Employment rates for biological sciences

Employment circumstances of BS respondents varied slightly more than the all disciplines average. The combined total entering UK employment or working and studying in the UK ranged from 74% (2005) to 80% (2007). Working and studying overseas accounted for between 8% (2007) and 12% (2003 and 2005).

Over 2003–2007, BS respondents entering employment or combining work and study in the UK was 77% compared with 81% of all respondents. The proportion of those working or studying overseas (10%) was above that for all respondents (7%). Unemployment was 3.9% (also 3.9% in 2007) compared with 3.4% across all disciplines (3.1% in 2007). However, the employment picture at broad discipline level masks variations between different subjects.

Biology accounted for 32% of UK-domiciled BS doctoral graduates, and biochemistry, molecular biology and biophysics 21%; all other subject groups had fewer than 10%. Amalgamating data from 2003–2007 creates sufficient numbers to identify employment rates, sectors and occupations doctoral graduates entered in the following subjects: biology; biochemistry, molecular biology and biophysics; microbiology; and agriculture. All other BS subjects are discussed as 'other biological sciences[4].

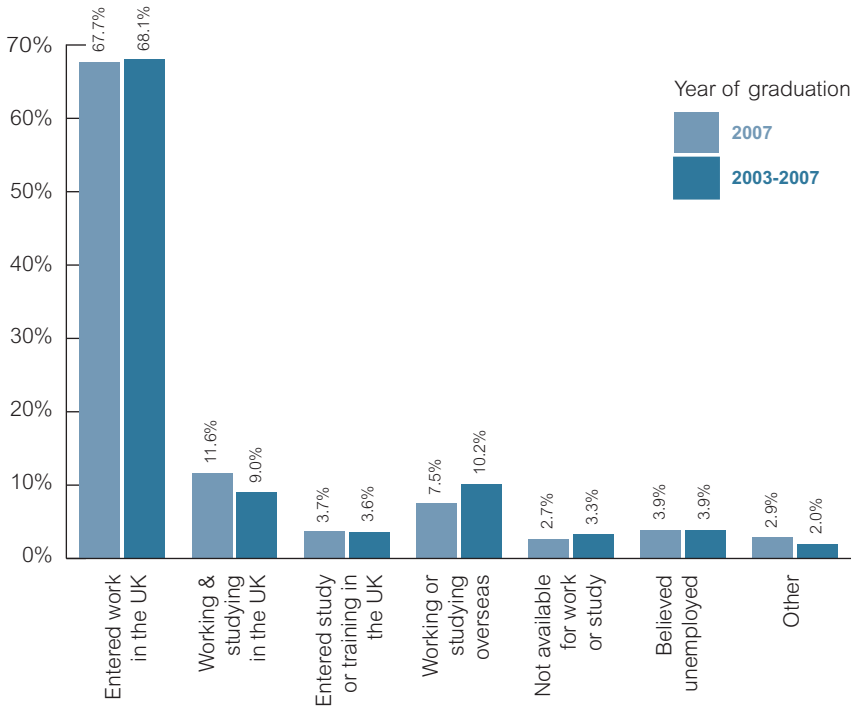

Figure 1: Employment circumstances of UK-domiciled BS doctoral graduate respondents: 2007 and 2003–2007 comparison

Summary of employment outcomes by subject 2003–2007

BS UK-domiciled respondents	Biology	Biochemistry, molecular biology and biophysics	Microbiology	Agriculture	Other subjects in biological sciences
Entered work in the UK	66.6%	67.7%	77.1%	71.8%	67.2%
Working and studying in the UK	8.8%	8.0%	4.8%	9.9%	10.5%
Entered study or training in the UK	3.3%	4.1%	1.1%	2.4%	4.1%
Working or studying overseas	10.5%	12.7%	9.6%	6.4%	9.0%
Not available for work or study	3.8%	3.1%	2.4%	3.5%	3.2%
Believed unemployed	4.3%	2.9%	3.7%	3.8%	4.3%
Other	2.7%	1.4%	1.3%	2.1%	1.6%

Table 2: Employment circumstances of UK-domiciled BS doctoral graduates 2003–2007: respondents in different subjects in biological sciences

[4] Other biological science subjects include animal science, botany, food and beverage studies, forestry, genetics, sports science, veterinary medicine, dentistry and science, zoology.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Employment sectors for biological sciences doctoral graduates

Employment in the education sector (both higher and other education) accounted for half of BS respondents who graduated in 2007 (50%) similar to the BS and all disciplines (49% 2003–2007).

Manufacturing was the second most popular employment sector for BS respondents (22% 2003–2007), above the average for all respondents (14%). After a decline from 25% (2003) to 21% (2004) BS employment in manufacturing remained stable.

Among 2007 BS respondents, the finance, business and IT sectors overtook health and social work as the third most popular destination. 10% of respondents entered these sectors in 2007, compared with 7% over 2003–2007 as a whole.

Employment in the health and social work sectors ranged between 8% (2007) and 12% (2004 and 2005) and averaged 10% over 2003–2007.

