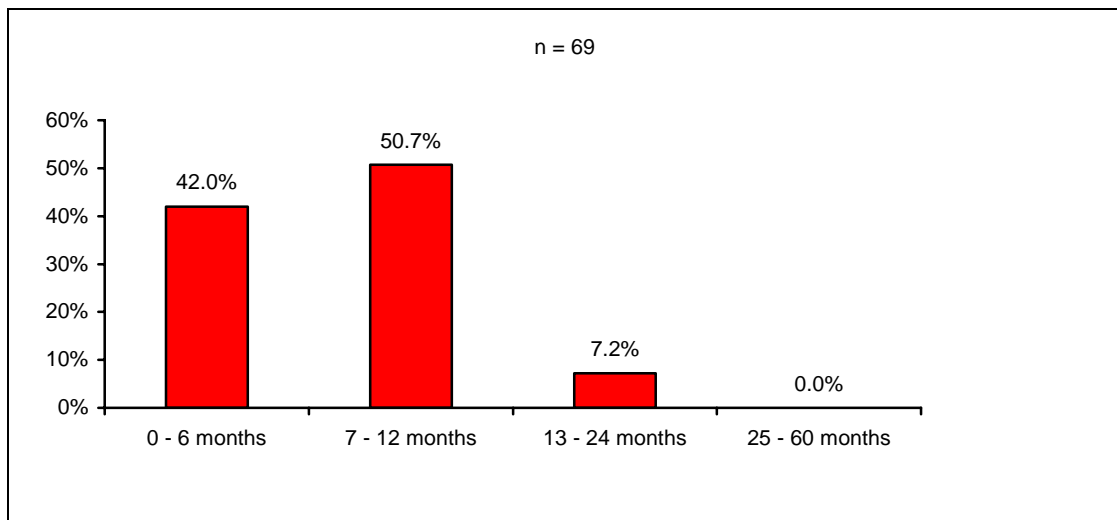


Figure 21: Length of career break



## **Appendix 1: Occupational classifications**

Source: Office for National Statistics (ONS): Standard Occupational Classifications 2000

### **Major group 1: Managers and senior officials**

Corporate managers

Managers and proprietors in agriculture and services

### **Major group 2: Professional occupations**

Science and technology professionals

Health professionals

Teaching and research professionals

Business and public service professionals

### **Major group 3: Associate professional and technical occupations**

Science and technology associate professionals

Health and social welfare associate professionals

Protective service occupations

Culture, media and sports occupations

Business and public service associate professionals

### **Major group 4: Administrative and secretarial occupations**

Administrative occupations

Secretarial and related

### **Major group 5: Skilled trades occupations**

Skilled agriculture trades

Skilled metal and electrical trades

Skilled construction and building trades

Textiles, printing and other skilled trades

### **Major group 6: Personal service occupations**

Caring personal service occupations

Leisure and other personal service occupations

### **Major group 7: Sales and customer service occupations**

Sales occupations

Customer service occupations

**Major group 8: Process, plant and machine operatives**

Process, plant and machine operatives

Transport and mobile machine drivers and operatives

**Major group 9: Elementary occupations**

Elementary trades, plant and storage related occupations

Elementary administration and service occupations

## Appendix 2: Table of institutions attended by 2006 graduating cohort

Institution	Frequency (n=410)	Proportion (%)
Durham	35	8.5%
Manchester	30	7.3%
Imperial	25	6.1%
York	20	4.9%
Bristol	19	4.6%
Cambridge	16	3.9%
Liverpool	15	3.7%
Warwick	14	3.4%
St Andrews	13	3.2%
Birmingham	12	2.9%
Nottingham	12	2.9%
QMUL	11	2.7%
Aberystwyth	10	2.4%
Lancaster	10	2.4%
Open	10	2.4%
Edinburgh	9	2.2%
Heriot Watt	9	2.2%
Leeds	9	2.2%
Leicester	9	2.2%
Oxford	9	2.2%
Bath	8	2.0%
QUB	8	2.0%
Sheffield	8	2.0%
Cardiff	7	1.7%
Swansea	7	1.7%
Hull	6	1.5%
Keele	6	1.5%
Glasgow	5	1.2%
Hertfordshire	5	1.2%
Salford	5	1.2%
Surrey	5	1.2%
Sussex	5	1.2%
UCL	5	1.2%
Exeter	4	1.0%
Reading	4	1.0%
Strathclyde	4	1.0%
Aberdeen	3	0.7%
KCL	3	0.7%
Loughborough	3	0.7%
Royal Holloway	3	0.7%
Southampton	3	0.7%
Kent	2	0.5%
UCLAN	2	0.5%
Nottingham Trent	1	0.2%
Paisley	1	0.2%