Access to higher education for people from less advantaged backgrounds in Scotland and the rest of the UK

Working Paper

Disabled students in Higher Education in the UK: social and other characteristics by type of impairment

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This working paper uses data from the Higher Education Statistics Agency (HESA) to explore the social characteristics as well as other aspects of their university attendance. The need to ensure that disabled students do not suffer disadvantage because of their disability came to the forefront following the publication of the Dearing Report in 1997 (NCIHE, 1997). This report recommended the inclusion of a range of non-traditional students, referring to groups of students who had generally not attended university in the past. This included students from low socioeconomic background as well as disabled students.

The main aim of the paper is to illustrate that disabled students as a group is not heterogeneous and that this needs to be recognised when examining statistics relating to disabled students. The paper starts with the most recent data on disabled compared to non-disabled students and an overview of disabled students in receipt of Disabled Student Allowance (DSA) from 2001. It then provides a detailed analysis by type of impairment to draw out differences and similarities with the disabled student population. It uses a bespoke Higher Education Statistics Agency (HESA) dataset covering the years 2011-2015 which includes data from all UK domiciled full-time first year undergraduate students.

There are two types of statistics published by HESA relating to disabled students: those based on a student's self-assessment which is gathered by Universities and Colleges Admissions Service and provided to HESA; and those of students who are receiving a Disabled Student Allowance (DSA). A student is required to provide evidence such as a medical certificate or a psychologist report to receive DSA. The DSA group is therefore a smaller group and a subset of those that have declared a disability. It should also be noted that as disabled student statistics are based on self-assessment, there may well be non-disabled who are disabled but have chosen not to identify themselves as such.

HESA currently uses nine categories describing the type of impairment of a student which were developed by the Equality Challenge Unit. These are broadly based on medical or psychological categories and they have changed slightly over time since HESA started publishing these data.

The paper is split into five sections starting with an overview of current publicly available on disabled students followed by an analysis of the dataset spanning the period 2011-2015. This part is organised into three sections starting with social characteristics of disabled students, followed by data relating to pre-entry and finally a section on institutions attended and subjects studied.

The key points emerging from the paper in relation to first year undergraduates during the period 2011-2015 are:

- The total disabled student population has increased from around 11% in 2015-16 to 13% in 2017-18; students in receipt of DSA vary from 4.5% in Scotland to 7.9% in Wales, with England and Northern Ireland falling in between.
- The number of disabled students has increased in all types of impairment except for those with a visual impairment over the period 2011-2015.
- Around half of the disabled students have a specific learning difficulty and the categories of mental health difficulties and autistic spectrum disorder have seen the biggest increases.
- The gender balance of disabled students and non-disabled students are similar except for those with a mental health condition (70% women) and autistic spectrum disorder (80% men).
- Disabled students are marginally more likely to be older than non-disabled students.
- Disabled students as a group are slightly more likely to come from socioeconomically advantaged backgrounds; this is because the group is dominated by those with specific learning difficulties who are more likely to come from a more advantaged background.

Students with other types of impairment such as mental health difficulties are less likely to come from an advantaged background.

- The majority of students (disabled and non-disabled) go to state schools; however, students with a specific learning difficulty are considerably more likely to have attended a private school than all other types of students.
- The tariff score of disabled students is marginally lower than that of non-disabled students.
- Disabled students as a group are marginally less likely to study in an ancient university in Scotland than non-disabled students although this is not the case for students with a long-standing illness or health problems and those with a mental health condition. In England there is a larger proportion of non-disabled students in prestigious Russell group universities and this is also the case for the most prestigious English universities known as the Golden Triangle institutions
- Disabled students are less likely to study medicine and dentistry, mathematical sciences, engineering and technology, law, business and administrative studies and languages; they are more likely than non-disabled students to be found in the subject areas of agriculture, historical and philosophical studies and creative arts and design.

Section 1: Overview of recent publicly available statistics

This section provides an account of the number of first year students on first degrees. Table 1 shows that there has been a slight increase in disabled students in the first-year undergraduate population from around 11% to 13% over the period 2015 to 2018.

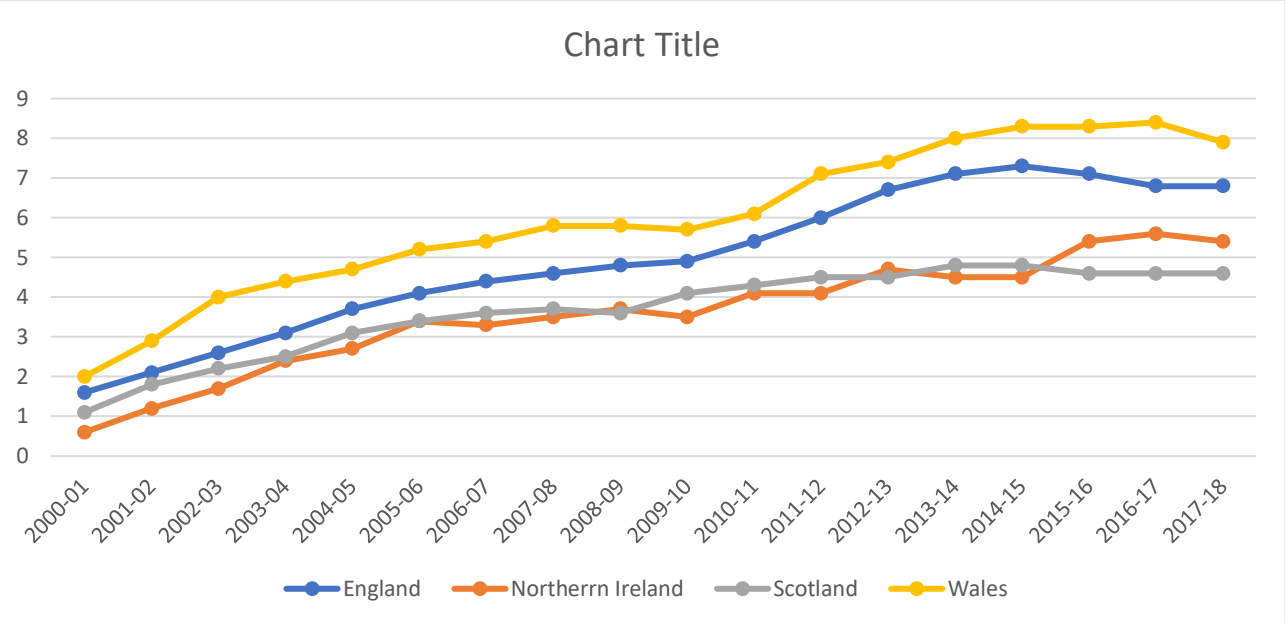
Figure 1 provides information on disabled students in receipt of DSA over a longer period. The proportion of students receiving DSA has increased steadily from 2000 to 2016. Wales has the highest rate and Scotland and Northern Ireland the lowest. In England the rate started to decline from 2015 onwards and this probably a result of changes made to access to DSA for England which came into effect in 2016. The latest data, up to 2018 show a slight decline in the rates in Wales and Northern Ireland with little change in England and Scotland.

Table 1: Number and percent of disabled and non-disabled full-time students on first-year undergraduate courses.

	2015-16		2016-17		2017-18	
	No	%	No	%	No	%
Disabled	55,360	11.2	59,780	11.8	64,030	13.0
Non-disabled	439,900	88.8	444,050	88.1	442,745	87
Total	495,260		503,830		506,775	

Source: HESA, https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he, accessed 18 September, 2019

Figure 1: Full-time first-degree students in receipt of Disabled Student Allowance by jurisdiction and year, percentages



Source: HESA, https://www.hesa.ac.uk/news/07-02-2019/widening-participation-tables, accessed 18 September, 2019

In summary, the proportion of first year, first degree undergraduates currently stands at 13%. There has been a steady increase in the number of students of DSA since 2000 but changes to eligibility rules for DSA in England led to a downturn in 2016 followed by a downturn in 2017 in Wales and Northern Ireland. The remainder of the paper draws on the dataset covering the years

2011 to 2015. This dataset covered all first year, full-time undergraduates. It should be noted that the HESA data above is only for first year, first degree students excluding those on 'other' degrees such as foundation and HND programmes. The dataset reported on below includes that latter group. There are therefore slight variations in overall numbers when comparing the two sets of data; however, as the majority, more than 90% of students, are on first degree programmes, this variation is slight. The analyses that follow below are all from the same dataset and the terms disabled and non-disabled students will be used as will type of impairment without repetition of 'full-time, first year undergraduate'.

