Student Attainment, Retention and Diversity

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Executive summary

This research explores undergraduate student progression and attainment in the School Geography (SoG). It consists of a statistical analysis employing data from 2011 to 2014 as well as an integrated qualitative analysis based on a small number of in-depth interviews and focus groups with students from SoG. The research distinguishes students who progressed from those who did not progress; recognises the characteristics of students with first degrees, students attaining 2.1 and those scoring 2.2 and lower; and identifies the main determinants of attainment in SoG. The report is divided in two sections. The first considers progression and attainment and cross tabulates them against each variable (gender, age, ethnicity, origin, disabilities, socioeconomic background, previous school and entry academic achievement). The second section explores how probability of attaining *high marks* (1st and 2.1) and a *first* degree is affected by those explanatory variables. This was done by modelling the probability of obtaining *high marks* and a *first* with two Probit models.

In the first section key findings from cross tabulations between the variables and attainment and progression are as follows:

- Entry qualifications were found to be an important predictor of university attainment. Students who reported higher entry qualifications (A levels) were more likely to progress and achieved higher marks than those with lower entry grades.
- White students proportionally achieved more first class degrees and attained fewer 2.2 degrees or lower than BME students. Among BME students, black students were the ethnic group least likely to achieve high marks – almost half of them scored 2.2 and less. In terms of progression, however, BME students were slightly less likely to withdraw than white students.
- Several indicators showed BME students came from lower socioeconomic backgrounds. However, these indicators were not found to have a negative effect on attainment. For example, BME bursary recipients performed similarly to BME non-bursary recipients, which suggests coming from lower socioeconomic backgrounds was not the cause of BME students underachieving.
- Overseas students were clearly less likely to achieve high grades than UK and EU students. More than half of overseas students achieved 2.2 level while less than a third of all students attained a lower second.
- Mature students were less likely to progress and were more likely to attain lower grades.
- Students from private schools were less likely to progress and to achieve first class degrees than those from state schools.
- Students from lower socioeconomic backgrounds were not penalized in terms of progression and attainment, which contradicts what is generally found in existing research. In fact, some socioeconomic indicators pointed in the opposite direction. For example, students whose parents were employed in routine and semi-routine occupations and those who reported parents without higher education were more likely to achieve first class degrees.
- Female students were more likely to progress and to achieve high grades than male students.
- Students with disabilities performed similarly to the rest of students.

The second section of the report uses a different sample which includes all students who obtained a final mark between 2011 and 2014 in SoG and only those who reported A Levels before entering QMUL. Therefore, most EU and overseas students were omitted from this analysis.

Key findings were as follows:

- Higher entry qualifications increased the probability of obtaining high marks and first class degrees (with 99% confidence). Up to 83 percent of students who arrived in SoG with AAB or higher managed to achieve a high mark and 31 percent of them attained a first class degree. In contrast, 56 percent and 4 percent of students who came with BBC or lower achieved high marks and a first class degree respectively.
- Being a white student was found to increase the probability of attaining a first degree (with 99% confidence) as well as high marks (with 95% confidence).
- Indicators showed BME students came from lower socioeconomic backgrounds. For example, BME students in SoG were more likely to be bursary recipients and their parents were less likely to have higher education as well as to be employed in managerial and professional occupations. However, those factors were not found to decrease the probability of attaining higher marks.
- Female students were more likely (with 99% confidence) to achieve higher marks than male students: 76 percent of women attained high marks compared with 61 percent of men.
- Having parents employed in routine occupations increased the probability of obtaining a first degree (with 90% confidence). Moreover, having parents with higher education decreased the probability of scoring high marks (with 95% confidence). Both results contradict findings by other studies which suggest parents' lower occupational rank affect negatively their children's chances to achieve good grades at university.
- Coming from a private school decreased the probability of obtaining a first degree (with 95% confidence).