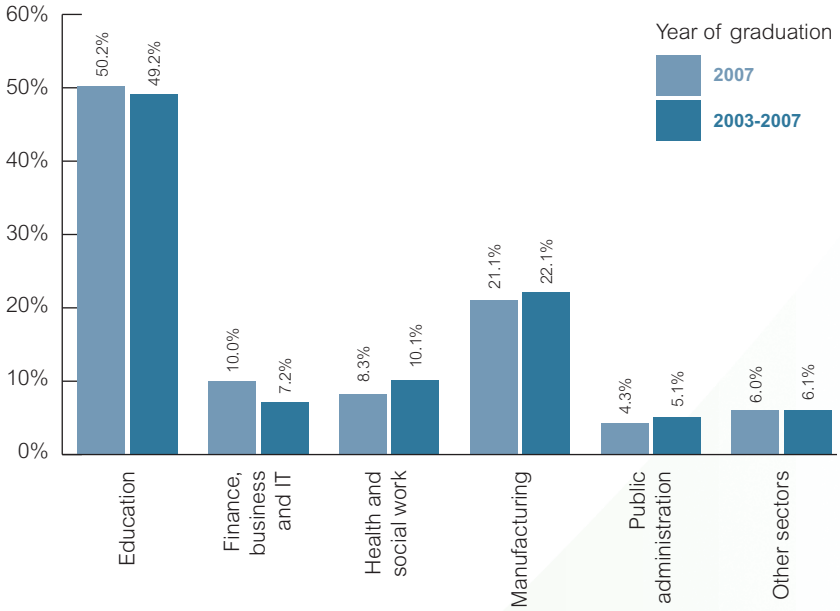

Figure 2: Employment sectors entered by UK-domiciled BS respondents working in the UK, based on Standard Industrial Classifications (SIC): 2007 and 2003–2007 comparison

Summary of employment sectors by subject 2003–2007

BS UK-domiciled respondents	Biology	Biochemistry, molecular biology and biophysics	Microbiology	Agriculture	Other subjects in biological sciences
Education	49.4%	50.4%	47.3%	50.9%	48.4%
Finance, business and IT	8.0%	7.6%	7.0%	6.3%	6.5%
Health and social work	8.7%	10.5%	14.8%	0.3%	11.9%
Manufacturing	19.5%	26.0%	27.4%	17.0%	22.2%
Public administration	7.3%	2.2%	1.6%	12.6%	4.3%
Other sectors	7.1%	3.4%	1.9%	12.9%	6.7%
Other	2.7%	1.4%	1.3%	2.1%	1.6%

Table 3: Employment sectors entered by UK-domiciled BS respondents working in the UK and graduating in 2003–2007 from different biological sciences subjects, based on Standard Industrial Classifications (SIC) returned in the DLHE surveys

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Occupations of biological sciences doctoral graduates

Over three in every five BS respondents were employed in research occupations, the highest proportion of any discipline. Research roles occur across the different types of employment shown in Table 4. Analysis of SOCs shows research occupations accounted for a total of 64% of 2003–2007 BS respondents employed in the UK. Further analysis showed 36% of BS respondents entered research staff roles in higher education[6]. BS researchers outside HE were typically employed in research institutes, pharmaceutical and chemical companies[7]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were well above the averages for the doctoral population as a whole, at 35% and 23% respectively, and were the highest proportions of any discipline group.

9% (225) of BS respondents were employed as 'education and teaching professionals' across all sectors of education 2003–2007. This proportion is considerably lower than that for all disciplines (22%). 115 of these, 4% of all BS respondents, gained HE lectureship positions compared with 14% across all disciplines. The proportions entering education and teaching roles in general and HE lectureships in particular were the lowest of all the discipline groups.

Patterns of employment for BS respondents 2003–2007 show a strong link between research subject and occupation, with relatively few BS respondents entering occupations only indirectly related or unrelated to their subject area[8]. For example, 5% were employed as 'commercial, industrial and public sector managers', compared with 7% across all respondents. However, the 4% employed in 'marketing, sales, media or advertising professional' roles was above the all disciplines average of 3%.

Overall, 2003–2007 was a relatively stable period for BS doctoral graduate employment. UK employment rates were below that for all disciplines; conversely, a higher proportion of BS respondents chose to continue their career abroad. Research role destinations dominated and were well above the average for the doctoral population as a whole. We now look in more detail at the employment rates, sectors and occupations of BS doctoral graduates by subject.

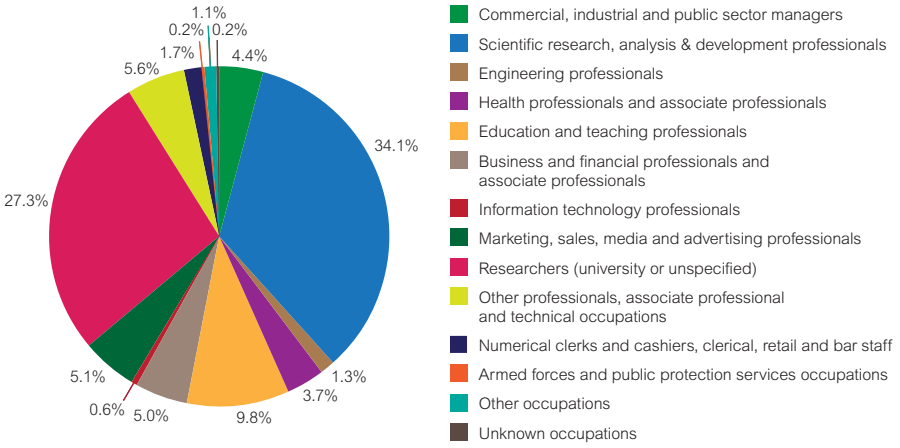

Figure 3: Types of work entered by UK-domiciled BS doctoral graduates (2007), based on Standard Occupational Classifications (SOC) returned in the DLHE surveys[5]

BS UK-domiciled respondents	2003	2004	2005	2006	2007	Total
Commercial, industrial and public sector managers	5.3%	5.4%	5.5%	4.9%	4.4%	5.1%
Scientific research, analysis & development professionals	40.7%	38.7%	40.6%	39.1%	34.1%	38.6%
Engineering professionals	1.2%	1.1%	1.2%	1.0%	1.3%	1.2%
Health professionals and associate professionals	4.3%	5.7%	4.3%	3.1%	3.7%	4.2%
Education and teaching professionals	8.4%	8.6%	7.2%	9.7%	9.8%	8.8%
Business and financial professionals and associate professionals	3.1%	2.3%	2.5%	3.8%	5.0%	3.4%
Information technology professionals	1.4%	0.9%	0.2%	1.0%	0.6%	0.8%
Marketing, sales, media and advertising professionals	3.5%	2.2%	3.8%	4.5%	5.1%	3.8%
Researchers (university or unspecified)	23.1%	23.7%	25.6%	23.3%	27.3%	24.6%
Other professionals, associate professional and technical occupations	6.6%	7.4%	5.4%	6.4%	5.6%	6.3%
Numerical clerks and cashiers, clerical, retail and bar staff	0.6%	2.2%	2.5%	2.0%	1.7%	1.8%
Armed forces and public protection services occupations	0.2%	0.2%	0.0%	0.2%	0.2%	0.2%
Other occupations	1.6%	1.5%	1.0%	0.9%	1.1%	1.2%
Unknown occupations	0.0%	0.0%	0.2%	0.2%	0.2%	0.1%