Section 2: Social characteristics of disabled students in comparison to non-disabled students and by type of impairment

This section examines age, gender and socioeconomic background. Ethnicity has not been included, not because its lack of importance but because HESA does not allow for more detailed analysis by ethnic groups due to problems of disclosure. Comparisons which include all non-white students into a single black and ethnic minority group (BME) is likely to mask considerable differences between those from different ethnic backgrounds within the BME group. The first two tables provide an overview of the number and proportion of first year undergraduate disabled students as a whole (Table 2) and by type of impairment (Table 3). As all the graphs and tables that follow are drawn from the same dataset the term 'first year undergraduate' this term will not be repeated for each graph and table.

Table 2 shows that the first-year undergraduate disabled student population for the years 2011-15 was around 9-10% of all students; this is marginally below the current figure which only examines the first degree, first year students but the difference is slight. The number of disabled students over this period decreased in 2012-13 as did the number of non-disabled students. Numbers then increased again but for non-disabled students they were still below the 2011-12 numbers in 2014-15 but this was not the case for disabled students as they reached a higher level in 2013-14 and increased again in 2014-15. Table 3 shows that this was the case for all types of impairment except those who were blind or had a serious visual impairment. The numbers had increased considerably for those mental health difficulties.

Table 2: A comparison by number of disabled and non-disabled students and the proportion of disabled students in relation to all students, 2011-15

	2011-12	2012-13	2013-14	2014-15	2011-15
	No	No	No	No	No
Disabled	45719	42852	49003	53363	190937
Non-disabled	469286	414826	443694	452019	1779825
Total number of students	515005	457678	492697	505382	1970762
Disabled students as percent of all students	8.9%	9.4%	10.0%	10.6%	9.7%

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 3: Number disabled students by type of impairment and their proportion of the total disabled student population, 2011-15

	2011-12		2012-13		2013-14		2014-15		2011-15	
	No	%	No	%	No	%	No	%	No	%
Blind or a serious visual impairment	628	1.4	542	1.3	589	1.2	616	1.2	2375	1.2
Deaf or a serious hearing impairment	986	2.2	891	2.1	1014	2.1	1027	1.9	3918	2.1
A physical impairment or mobility issues	1385	3.0	1363	3.2	1475	3.0	1594	3.0	5817	3.1

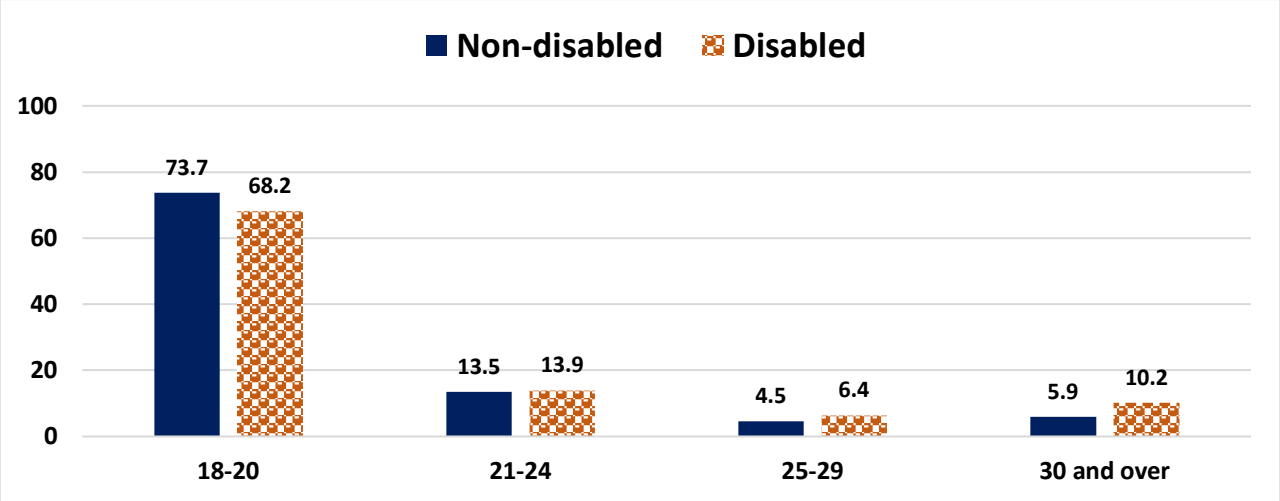
	2011-12		2012-13		2013-14		2014-15		2011-15	
	No	%	No	%	No	%	No	%	No	%
Mental health condition	4174	9.1	4499	10.5	5967	12.2	8022	15.0	22662	11.9
A long-standing illness or health condition	4806	10.5	4485	10.5	4918	10.0	5023	9.4	19232	10.1
Two or more conditions	2076	4.5	2113	4.9	2583	5.3	3139	5.9	9911	5.2
Social communication/ Autistic spectrum disorder	1534	3.4	1556	3.6	1939	3.9	2370	4.4	7399	3.9
Specific learning difficulty	25898	56.7	23254	54.3	26030	53.1	26654	50.0	101836	53.3
Another disability, impairment or medical condition	4232	9.3	4149	9.7	4488	9.2	4918	9.2	17787	9.3
Total disabled	45719	100	42852	100	49003	100	53363	100	190937	100
Total non-disabled	469286		414826		443694		452019		1779825	

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Age

Disabled students are more likely to be older than non-disabled students. The most common age group for all students is 18-20 and the proportion of non-disabled students is 5% higher in this group. In contrast the proportion of disabled students in the 30 and over age group is 5% higher. This may well have an impact on disabled students access to employment as they are likely to be older when entering the labour market. It is not feasible to break down the age groups by type of impairment due to the small numbers in the older age groups and the youngest age group – 17 and under – is not included as the proportion of students overall in this age group is very low.

Figure 2: A comparison of disabled and non-disabled students by age groups, percentages

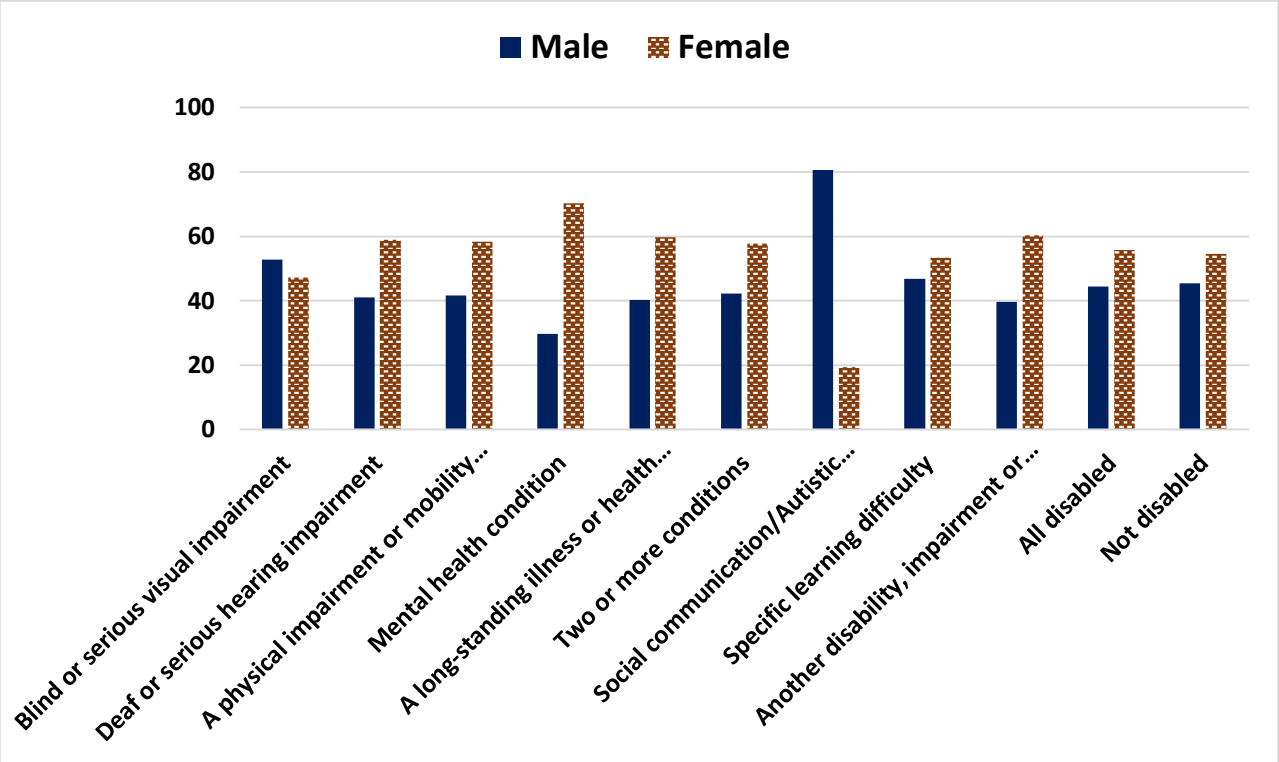


Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Gender

Overall there are more female than male undergraduate students in higher education and this is reflected in the figures for non-disabled students. The gender split for disabled students as a group is similar to that of non-disabled students (44% male and 56% female). However, students with a mental health condition and those with a social communication/autistic spectrum disorder differ from the rest. In the first group 70% are female compared to 30% male. In the second it is the opposite with 81% male and 19% female. The gender split for those with a social communication/autistic spectrum disorder is similar that found in the latest statistics for the school age population in England (29% female; 71% male) and Scotland (18% female; 82% male). However, the difference gender difference for mental health difficulties does not reflect the school age population, especially in England where the gender split is 29% female and 71% male. This is likely to be because this category in England also includes social and emotional difficulties. In Scotland the category only refers to mental health difficulties and here the gender differences are less stark (42% female compared to 58% male).