Overall, the main points to highlight are: there is strong evidence to suggest higher entry scores predict higher achievement and this finding is supported across the literature; overseas students struggle more than UK and EU students, particularly if they do not come from a British-based curriculum; SoG seems to have an issue with students from private schools; and ethnicity differences in terms of attainment were identified.

Acknowledgements

Introduction

This study explores undergraduate student progression and attainment in the School of Geography (SoG). It consists of a statistical analysis employing data for three consecutive academic years – 2011/12, 2012/13, 2013/14 - as well as an integrated qualitative analysis based on in-depth interviews and focus groups with students from the SoG. This primary research is supported by an analysis of existing research on student progression and attainment as a means of drawing on wider themes and explanations within higher education.

The core questions guiding this research are:
1. What distinguishes students who progressed from those who did not progress?
2. What are the characteristics of students with first degrees, students attaining 2.1 and those scoring 2.2 and lower?
3. What are the main determinants of attainment in SoG?

To answer these questions, first the characteristics of people in these situations are compared using cross tabulations against a set of explanatory variables, believed to be the most influential and selected through a literature review. The second part explores how probability of attaining a high mark (1st and 2.1) or a first degree is affected by those variables. In order to understand the relationship between each explanatory variable and attainment, the effect of other relevant variables is isolated through multivariate analysis.

The report is divided in two sections. The first section includes seven parts exploring the relationship between each variable and progression and attainment. The sections are: gender, age, ethnicity, origin (domicile), disabilities, socioeconomic background (parents' occupation and education and bursary recipients), previous school and entry academic achievement. The second section includes an overview of the variables of analysis (female, mature student, white ethnicity, bursary recipient, not disabled, parents professional occupation, parents routine occupation, parents with higher education, from state school, A levels) as well as two probit models, one inquiring about determinants of attaining high marks and the other about obtaining a first degree. This section also includes further analysis on the variables that were found to increase or decrease probability of attaining a high mark or a first class degree. Qualitative findings from focus groups and in-depth interviews with eight students in total are then integrated into the main document in order to explain the quantitative results (see Table 0). Finally, research findings are used to identify key progression and attainment issues in SoG in order to fully inform an appropriate response.

Methodology

Statistical analysis

According to the Strategic Planning Office (SPO) at QMUL, SoG registered 398, 401 and 413 students in 2011/12; 2012/13 and 2013/14, respectively (Table 1). In each academic year there were six possible outcomes regarding progression status: Progressed, Withdraw Programme, Resitting Out of Attendance (ROA), Out of Attendance, Withdraw College and Other (Table 2). Meanwhile, in each of those years there were 104, 117 and 131 students who received a degree with five possible scores in terms of attainment: 1st, 2.1, 2.2, 3rd and Pass (plus one aegrotat) (Table 3). The SPO dataset contains variables describing different characteristics of the students in the SoG, including gender, age, ethnicity, domicile (UK, other EU, Overseas), self-reported disabilities, socioeconomic background (parents' education and occupation and bursary recipients), previous school (state or privately funded, EU or overseas schools), and entry qualifications (A levels).

The statistical analysis consists of two parts. The first part looks at progression and attainment and cross tabulates them against each variable. In this case, progression status has been simplified into two outcomes: *progressed* and *did not progress*. Likewise, attainment status has been narrowed to three possibilities: 1st, 2.1 and 2.2 and lower.

The second part explores how probability of attaining *high marks* (1st and 2.1) and a *first* class degree is affected by those explanatory variables. In order to understand the relationship between each variable and attainment, the effect of other relevant variables is isolated through multivariate analysis. This was done by modelling the probability of obtaining *high marks* and a *first* with two Probit models. In both cases the proposed model is as follows:

$$Pr(y_i = 1) = f(X_i\beta)$$

where y_i is a binary response variable equal to 1 when the ith student has obtained a *first* and 0 otherwise; X_i is a set (vector) of explanatory variables containing characteristics of the ith student (detailed below); β is a vector of unknown parameters (to be estimated); $X_i\beta$ is a linear combination of such characteristics, including a constant term; and $f(\cdot)$ is the cumulative normal distribution function that transforms $X_i\beta$ in a value contained in the interval (0,1). The models were estimated with a sample for each of the academic years provided by SPO.