Table 4: Types of work entered by UK-domiciled BS doctoral graduates (2003–2007), based on Standard Occupational Classifications (SOC) returned in the DLHE surveys[9]

[5] Types of work being undertaken by UK-domiciled respondents working in the UK on January 15 2008 after graduating from UK universities in 2007.

[6] The methods for calculating doctoral graduates employed in research related roles and as research staff in HE are given in the methodology chapter.

[7] Small numbers were also identified in the food and drink industry and in the manufacture of precision instruments.

[8] The 6% employed in 'other professionals, associate professional and technical occupations' included conservation roles and some lab technicians.

[9] Types of work being undertaken by UK-domiciled respondents working in the UK on January 15 2004, 2005, 2006, 2007 and 2008 after graduating from UK universities in 2003, 2004, 2005, 2006 and 2007.

Biology

1660 UK-domiciled doctoral graduates (32% of BS cohort), 1140 respondents (69%) of which 860 entered employment in the UK (2003–2007)

Biology was the largest subject within biological sciences, accounting for nearly one third of BS doctoral graduates (32%) over 2003–2007. Over half of UK-domiciled biology doctoral graduates were female (54%); 13% gained their doctorate through part-time study. The subject area mirrored the BS average in terms of outcomes for employment (Table 2). The top employment sectors were also similar to the BS average, with the education sector employing 49% of respondents in both biology and all of BS, while manufacturing took 20% for biology compared with 22% for BS overall (Table 3).

Research roles were the dominant occupations. These occur across the different types of occupation shown in Figure 4. Analysis of SOCs shows research occupations accounted for a total of 62% of biology respondents employed in the UK. Further analysis showed 38% of respondents entered research staff roles in higher education[10]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were close to the discipline averages (64% and 36%) .

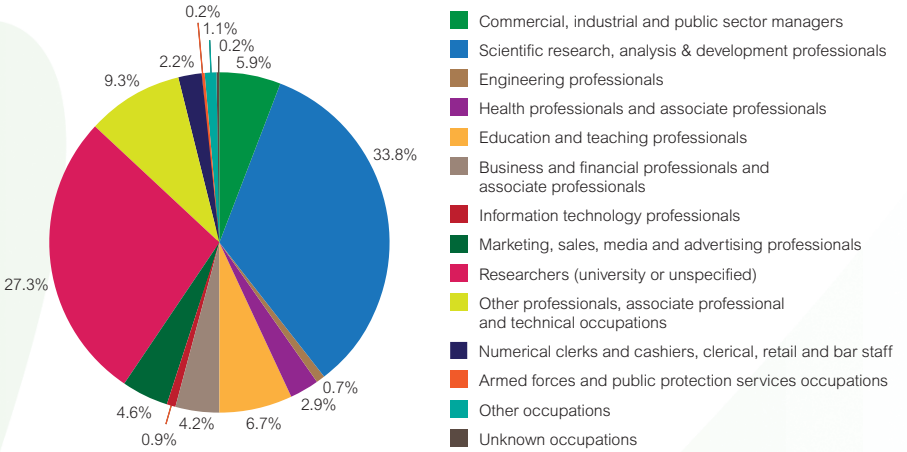

Figure 4: Types of work entered into by UK-domiciled respondents employed in the UK, graduating in 2003–2007 in biology, based on Standard Occupational Classifications (SOC) returned in the DLHE surveys

The only other significant category was 'other professionals, associate professional and technical occupations' at 9%, above the BS average of 6%.

At 7% the proportion entering 'education and teaching' roles was below the average across BS subjects (9%) and well below respondents across all disciplines (22%). Only 3% of respondents became HE lecturers. Conversely, the proportions entering 'marketing, sales and advertising' (5%) and 'business and finance professionals' (4%) were slightly above those for all BS subjects and all disciplines.

Biochemistry, molecular biology and biophysics

1075 UK-domiciled doctoral graduates (21% of BS cohort), 740 respondents (69%) of which 550 entered employment in the UK (2003–2007)

Biochemistry, molecular biology and biophysics accounted for one in five UK-domiciled BS doctoral graduates over 2003–2007. These subjects had the lowest percentage of UK-domiciled doctoral graduates who had studied part-time outside the physical sciences subjects, at 7%. 53% of UK-domiciled doctoral graduates were female. 13% of respondents from these subjects chose to continue their career abroad (Table 2), along with chemistry, the highest proportion of any subject over 2003–2007. The education sector, largely higher education, absorbed the most respondents employed in the UK (50%), followed by the manufacturing sector (26%) (Table 3).

Research roles strongly dominated. These occur across the different types of employment shown in Figure 5. Analysis of SOCs shows research occupations accounted for a total of 71% of biochemistry, molecular biology and biophysics respondents employed in the UK. Further analysis showed 43% of respondents entered research staff roles in higher education[10]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were above the discipline averages (64% and 36%). Respondents from these subjects were the most likely of any subject to be employed as research staff in higher education, and, along with microbiology, to be in a research role across any sector.