Figure 3: Disabled students by type of impairment and gender compared to non-disabled students, percentages.



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

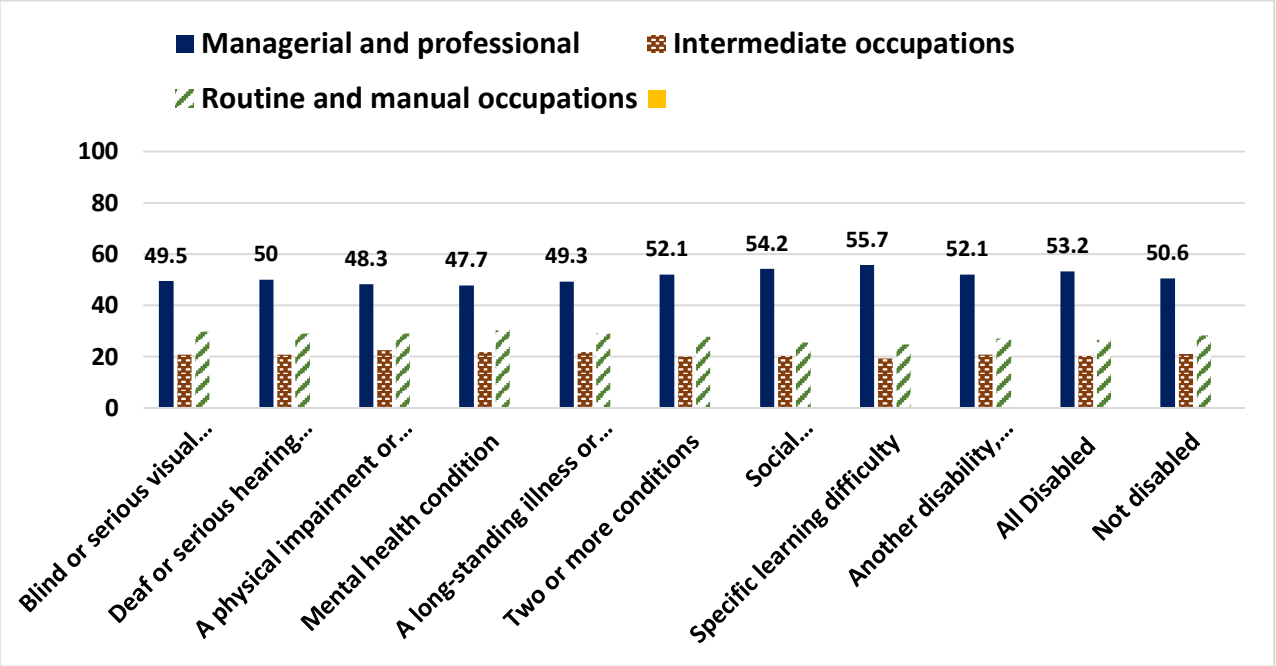
Socioeconomic background – occupational background of parent/carer

The occupational background of parent/carer is based on the National Statistics classification of occupations which identifies 7 categories from professional and managerial to routine and manual occupation as well as an eight category for unemployed. It is either split into two, comparing number of students in the three highest categories (1-3) with those in the lowest four (4-7), or into three groups (1-2; 3-4 and 5-7). In this paper the three-way split is used. This measure was used by HESA until 2017 to identify the socioeconomic background of young students. It was discontinued

as it was considered unreliable, partly because it was based on students' assessment of the occupation of the highest earning parent/carer in their family and also because data were missing for around 25% of the students. In spite of this, it has provided one way of exploring the social background of a student and it is therefore worth including it in the analyses of this working paper.

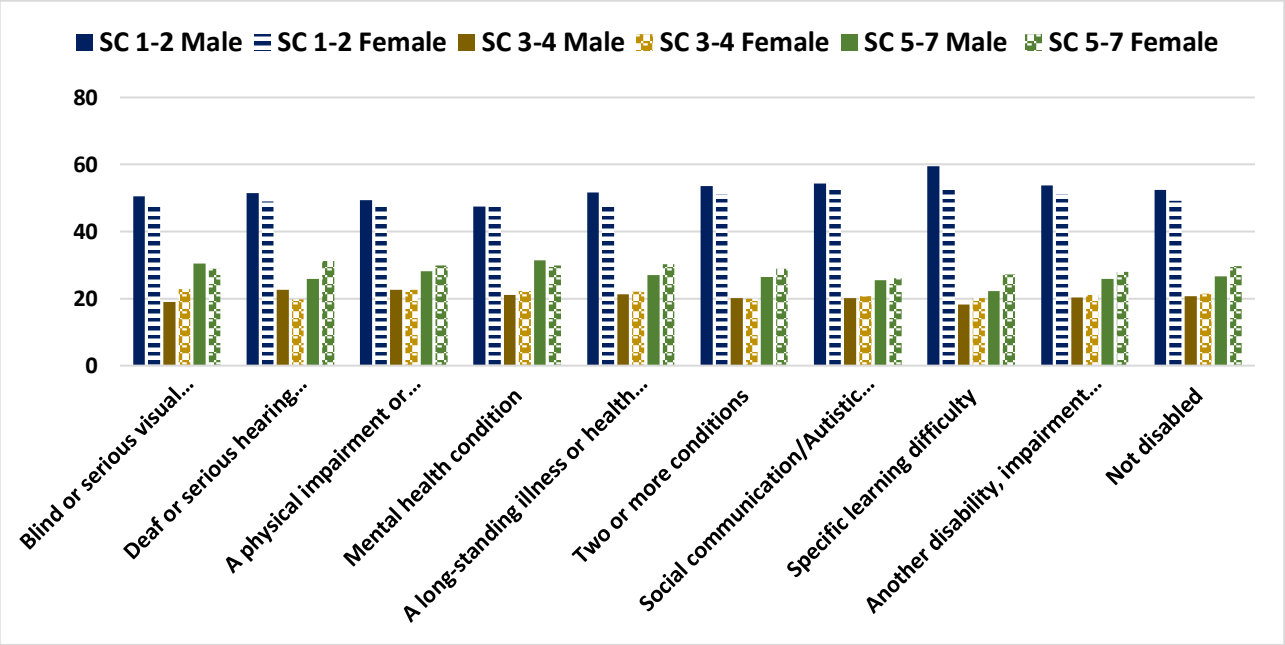
Figure 4 shows, when this measure is used to compare disabled students with non-disabled students, that the disabled students are slightly more likely to come from a higher social class background. A breakdown by type of impairment indicates that this is only the case for four types of impairment: specific learning difficulty, social communication/autistic spectrum disorder, another disability and two or more conditions. Students with a mental condition, in particular are less likely to come from a higher social class background.

Figure 4: Disabled students by type of impairment and socioeconomic background compared to non-disabled students, percentages.



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Figure 5: Disabled students by type of impairment, socioeconomic background and gender compared to non-disabled students, percentages.

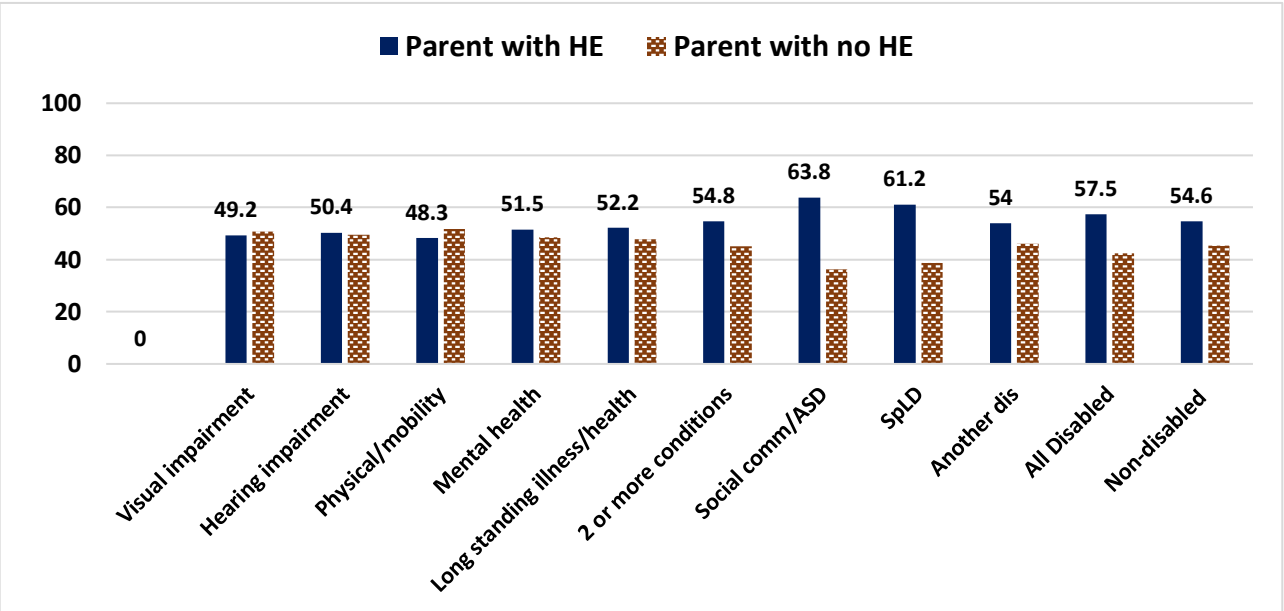


Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Socioeconomic background – parental level of education

Figure 5 examines a student's social background by using a parent's level of education and compares students with parents who have HE qualifications with those that don't. It is, as the previous measure a blunt one but it does provide some insight into a student's background which can be examined with other variables. It is the measure used by the Eurostudent survey and therefore provides an opportunity to compare across European countries. A comparison of all disabled students with non-disabled students shows, like the previous social background measure, that disabled students as group tend to be more advantaged. Analysis by type of impairment indicates that this is only the case for three types of impairments: specific learning difficulty, social communication/autistic spectrum disorder and two or more conditions.

Figure 6: Disabled students by type of impairment and parental level of education compared to non-disabled students, percentages



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

A comparison of occupational background and area measures of levels of deprivation

The two measures above – occupational background of parent/carer and parental level of education- are measures directly linked to the individual. The first one of these is no longer used by HESA and the main measures that are now publicly available are POLAR3 (for England, Wales and Northern Ireland, SIMD for Scotland as well as private or state school attendance. POLAR3 'is based on the HE participation rates of people who were aged 18 between 2005 and 2009 and entered a HE course in a UK HE provider or English or Scottish further education college, aged 18 or 19, between academic years 2005/06 and 2010/11' (https://www.hesa.ac.uk/data-and-analysis/performance-indicators/definitions, 1 October 2018). SIMD stands for Scottish Index of Multiple Deprivation. Like POLAR, it is an area based measure; however, it differs as it uses a range of measures to gauge an area's level of deprivation. This includes data such as employment rates, level of crime and level of education. Areas are then ranged from those with the highest level of disadvantage to those least disadvantaged. Quintiles are often used to group areas from the 20% most disadvantaged to the 20% lease disadvantaged.

Table 4 compares disabled and non-disabled students by the individual measure of parental occupation and SIMD quintiles. It is not feasible to do this by type of impairment for Scotland as the numbers for certain type of impairment are very low. Whilst it is clear that most students, disabled as well as non-disabled are more likely to come from a managerial or professional background if they live in the least disadvantaged area; however, those from routine and manual occupations backgrounds are almost as likely to live in highly advantaged areas as in one of the most disadvantaged area (see also Paterson et al., 2019 for analysis based on all Scottish students). This suggests that SIMD is not sensitive measure when trying to identify those from less advantaged socioeconomic backgrounds.

Table 4: A comparison of disabled and non-disabled students by socioeconomic background and SIMD quintile.

	SIMD 1		SIMD 2		SIMD 3		SIMD 4		SIMD 5		
	No	%	No	%	No	%	No	%	No	%	Total
Managerial & professional occupations											
Disabled	291	5.9	472	9.5	854	17.2	1365	27.4	1974	39.8	4956
Non-disabled	3056	6.8	5011	11.1	7950	17.7	11783	26.1	17175	38.2	44975
Intermediate occupations											
Disabled	198	10.3	312	16.2	439	22.9	487	25.4	485	25.3	1921
Non-disabled	2205	12.2	2915	16.2	4024	22.3	4340	24.1	4558	25.3	18042
Routine & manual occupations											
Disabled	425	18.2	498	21.4	494	21.2	495	21.3	420	18	2329
Non-disabled	4964	20.9	4901	20.7	5037	21.2	4728	19.9	4097	17.3	23727

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 5 and Table 6 show the same analysis for the rest of the UK using POLAR3. Here it is possible to carry out an analysis by type of impairment though data for impairments with low numbers should be treated with caution. There is very little difference between disabled and non-disabled and, as can be seen, around a third of students from a low participation background came from a

high socioeconomic background (Table 3). Nearly a quarter of students from a low social background lived in a high participation neighbourhood (Table 4).

Table 5: Low participation neighbourhood and socio-economic background by type of impairment.

Type of impairment/Low participation neighbourhood	Managerial & Professional		Intermediate		Routine & Manual		Total
	Number	%	Number	%	Number	%	
Blind or a serious visual impairment	60	31.7	45	23.8	84	44.4	189
Deaf or a serious hearing impairment	111	33.6	73	22.1	146	44.2	330
A physical impairment or mobility issues	194	38.7	99	19.8	208	41.5	501
Mental health condition	653	33.1	455	23.1	864	43.8	1972
A long-standing illness or health condition	576	34.4	355	21.2	745	44.5	1676
Two or more conditions	282	34.3	181	22.0	358	43.6	821
Social communication /Autistic spectrum disorder	246	40.4	123	20.2	240	39.4	609
Specific learning difficulty	2385	34.6	1396	20.3	3110	45.1	6891
Another disability, impairment or medical condition	456	33.0	298	21.6	627	45.4	1381
All disabled	4963	34.5	3025	21.1	6382	44.4	14370
Non-disabled	42671	34.1	26409	21.1	55923	44.7	125003

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 6: High participation neighbourhood and socio-economic background by type of impairment

Type of impairment	Managerial & Professional		Intermediate		Routine & Manual		Total
	Number	%	Number	%	Number	%	
Blind or a serious visual impairment	666	51.6	262	20.3	362	28.1	1290
Deaf or a serious hearing impairment	1182	52.5	462	20.6	603	26.8	2247
A physical impairment or mobility issues	1562	49.8	725	22.8	857	27.3	3134
Mental health condition	6329	49.9	2759	21.7	3607	28.4	12695
A long-standing illness or health condition	5978	51.4	2519	21.7	3133	26.9	11630
Two or more conditions	2977	54.7	1073	19.7	1397	25.6	5447
Social communication /Autistic spectrum disorder	2607	56.0	942	20.2	1110	23.8	4659
Specific learning difficulty	37674	57.9	12530	19.2	14916	22.9	65120
Another disability, impairment or medical condition	5564	54.5	2111	20.7	2531	24.8	10206
All disabled	64539	54.4	25556	21.5	28516	24	118611
Non-disabled	511200	52.4	205415	21.1	258669	26.5	975284

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

In summary, an analysis of the social characteristics shows that first year undergraduate disabled students are more likely to come from older age groups than non-disabled students. Whilst the gender differences between disabled and non-disabled students are similar, an analysis by type of impairment show considerably more female students with a mental health condition than male; in contrast the proportion of females with social communication/autistic spectrum disorder is much lower than that of males and mirrors that of the school population identified with autistic spectrum disorder. The analyses comparing an individual measure of social background and area based ones indicates that caution is needed when using area based measures in order to avoid what Boliver et al. (2017) described 'false positives' (identified but not disadvantaged) and 'false negatives' (not identified but disadvantaged).