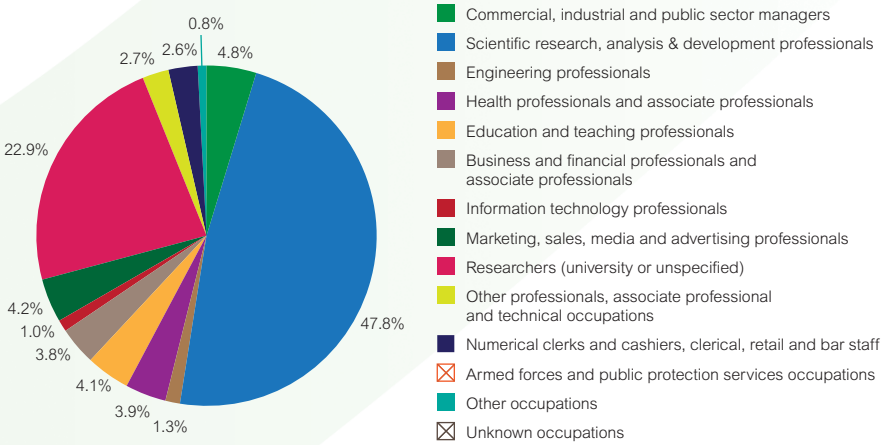

Figure 5: Types of work entered into by UK-domiciled respondents employed in the UK, graduating in 2003–2007 in biochemistry, molecular biology and biophysics, based on Standard Occupational Classifications (SOC) returned in the DLHE surveys

Conversely, only 4% entered 'education and teaching roles', compared with 9% across BS and 22% across all disciplines. Less than 2% became HE lecturers (4% in BS and 14% overall). The remaining respondents were spread in small numbers across a wide variety of occupations.

[10] The methods for calculating doctoral graduates employed in research related roles and as research staff in HE are given in the methodology chapter.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Microbiology

345 UK-domiciled doctoral graduates (7% of BS cohort), 230 respondents (66%) of which 185 entered employment in the UK (2003–2007)

54% of UK-domiciled doctoral graduates in microbiology were female, 13% gained their doctorate part-time. These proportions mirrored the BS averages. Respondents in microbiology were least likely of those in BS subjects to be combining UK work with study, or to enter further study/training (Table 2).

The education sector, largely higher education, absorbed the most respondents employed in the UK (47%), followed by manufacturing (26%). Respondents in microbiology were slightly more likely to be employed in the health and social work (15%) sector than those in other BS subjects (Table 3).

Research roles were the prime destination for respondents in microbiology. Research roles occur across the different types of employment shown in Figure 6. Analysis of SOCs shows research occupations accounted for a total of 71% of microbiology respondents employed in the UK. Further analysis showed 38% of respondents entered research staff roles in higher education[11]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were above the BS discipline averages (64% and 36%). Microbiology respondents were, jointly with respondents from biochemistry, molecular biology and biophysics, the most likely of any subject to be employed in a research role. The proportion of microbiology respondents working in research roles outside academia at 33% was particularly high. Only chemistry had a higher proportion (36%).

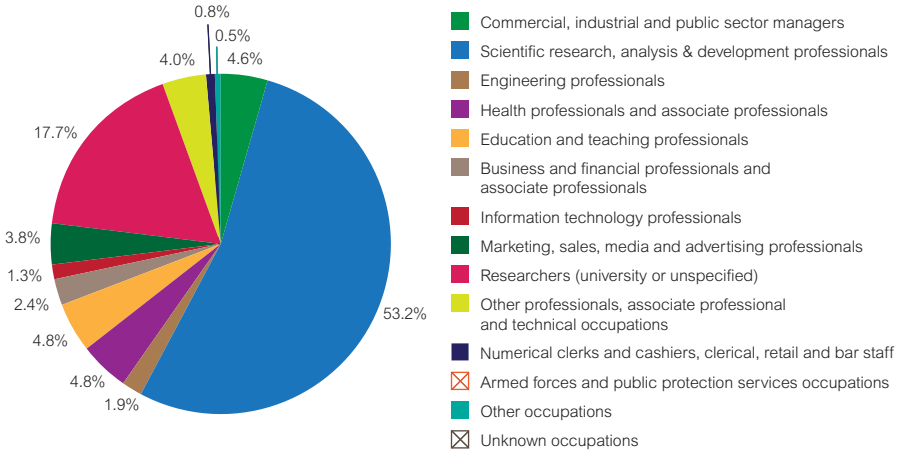

Figure 6: Types of work entered into by UK-domiciled respondents employed in the UK, graduating in 2003–2007 in microbiology, based on Standard Occupational Classifications (SOC) returned in the DLHE surveys

Conversely, only 5% entered 'education and teaching professional' roles[12], compared with 9% across all BS subjects and 22% across the doctoral graduate population as a whole. The remaining respondents were spread in small numbers across a wide variety of occupations.

Agriculture

250 UK-domiciled doctoral graduates (5% of BS cohort), 185 respondents (75%) of which 150 entered employment in the UK (2003–2007)

50% of UK-domiciled doctoral graduates in agriculture were female; 22% gained their doctorate through part-time study (the highest proportion of the discipline, though still below the all disciplines average of 27%). Respondents in agriculture were the least likely in BS to continue their career abroad at 6% (Table 2). The education sector, largely higher education, absorbed the most respondents employed in the UK (51%), followed by the manufacturing sector (17%). Public administration and other sectors, which include the land-based sectors, each accounted for 13% (Table 3) – among the highest proportions for these sectors across all respondents.

Research roles were the dominant occupations. These occur across the different types of employment shown in Figure 7. Analysis of SOCs shows research occupations accounted for a total of 60% of agriculture respondents employed in the UK. Further analysis showed 28% of respondents entered research staff roles in higher education[11]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were below the discipline averages (64% and 36%) but above those for respondents as a whole (35% and 23%).

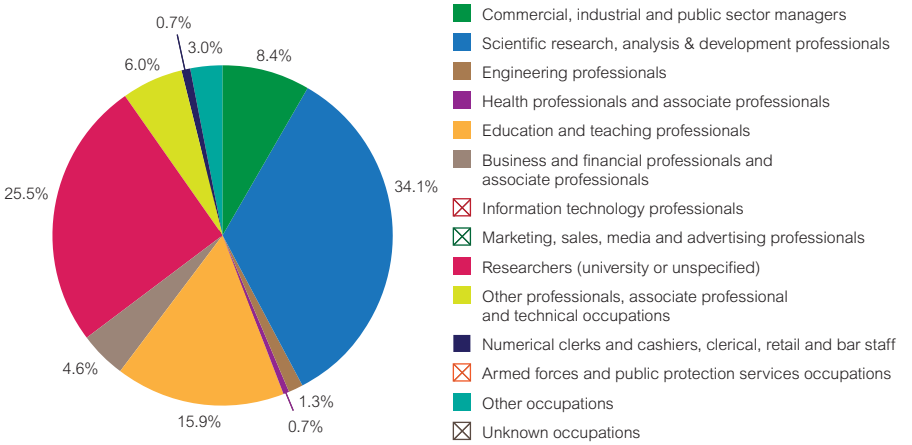

Figure 7: Types of work entered into by UK-domiciled respondents employed in the UK, graduating in 2003–2007 in agriculture, based on Standard Occupational Classifications (SOC) returned in the DLHE surveys

'Education and teaching professional' roles accounted for 16%, well above the average across BS subjects (9%), though below the average for respondents across all disciplines (22%). The proportion of respondents in HE lecturer roles was 9%, which was the highest proportion of the BS subjects analysed.

The only other significant destinations for respondents in agriculture were 'commercial, industrial and public sector manager' occupations. These absorbed 8%, compared with 5% of all BS doctoral graduates and 7% across respondents as a whole.

[11] The methods for calculating doctoral graduates employed in research related roles and as research staff in HE are given in the methodology chapter.

[12] Only 1% (fewer than five respondents) became HE lecturers.

Other biological sciences[13]

1805 UK-domiciled doctoral graduates (35% of BS cohort), 1095 respondents (61%) of which 840 entered employment in the UK (2003–2007)

53% of UK-domiciled doctoral graduates in other biological sciences were female; 18% gained their doctorate through part-time study[14]. Respondents were narrowly the most likely group in BS to be combining work and study in the UK (Table 2). The education sector, largely higher education, absorbed the most other biological sciences respondents employed in the UK (48%), followed by the manufacturing sector (22%) (Table 3).

The spread of occupations entered by respondents in other biological sciences reflects the wide range of smaller subjects that have been combined to form this category, such as sports science, genetics and zoology.

Research roles absorbed three in five respondents in other biological sciences. Research roles occur across the different types of employment shown in Figure 8. Analysis of SOCs shows research occupations accounted for a total of 60% of respondents from these subjects employed in the UK. Further analysis showed 32% of respondents entered research staff roles in higher education[15]. The proportions of respondents employed in research roles across all employment sectors and as research staff in higher education were a little below BS discipline averages (64% and 36%, respectively) but well above those for respondents as a whole (35% and 23%).

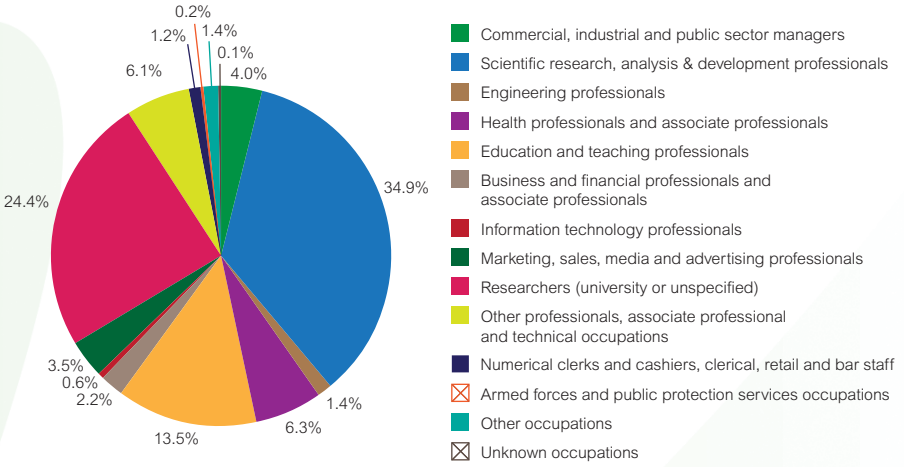

Figure 8: Types of work entered into by UK-domiciled respondents employed in the UK, graduating in 2003–2007 in other subjects in biological sciences, based on Standard Occupational Classifications (SOC) returned in the DLHE surveys

UK-employed respondents in other biological sciences were more likely to enter 'education and teaching professional' roles (14%), compared with the BS average (9%), though still below the all disciplines average of 22%. 8% were employed as HE lecturers, also a higher proportion than the BS average (4%). The 6% entering 'health professional and associate professional' roles was also higher than across all BS subjects (4%).

[13] Other biological science subjects include animal science, botany, food and beverage studies, forestry, genetics, sports science, veterinary medicine, dentistry and science, zoology.

[14] The BS discipline is notable for its consistency in the proportion of females (50%–54%), while the proportion of BS respondents who gained their doctorate through part-time study 2003–2007 ranged from 7% to 22%.

[15] The methods for calculating doctoral graduates employed in research related roles and as research staff in HE are given in the methodology chapter.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Biomedical sciences

Biomedical sciences doctoral graduates at a glance

Doctoral graduates from the biomedical sciences (BMS) made up 25% of all UK-domiciled doctoral graduates in 2007 and 26% over the period 2003–2007.