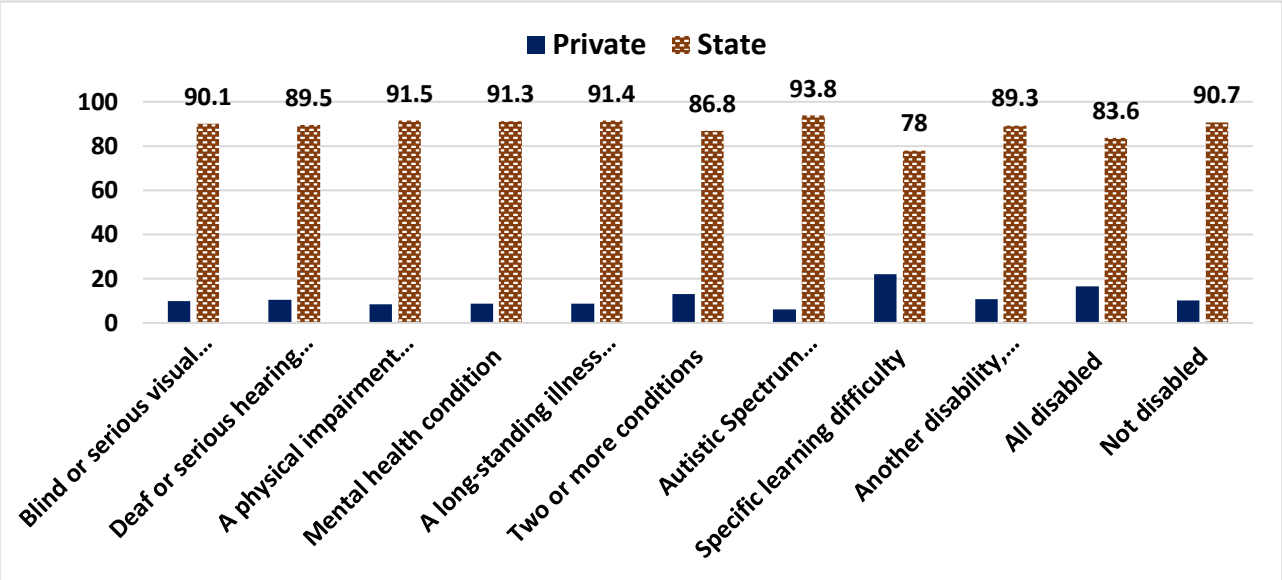
Section 3: Type of school attended and school outcome

This section reports on school attended and school outcome recorded as tariff scores. Although there are data on students' choice in relation to type of degree: undergraduate degree or sub-degree such as a foundation degree or an HNC/D; however, 90% or more of students opt for an undergraduate degree and there is little difference between disabled and non-disabled students and these data are therefore not included here.

Type of school attended

Type of school attended is one of the measures that is also used to gauge social background; however, here it is included in pre-entry characteristics. This is because disabled students are at times in private schools but funded by their local authority. It is therefore not always a good measure of social class for this group of students. In addition, it is a problematic measure as there is considerable variation within the state school sector in terms of provision, attainment of pupils and the proportion of pupils that go on to higher education. Around 91% of non-disabled students come from state schools. Disabled students as whole are more likely to have gone to private schools (84%). This is to a large extent due to students with specific learning difficulties who are considerably more likely than other students to have attended private schools and they account for around half of the disabled student group. Students with two or more conditions, another disability or who are deaf or hard of hearing are also slightly more likely to have attended a private school.

Figure 7: Disabled students by type of impairment, type of school attendance compared to non-disabled students, percentages



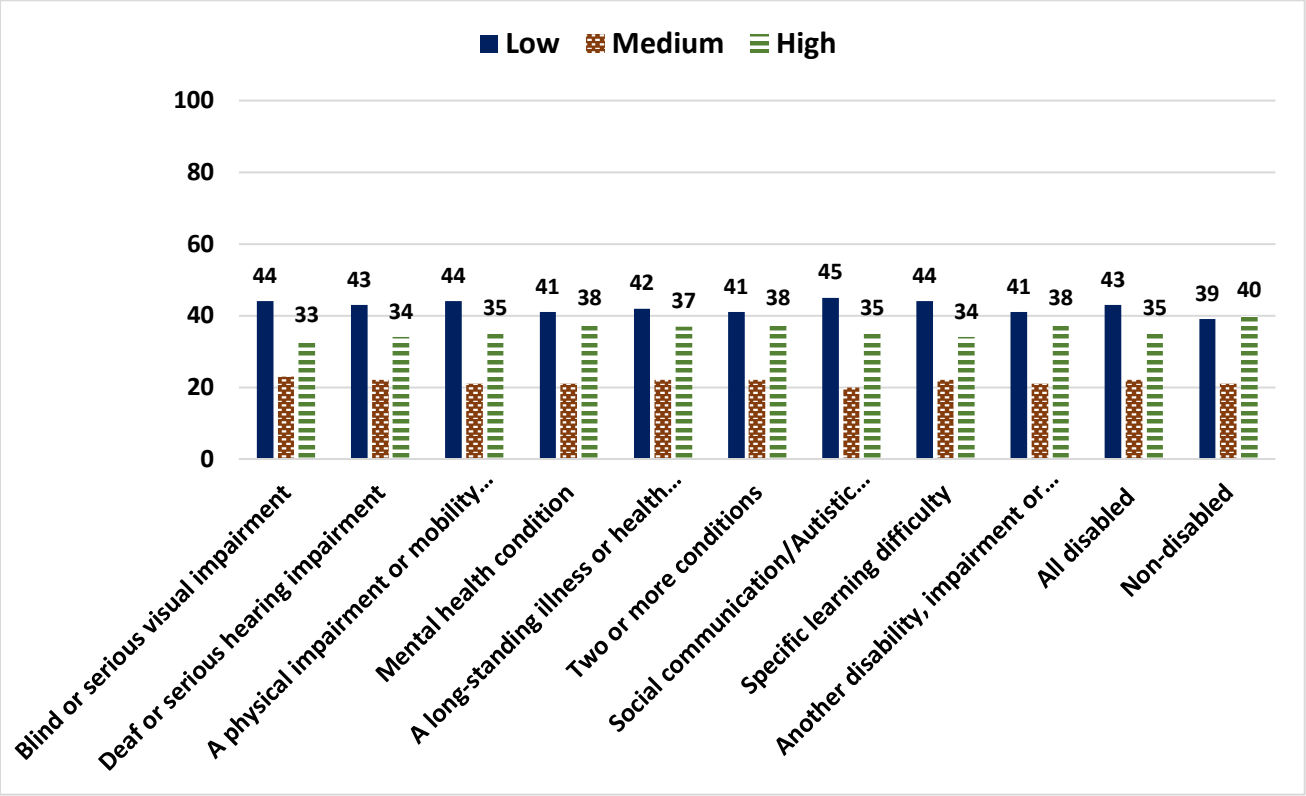
Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

School outcome: Tariff score obtained

The attainment of pupils such as A-level and Higher grades are converted into a tariff score for each pupil and these are used by HESA to report on levels of attainment. HESA uses five categories: lowest, low, medium, high and highest. The first two (low and lowest) and the last two (high and highest) have been combined into single groups here for ease of analysis. Around 40% of non-

disabled students achieved a tariff score in the high range compared to 35% of all disabled students. However, there was a difference within the disabled group as students with a visual impairment were likely to have the lowest tariff score, followed by those with a hearing impairment and a specific learning difficulty. Students with a mental health condition, two or more conditions long-standing illness and another disability had the highest tariff score.

Figure 8: Disabled students by type of impairment and tariff score compared to non-disabled students, percentages



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

In summary, disabled students are more likely to attend a private rather than a state school and this is particularly the case for students with a specific learning difficulty. The tariff score of disabled students is marginally lower than that of non-disabled students. The lowest is among students with a visual impairment. Finally, almost all undergraduate students aim for a first degree although the proportion is slightly lower for disabled students than non-disabled students.

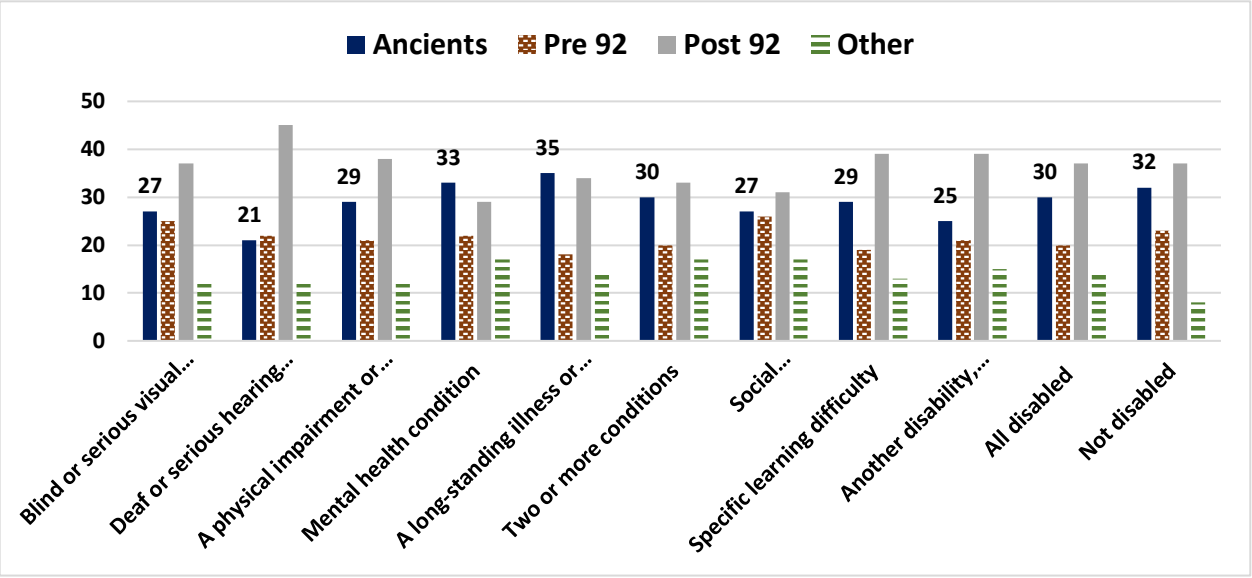
Section 4: Type of institution attended and subject choice

Higher education institutions differ in terms of the subject range they offer, size and degree of specialisation. The longer established universities are generally considered more prestigious and they can demand higher entry qualifications of their students. In Scotland the university sector is divided into four: ancient, pre-92, post-92 and other institutions. The four ancient universities date back to the 15th and 16th centuries, the pre-92 universities were generally established as universities in the mid-20th century and the post-92 institutions were those established from the 1990s onward. The other institutions, numbering 3, are specialist institutions with one focusing on agriculture, one on music and one on art.