- The number of BMS UK-domiciled doctoral graduates grew from 1825 in 2003 to 1970 in 2007[1]. Over 2003–2007 BMS made up between 25% and 27% of all UK-domiciled doctoral graduates
- The most popular subjects were clinical and pre-clinical medicine, and psychology
- The BMS response rate to the DHLE survey rose from 62% of doctoral graduates in 2003 to 70% in 2007
- Of UK-domiciled doctoral graduates from 2003–2007, 61% of BMS graduates were female; 31% achieved their doctorate through part-time study[2]

Of UK-domiciled BMS doctoral graduates who responded to the DLHE survey

- The percentage working, or working and studying, in the UK averaged 85% over the period 2003–2007
- The proportion who chose to further their careers abroad declined from 7% (2003) to 4% (2007)
- The unemployment rate was 2.0% (in 2007 and 2003–2007 average) – the lowest of all the discipline groups, and consistently lower than for BMS first-degree respondents (3.2% in 2007) and masters graduate respondents (2.4% in 2007)

Looking in more detail at those BMS respondents working or working and studying in the UK[3]

- The health and social work sector was consistently the largest employment area for BMS respondents. It absorbed 50% in 2007 and averaged 48% over 2003–2007
- The proportion working in the education sector ranged from 34% (2003) to 40% (2005) and averaged 37% over 2003–2007
- The most popular occupations were 'health professionals and associate professionals' (including clinical psychologists), accounting for 41% of BMS respondents 2003–2007
- The percentage working in all research roles was 31%, just below the all discipline average of 35%
- The percentage working as research staff in higher education was 22% (2003–2007), comparable to the all disciplines average (23%)
- BMS respondents 2003–2007 were less likely to enter 'education and teaching' occupations (13%) than the doctoral graduate population as a whole (22%)

Overall survey response for biomedical sciences subjects

BMS UK doctoral graduates	2003	2004	2005	2006	2007	Total
Total doctoral graduates in BMS	1825	1755	1920	1940	1970	9410
Total respondents	1135	1140	1330	1355	1385	6340
% response	62%	65%	69%	70%	70%	67%
Female respondents	700	715	835	845	920	4010
Male respondents	435	425	495	510	465	2330

Table 1: Survey response for UK-domiciled doctoral graduates 2003–2007 in biomedical sciences

The UK-domiciled BMS doctoral graduate population rose to 1970 in 2007, a five-year high (2004 saw the lowest number, 1755). It constituted 25% of all UK-domiciled doctoral graduates in 2003, 2004 and 2007, 27% in 2005 and 26% in 2006.

This chapter …

contains analysis of the biomedical sciences doctoral graduate cohort, their response rate to the DHLE survey, first destination employment rates, employment sectors and occupations. The subjects discussed are: clinical and pre-clinical medicine; psychology; pharmacology, toxicology and pharmacy; anatomy, physiology and pathology; and nursing. Other subjects in biomedical sciences are grouped together.

[1] For data protection, all figures have been rounded to the nearest five. Number and percentages may not total due to rounding.

[2] Compared with the total UK-domiciled doctoral graduate population where 46% were female; 27% gained their doctorate through part-time study.

[3] All data on destinations, whether in terms of occupations or sectors, is from those respondents who entered work or work and study in the UK.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Employment rates for biomedical sciences

Employment circumstances of BMS respondents were stable over five years. The 2007 figures shown in Figure 1 correspond within one percentage point to five year totals 2003–2007, with the exception of the 'working and studying in the UK' category where the 2007 rate (14%) is 2% higher. BMS respondents 2003–2007 had the highest UK employment and lowest unemployment rate of all the discipline groups. Those entering employment or combining work and study in the UK was 85% (86% in 2007), compared with 81% of all respondents. Unemployment was 2% compared with 3% across all disciplines. The proportion of those working overseas declined (5% over 2003–2007 but 4% in 2007) and was 2% below that for all respondents (7% over 2003–2007 and 6% in 2007). However, the employment picture at broad discipline level masks variations between different subjects.

Medicine and psychology were the most popular subjects at 39% and 29% of UK-domiciled BMS doctoral graduates, respectively. All other subjects had fewer than 10% of BMS doctoral graduates. Amalgamating data from 2003–2007 creates sufficient numbers to identify employment rates, employment sectors and occupations doctoral graduate respondents entered in the following subjects: clinical and pre-clinical medicine, psychology, pharmacology, toxicology and pharmacy, anatomy, physiology and pathology, and nursing. All other BMS subjects[4] are discussed as 'other biomedical sciences'.

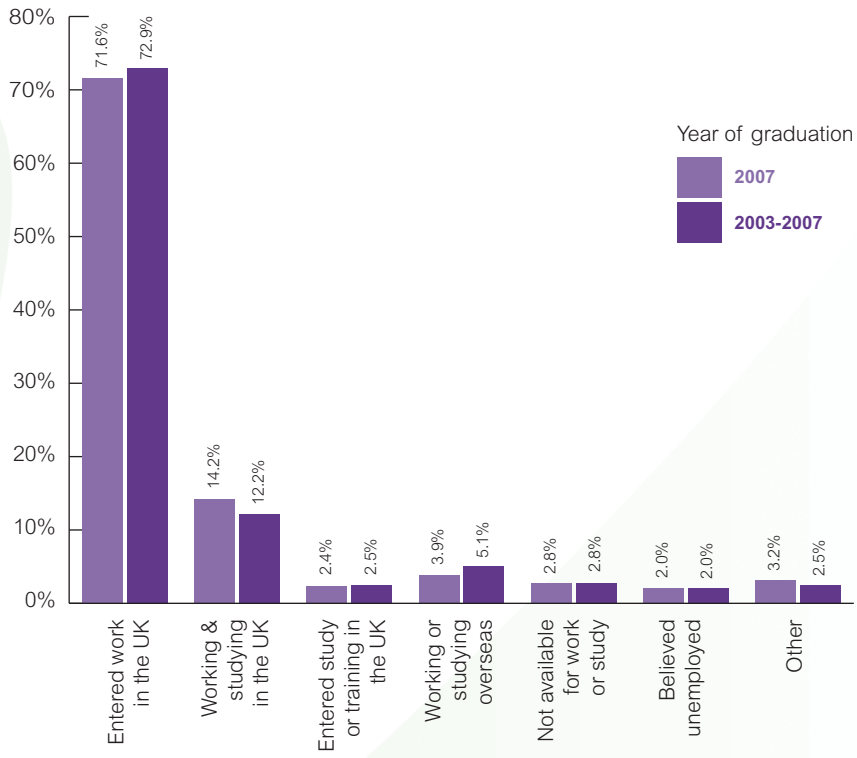

Figure 1: Employment circumstances of UK-domiciled BMS doctoral graduate respondents: 2007 and 2003–2007 comparison

Summary of employment outcomes by subject 2003–2007

BMS UK-domiciled respondents	Clinical and pre-clinical medicine	Psychology	Pharmacology, toxicology and pharmacy	Anatomy, physiology and pathology	Nursing	Other subjects in biomedical sciences
Entered work in the UK	69.8%	78.1%	70.8%	64.9%	73.3%	74.7%
Working and studying in the UK	15.1%	11.1%	7.6%	10.8%	16.9%	10.5%
Entered study or training in the UK	2.6%	1.3%	3.1%	6.8%	1.6%	2.6%
Working or studying overseas	5.4%	2.1%	9.7%	11.7%	2.4%	5.3%
Not available for work or study	2.4%	3.6%	3.4%	2.3%	0.5%	2.1%
Believed unemployed	1.7%	2.0%	3.4%	1.6%	1.6%	1.8%
Other	3.0 %	1.8 %	2.1 %	1.7 %	3.7 %	3.0 %

Table 2: Employment circumstances of UK-domiciled BMS doctoral graduates 2003-2007: respondents in different subjects in biomedical sciences

[4] Other biomedical science subjects include clinical dentistry, complementary medicine, nutrition, ophthalmics, aural and oral sciences and medical technology.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)

Employment sectors for biomedical sciences doctoral graduates

Employment in the health and social work sector accounted for half of those of UK-employed BMS respondents in 2007. This is slightly above the 2003–2007 average of 48%[5]. Unsurprisingly, this is well above levels for other disciplines: the average across all respondents was 17%.

Education, the second most popular sector, absorbed 36% of 2007 BMS respondents, just below the 2003–2007 average of 37%. Across all disciplines, the education sector 2003–2007 absorbed 49%.

Manufacturing was the only other sector to employ significant numbers of BMS respondents. Both in 2007 and over 2003–2007 some 9% entered employment in the sector. After a decline from 12% (2003) to 8% (2004) BMS employment in manufacturing remained stable.

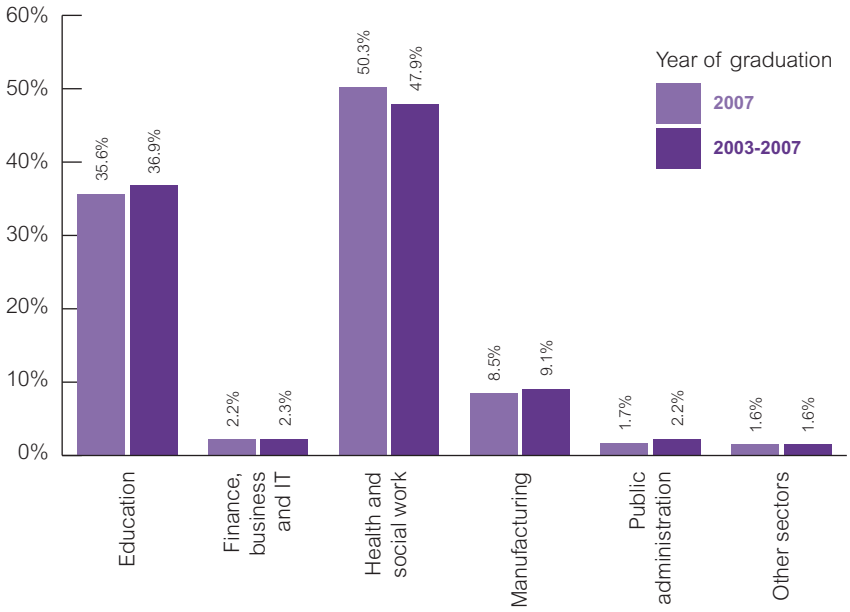

Figure 2: Employment sectors entered by UK-domiciled BMS respondents working in the UK, based on Standard Industrial Classifications (SIC): 2007 and 2003–2007 comparison

Summary of employment sectors by subject 2003–2007

BMS UK-domiciled respondents	Clinical and pre-clinical medicine	Psychology	Pharmacology, toxicology and pharmacy	Anatomy, physiology and pathology	Nursing	Other subjects in biomedical sciences
Education	34.1%	28.1%	43.2%	57.0%	63.0%	45.6%
Finance, business and IT	1.8%	1.8%	4.8%	5.7%	0.6%	2.3%
Health and social work	52.5%	64.1%	12.3%	19.2%	31.1%	38.8%
Manufacturing	9.2%	1.9%	31.7%	14.4%	3.0%	9.3%
Public administration	1.4%	3.1%	2.7%	2.2%	1.2%	1.8%
Other sectors	1.0%	1.1%	5.3%	1.5%	1.2%	2.2%

Table 3: Employment sectors entered by UK-domiciled BMS respondents working in the UK and graduating in 2003–2007 from different biomedical sciences subjects, based on Standard Industrial Classifications (SIC) returned in the DLHE surveys

[5] Over 2003–2007, the lowest proportion of BMS doctoral graduates entering the health and social work sector was in 2005 (45%).