Institutions attended: Scotland

Figure 9 shows that non-disabled students are slightly more likely to attend the most prestigious, ancient universities than disabled students; however, this masks differences within the disabled student group. Students with a long-standing illness or health problems and those with a mental health condition are marginally more likely to attend an ancient university than non-disabled students. Students with other types of impairment are all less likely to attend and ancient university. This is particularly the case for students who are deaf or have a hearing impairment. However, these data should be treated with caution as the numbers are very low for some types of impairment, especially those with a sensory impairment.

Figure 9: Disabled students by type of impairment and type of institution attended compared to non-disabled students, Scotland



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

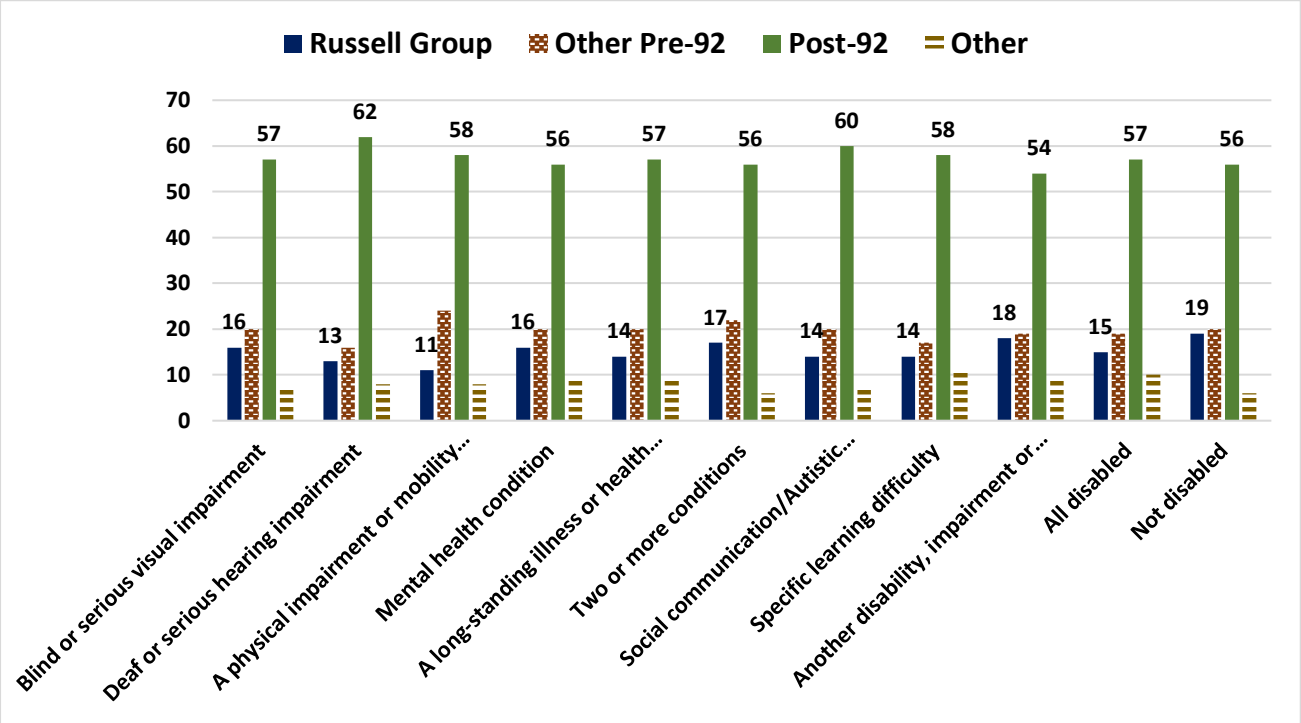
Institutions attended: England

In England there is also a hierarchy of higher education institutions with Russell group ones assumed to be more prestigious than other pre-92 universities and the post-92 institutions. As in Scotland they vary in the range of subjects offered and size. In addition, in England there exists a

small group of institutions known as the Golden Triangle which includes the universities of Oxford and Cambridge.

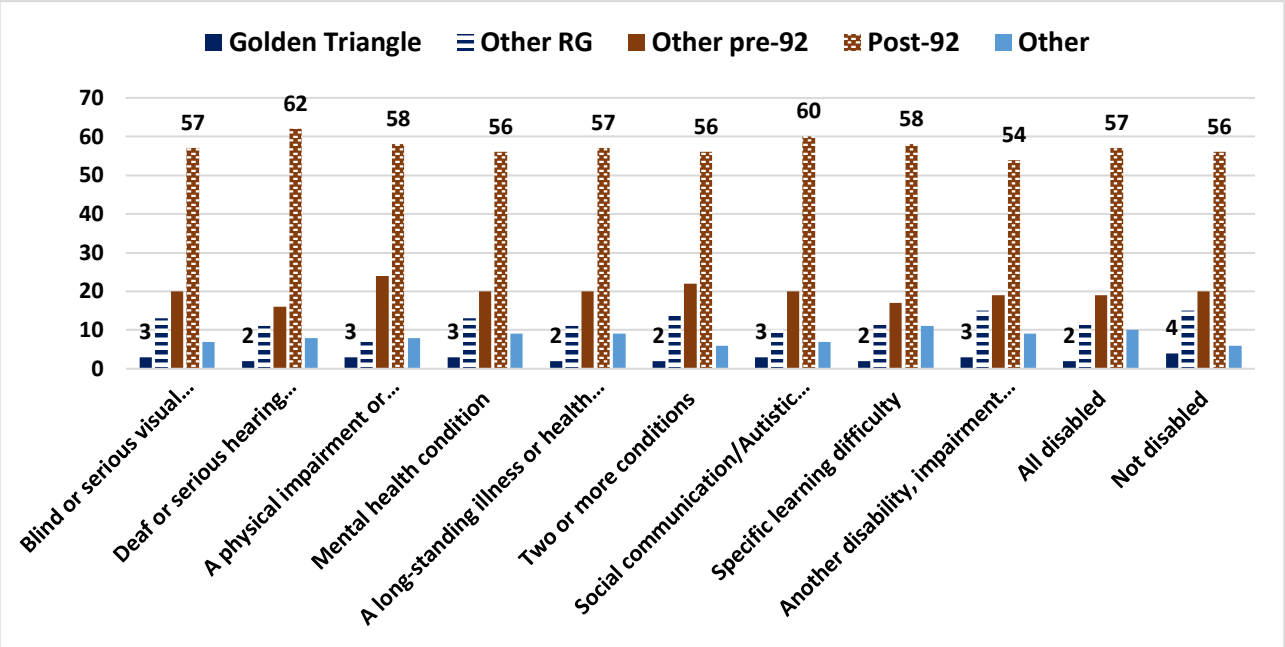
Figure 10 shows that non-disabled students are more likely than all disabled students to attend a Russell group institution. Students with a physical impairment or who are deaf/hard of hearing are least likely to attend such an institution. In contrast students with another disability are almost as likely to as non-disabled students to attend higher status universities. Figure 11 and Figure 12 show a more detailed analysis with percentages attending Golden Triangle institutions. Although the total overall proportion of first degree undergraduate entrants attending this type of institution is low, it is evident that disabled students are less likely than non-disabled students to attend such an institution.

Figure 10: Disabled students by type of impairment and type of institution attended compared to non-disabled students, England, percentages



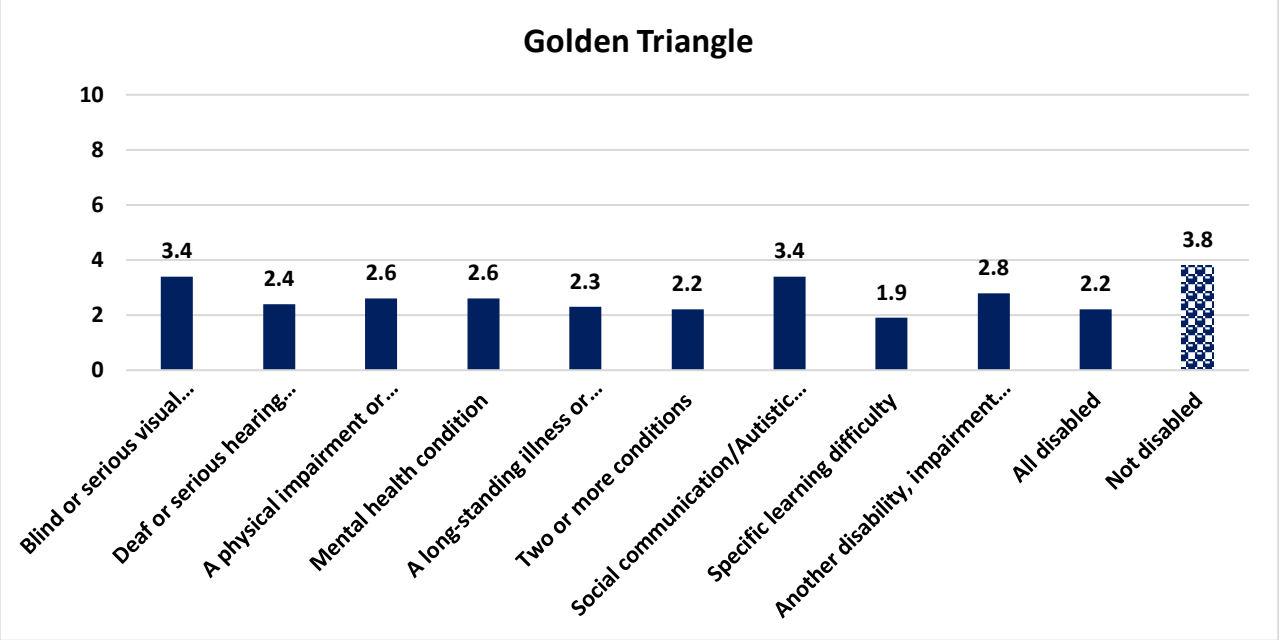
Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Figure 11: Disabled students by type of impairment and type of institution (showing Golden Triangle institutions) attended compared to non-disabled students, England, percentages



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Figure 12: Disabled students by type of impairment attending Golden Triangle institutions compared to non-disabled students, percentages



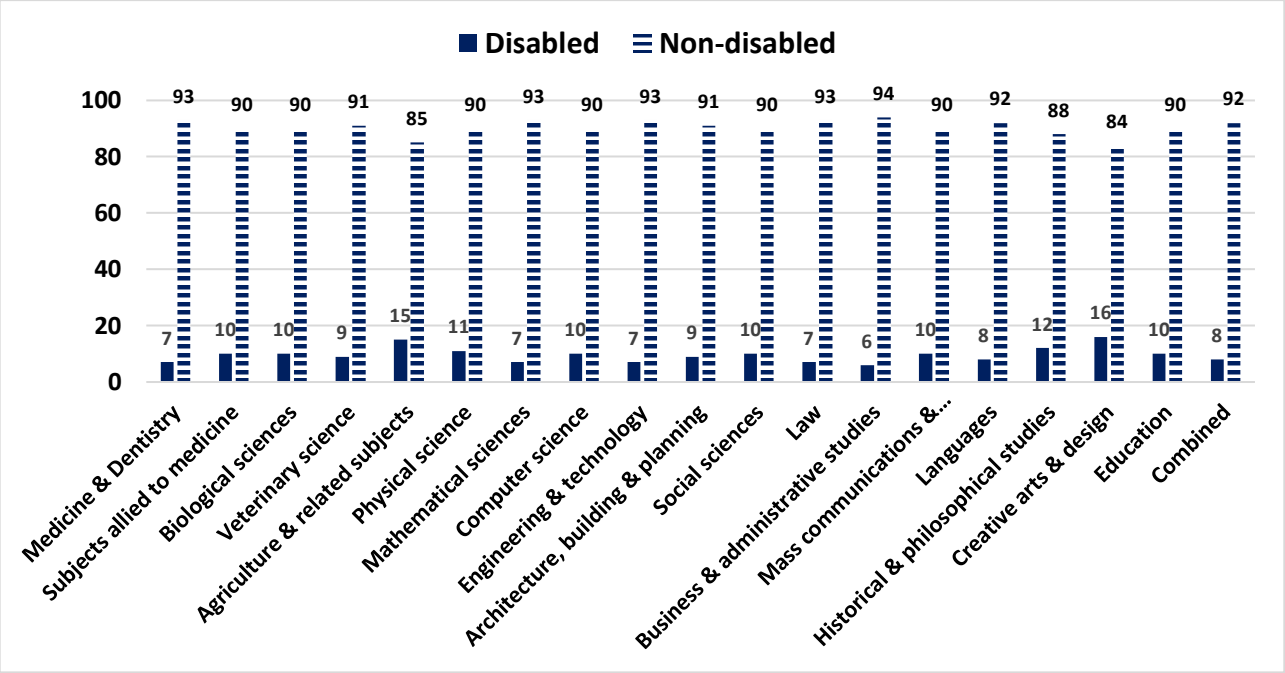
Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Subject areas studied

Figure 13 shows a comparison between non-disabled and disabled students by type of subject studied based on the number of students in that subject area. Disabled students as a group account for around 10% of the first-year undergraduate population, therefore if the proportion of disabled students in a particular subject area is below 10% it could be argued that they are underrepresented. Conversely if it is above 10%, they could be considered overrepresented. In

subject areas such as subjects allied to medicine, veterinary science, physical science, computer science, social sciences, mass communication and education the representation of disabled students is in line with their proportion in the overall student body. However, disabled students are underrepresented in medicine and dentistry, mathematical sciences, engineering and technology, law, business and administrative studies and languages. This is also the case for combined studies but the number of students in this subject area is very low. They are overrepresented in agriculture, historical and philosophical studies and creative arts and design. They are overrepresented in agriculture and related subjects, creative art and design and also by around 2% in historical and philosophical studies.

Figure 13: All disabled students by subject area compared to non-disabled students, percentages



Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 7 shows the subject area where disabled students are either underrepresented by 2 or more percent (green shading) or overrepresented by more than 2 percent (grey shading) in comparison to non-disabled students. Each of these subject areas are then examined by type of impairment, as shown in tables 7b and 7c, to explore whether any particular type of impairment is particularly under/over represented in any of these subject areas in comparison to other disabled students.

Table 7: All disabled students compared to non-disabled students in selected subject areas

	Disabled		Non-disabled		Total	
	Number	%	Number	%	Number	%
Medicine & Dentistry	2734	7	36283	93	39017	100
Agriculture & related subjects	2829	15.3	15679	84.7	18508	100
Mathematical sciences	2602	6.6	36609	93.4	39211	100
Engineering & technology	9915	7.3	125578	92.7	135493	100
Law	5681	6.8	77667	93.2	83348	100

	Disabled		Non-disabled		Total	
	Number	%	Number	%	Number	%
Business & administrative studies	16980	5.7	278786	94.3	295766	100
Historical & philosophical studies	8884	12.1	64739	87.9	73623	100
Creative arts & design	33633	16.1	175210	83.9	208843	100
Combined	545	7.6	6605	92.4	7150	100

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 8 looks at disciplines where disabled students as a group are *underrepresented* when compared to non-disabled students. It considers whether this applies equally to students with any type of impairment or if it affects some more than others. For example, if you have a visual impairment are you less likely to study a particular discipline than if you have a mental health condition? It is necessary to examine the proportion by type of impairment in relation to the proportion that they make up of the total disabled population and this is shown in the second column in Figure 2. Students with physical/mobility issues account for 3.1% of the disabled student population but only 2.5% with this impairment study medicine & dentistry; students with another disability, impairment or health condition make up 9.3% of the disabled student population whilst 11.3% are studying medicine and dentistry. In other words students with a another disability, impairment or health condition are more likely to study medicine and dentistry than students with physical/mobility issues. These differences are small but point towards differences with the disabled student population in relation to specific disciplines. Students with a specific learning difficulty are more likely to study engineering and technology in relation to students with other types of impairment and they are less likely to study law than, for example, students with a long-standing illness or health condition.

Table 8: Proportion of disabled students by type of impairment in subject areas where they are underrepresented in relation to non-disabled students.