Occupations of biomedical sciences doctoral graduates

'Health professional and associate professional' roles (41%) dominated the destinations of BMS respondents[7]. This was largely due to the high proportions of those entering these roles from the two largest BMS subjects; clinical and pre-clinical medicine and psychology. The proportion of those in 'health professional and associate professional' roles grew slightly, from 38% in 2003 to 42% in 2007.

Research roles[8] occur across the different occupations shown in Table 4. Analysis of SOCs shows research occupations account for a total of 31% of BMS respondents employed in the UK over 2003–2007. Further analysis showed that over 2003–2007, 22% entered research staff roles in higher education, very close to the average for the doctoral population as a whole (23%).

Across all BMS subjects, the NHS was the principal destination for researchers outside higher education as healthcare scientists. Research institutes and pharmaceutical companies also absorbed significant numbers.

13% (700) BMS respondents were employed as 'education and teaching professionals' across all sectors of education 2003–2007. This proportion is considerably lower than that for all disciplines (22%). 520 of these (10% of all BMS respondents) gained HE lectureship positions. Nursing, however, furnished an exceptionally high proportion in 'education and teaching professional' roles (46% of respondents).

Patterns of employment for BMS respondents show a strong link between research discipline and professional role with fewer than average respondents entering occupations only indirectly related or unrelated to their subject area. For example 4% were employed as 'commercial, industrial and public sector managers', compared with 7% across all respondents.

Overall, 2003–2007 was a largely stable period for BMS doctoral graduate employment. UK employment rates were above that for all disciplines: conversely, a lower proportion of BMS respondents chose to continue their career abroad. Health professional roles absorbed over two-fifths of BMS respondents working in the UK. Research role destinations were a little below the average for all disciplines. We now look in more detail at the employment rates, sectors and occupations of BMS doctoral graduates by subject.

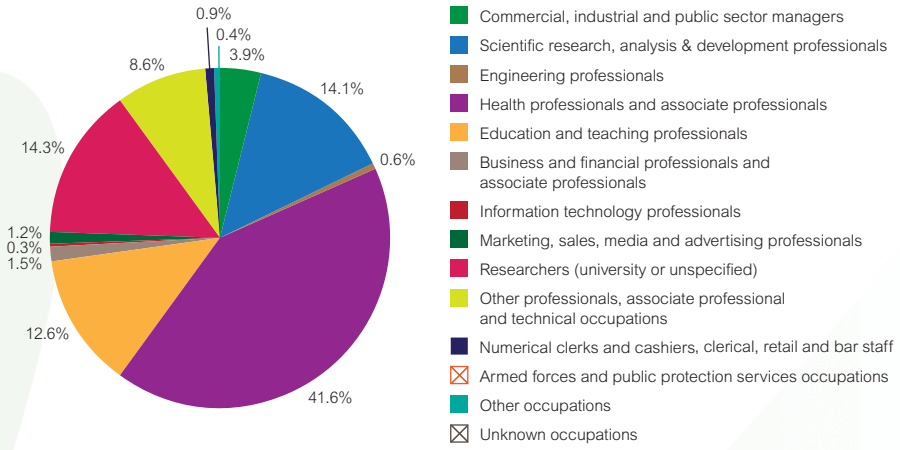

Figure 3: Types of work entered by UK-domiciled BMS doctoral graduates (2007), based on Standard Occupational Classifications (SOC) returned in the DLHE surveys[6]

BMS UK-domiciled respondents	2003	2004	2005	2006	2007	Total
Commercial, industrial and public sector managers	3.4%	3.7%	3.2%	4.2%	3.9%	3.7%
Scientific research, analysis & development professionals	16.6%	15.6%	16.5%	14.3%	14.1%	15.4%
Engineering professionals	0.5%	0.7%	0.2%	0.1%	0.6%	0.4%
Health professionals and associate professionals	38.4%	39.7%	41.7%	42.1%	41.6%	40.9%
Education and teaching professionals	13.1%	13.4%	13.9%	12.9%	12.6%	13.2%
Business and financial professionals and associate professionals	1.6%	1.6%	1.7%	1.3%	1.5%	1.5%
Information technology professionals	0.2%	0.4%	0.3%	0.2%	0.3%	0.3%
Marketing, sales, media and advertising professionals	2.6%	2.6%	1.6%	1.9%	1.2%	1.9%
Researchers (university or unspecified)	14.2%	13.8%	15.3%	14.5%	14.3%	14.5%
Other professionals, associate professional and technical occupations	7.5%	6.4%	4.7%	7.8%	8.6%	7.0%
Numerical clerks and cashiers, clerical, retail and bar staff	0.8%	1.1%	0.4%	0.5%	0.9%	0.7%
Armed forces and public protection services occupations	0.3%	0.1%	0.1%	0.0%	0.0%	0.1%
Other occupations	0.4%	0.5%	0.1%	0.3%	0.4%	0.3%
Unknown occupations	0.2%	0.4%	0.2%	0.1%	0.0%	0.2%

Table 4: Types of work entered by UK-domiciled BMS doctoral graduates (2003–2007), based on Standard Occupational Classifications (SOC) returned in the DLHE surveys[9]

[6] Types of work being undertaken by UK-domiciled respondents working in the UK on January 15 2008 after graduating from UK universities in 2007.

[7] In 'What Do PhDs Do? – Trends' (2007) (WDPDT) the health professionals and associate professionals category is less populated. Coding changes since the publication of WDPDT have resulted in a number of roles being reclassified. In this instance, the largest difference has been made by the occupation of clinical psychologist moving from the 'other professionals, associate and technical professionals' category to 'health professionals and associate professionals'.

[8] The methods for calculating doctoral graduates employed in research related roles and as research staff in HE are given in the methodology chapter.

[9] Types of work being undertaken by UK-domiciled respondents working in the UK on January 15 2004, 2005, 2006, 2007 and 2008 after graduating from UK universities in 2003, 2004, 2005, 2006 and 2007.

Data source: Graduate Prospects using DLHE surveys 2004, 2005, 2006, 2007, 2008 (© HESA)