Type of impairment	% of total disabled student pop.	Medicine & dentistry		Mathematical sciences		Engineering & technology		Law		Business & admin studies	
		No	% disabled students within discipline	No	% disabled students within discipline	No	% disabled students within discipline	No	% disabled students within discipline	No	% disabled students within discipline
Blind or a serious visual impairment	**1.2**	25	**0.9**	47	**1.8**	117	**1.1**	130	**2.3**	297	**1.8**
Deaf or a serious hearing impairment	**2.1**	65	**2.3**	42	**1.6**	185	**1.8**	124	**2.2**	351	**2.1**
A physical impairment or mobility issues	**3.1**	68	**2.5**	64	**2.5**	224	**2.1**	337	**5.9**	582	**3.4**
Mental health condition	**11.7**	178	**6.5**	286	**11.0**	684	**6.5**	824	**14.5**	1436	**8.5**
A long-standing illness or health condition	**10.1**	321	**11.8**	296	**11.4**	870	**8.3**	801	**14.1**	1792	**10.6**

Two or more conditions	**5.2**	100	**3.7**	189	**7.3**	481	**4.6**	370	**6.5**	670	**4.0**
Social communication /Autistic spectrum disorder	**3.9**	22	**0.8**	341	**13.1**	496	**4.7**	128	**2.3**	437	**2.6**
Specific learning difficulty	**53.3**	1646	**60.2**	1056	**40.6**	6607	**62.9**	2181	**38.4**	9669	**56.9**
Another disability, impairment or medical condition	**9.3**	309	**11.3**	281	**10.8**	851	**8.1**	786	**13.8**	1746	**10.3**
	100	2734	**100**	2602	**100**	10515	**100**	5681	**100**	16980	**100**

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

Table 9 looks at three subject areas where disabled students are generally *overrepresented*. As in Table 8 it considers it examines this by type of impairment. Students with a specific learning difficulty are most likely to be overrepresented in agriculture and related subjects and creative art and design, whilst those with a mental health difficulty are more likely to be overrepresented in historical and philosophical studies.

Table 9: Disabled students by type of impairment in subject areas where they are overrepresented in relation to non-disabled

	%[1]	Agriculture & related subjects		Historical & philosophical studies		Creative art & design	
		No	%[2]	No	%[2]	No	%[2]
Blind or a serious visual impairment	**1.2**	24	**0.8**	104	**1.2**	272	**0.8**
Deaf or a serious hearing impairment	**2.1**	50	**1.8**	143	**1.6**	580	**1.7**
A physical impairment or mobility issues	**3.1**	69	**2.4**	280	**3.2**	666	**2.0**
Mental health condition	**11.7**	280	**9.9**	1363	**15.3**	4241	**12.6**
A long-standing illness or health condition	**10.1**	245	**8.6**	792	**8.9**	2437	**7.3**
Two or more conditions	**5.2**	111	**3.9**	597	**6.7**	1555	**4.6**
Social communication /Autistic spectrum disorder	**3.9**	90	**3.2**	435	**4.9**	1432	**4.3**
Specific learning difficulty	**53.3**	1720	**60.8**	4296	**48.4**	19939	**59.3**
Another disability, impairment or medical condition	**9.3**	240	**8.5**	874	**9.8**	2511	**7.5**
	100	2829	**100**	8884	**100**	33633	**100**

Source: HESA Student Record 2011/12 to 2014/15. Copyright Higher Education Statistics Agency Limited 2016

1. Percent of total disabled student population
2. Percent of disabled students within discipline

In summary, disabled students as a group are marginally less likely to study in an ancient university in Scotland than non-disabled students although this is not the case for students with a long-standing illness or health problems and those with a mental health condition. In England there is a

larger proportion of non-disabled students in prestigious Russell group universities and this is also the case for the most prestigious Golden Triangle universities. When looking at subject areas studied disabled students are less likely to study medicine and dentistry, mathematical sciences, engineering and technology, law, business and administrative studies and languages; they are more likely than non-disabled students to be found in the subject areas of agriculture, historical and philosophical studies and creative arts and design. Within the disabled student population, those with a specific learning difficulty are most likely to be overrepresented in engineering and technology and medicine and underrepresented in law. Although disabled students are generally underrepresented in mathematical sciences those with a social communication/autistic spectrum disorder are considerably overrepresented in this discipline in comparison to other disabled students.

Section 5: Conclusion

This paper has focused on an exploration of the heterogeneity of the disabled student population drawing on a HESA dataset for first-year undergraduate entrants covering the period 2011-2015. It also provided an overview of the most recent publicly available data of disabled students. This showed the first year undergraduate disabled student population to be close to 13% and those in receipt of DSA to range from 4.6 % in Scotland to just under 8% in Wales with Northern Ireland and England falling in between. There has been a decline in students receiving DSA in England.

The proportion of first year undergraduate disabled students in the total undergraduate population has fluctuated between 8.9% to 10.6% over the period under study. The number of disabled students has increased over all over the period 2011-15 and the numbers within each type of impairment have increased except for blind or visually impaired students. The increase in number of disabled students by type of impairment has been uneven and led to the proportion of students with mental health difficulties (as a proportion of the disabled student group) increasing from 9 to 15%. There has also been an increase in the proportion of those with autistic spectrum disorder and two or more conditions. There has been a decline in those with a specific learning difficulty, whilst the other types of impairment have remained at roughly the same proportion over this period.

Disabled students are more likely to come from an older age group than non-disabled students; it is not possible to examine this by type of impairment as the numbers are too low. The gender split for disabled students overall is very similar to that of non-disabled students; however, an analysis by type of impairment show considerable gender difference for those with mental health difficulties and autistic spectrum disorder. Students with mental health difficulties are more likely to be female (75%) and those with autistic spectrum disorder to be male (80%).

Overall disabled students are more likely to come from a socially advantaged backgrounds than non-disabled students and are more likely to have a parent with a higher education background. Analyses by type of impairment show that these data are skewed by the data from the largest group of disabled students – those with a specific learning difficulty. Students with other types of impairment such as those with a mental health difficulty are more likely to come from a lower socioeconomic background than non-disabled students. The analyses using area-based measures of deprivation show a similar picture but also indicate that caution is needed as these measures may well identify students as disadvantaged who would not be considered disadvantaged when using an individual based measure.

Another measure used by HESA to measure deprivation is type of school attended. Again, disabled students are shown as potentially more socially advantaged as a larger proportion attend private schools; however, this finding has to be treated with caution as local authorities at times fund attendance at private schools when this is deemed necessary for a pupil. Students with specific learning difficulties are considerably more likely to have attended a private school than students as are those with two or more conditions but to a lesser extent. Students with other types of impairments are more similar to non-disabled students. Across the board, disabled students achieve lower tariff scores than non-disabled students. Overall, disabled students are less likely to attend an ancient university in Scotland or a Russell group institution in the rest of the UK. However, in Scotland this is not the case for students with a mental health condition or a long-standing illness. These figures should be treated with caution as they only apply to Scottish ancient universities and relate to a very small number of students.

The main difference between disabled and non-disabled students in area of study is that disabled students are less likely to be found in the subject areas of medicine and dentistry, mathematical

sciences, engineering and technology, law, business and administrative studies and languages. They are more likely to study agriculture, historical and philosophical studies and creative arts and design than non-disabled students. The largest group of disabled students are those with specific learning difficulties and in relation to the rest of the disabled student population are more likely to be studying engineering and technology and medicine and less likely to study law.

This paper has examined differences between disabled and non-disabled students but particularly to highlight that this type of comparison is not sufficient when examining the characteristics disabled students as they are not a heterogeneous group. In addition, this paper has focused on first year full-time entrants, a group of students that have been successful in gaining access to university. It does not tell us whether students with particular types of impairment and social characteristics are less successful than others in gaining university entrance. For example, a high proportion of students with specific learning difficulties attend private schools and come from more socially advantaged backgrounds. Are there people with specific learning difficulties from less advantaged backgrounds who maybe have lost out on support school and therefore not gained sufficient grades to apply to university? Equally what happens to these students as they progress? There are data from the Scottish Funding Council (Scottish Funding Council, n.d.; see also Weedon, 2017) suggesting that disabled students are less likely to continue into second year than other groups of students. Is this the case for students with all types of impairments or are particular groups more vulnerable and could benefit from some form of additional support? The Association of Graduate Careers Advisory Service (AGCAS) has noted considerable differences in outcomes for disabled graduates by type of impairment and this seems worthy of further investigation. Access to university has clearly improved for disabled students since the publication of the Dearing Report and the enactment of anti-discrimination laws in educational institutions; however, it is necessary to ensure that all individual with the ability to gain a university degree have a fair chance to access and support irrespective of their other personal circumstances.

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Appendix 1: Definitions of disability with expanded description

Label	Definition
Blind or serious visual impairment	Blind or a serious visual impairment uncorrected by glasses
Deaf or serious hearing impairment	Deaf or a serious hearing impairment
A physical impairment or mobility issues	A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches
Mental health condition	A mental health condition, such as depression, schizophrenia or anxiety disorder
A long-standing illness or health condition	A long-standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
Two or more conditions	Two or more impairments and/or disabling medical conditions
Social communication/Autistic spectrum disorder	A social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder
Specific learning difficulty	A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D
Another disability, impairment or medical condition	A disability, impairment or medical condition that is not listed above
Non-disabled	No known disability

Source: https://www.hesa.ac.uk/collection/c17051/a/disable