Qualitative analysis

The quantitative analysis was complemented with a qualitative analysis. Students were invited to take part in focus groups and individual interviews to contribute their voice and share their experience in developing a series of policies in order to address any potential issues that negatively and positively affect attainment and retention in relation to diversity. There were three focus groups (students A and B, students C and D and students G and H) and two semi-structured in-depth interviews (students E and F). In every case, students were shown the statistical analysis and were asked to comments on the main findings.

Table 0 Students included in qualitative research

Pseudonym	Gender	Ethnicity	Origin	Previous school	Aimed grade	Other aspects
Student A	M	White	UK	state	First	
Student B	F	White	UK	state	First	
Student C	F	Asian	UK	academy	First	
Student D	M	Asian	Overseas	international	First	
Student E	M	White	UK	state	High mark	
Student F	M	Asian	UK	state	Pass	ROA
Student G	M	Asian	UK	academy	High mark	
Student H	M	Asian	UK	state	High mark	

Overview of the data

Table 1 Overview of all students in SoG

Variables		Period		
		2011/12	2012/13	2013/14
Gender	Male	45%	46%	46%
	Female	55%	54%	54%
Age	Not Mature student	89%	91%	90%
	Mature Student	11%	10%	10%
Ethnicity	White	61%	60%	39%
	Black	5%	5%	4%
	Asian	19%	20%	13%
	Mixed	6%	8%	6%
	Other	2%	1%	1%
	No answer/info refused	7%	7%	38%
Domicile	UK	82%	83%	85%
	Other EU	9%	8%	6%
	Overseas	9%	9%	9%
Disabilities	Not known disability	86%	87%	88%
	Dyslexia, dyspraxia or AD(H)D	9%	8%	8%
	Other disabilities	6%	5%	4%
Bursary	Not Bursary Recipient	60%	56%	57%
	Bursary Recipient	40%	44%	43%
Parents' occupation	Higher managerial & professional occupations	18%	18%	19%
	Lower managerial & professional occupations	20%	20%	20%
	Intermediate occupations	9%	8%	8%
	Small employers & own account workers	6%	6%	6%
	Lower supervisory & technical occupations	2%	2%	2%
	Semi-routine occupations	8%	10%	10%
	Routine occupations	2%	2%	3%
	No answer	35%	34%	31%
Parents' education	Higher education	38%	42%	30%
	Not higher education	25%	30%	20%
	Information refused or no answer	37%	28%	50%
Previous school	From state-funded school or college	41%	44%	40%
	Privately funded school	10%	11%	10%
	Unknown and missing (UK)	31%	28%	35%
	EU school	9%	8%	6%
	Overseas school	9%	9%	9%
Entry scores*	BBC or lower	26%	24%	22%
	ABB to BBB	51%	52%	54%
	AAB or higher	22%	25%	24%

Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)
*Entry scores include only students who did A levels (2011/12 n=292; 2012/13 n=297; 2013/14 n=311). Notably, it excludes most overseas students.

From 2011 to 2014, the gender distribution at the SoG was 55 percent female and 45 percent male; approximately 10 percent were mature students[1] and this proportion did not change over time. The majority of students (60 percent) reported white ethnicity and Asian students represented a fifth of the total; black and mixed were around 5 percent and 7 percent respectively.[2] SPO includes a domicile variable which helps identifying students' origin: around one in ten of students in the SoG were from overseas and slightly fewer students came from other EU countries. More than 1 in 10 students in SoG reported having a disability and most of those students had a specific learning difficulty such as dyslexia, dyspraxia or AD(H)D.

In terms of socioeconomic indicators, more than four in ten students in the SoG received bursaries at some point. Close to 40 percent of the students came from families employed in managerial and professional occupations and just over 10 percent of students had parents employed in routine and semi-routine occupations. It is important to note that a third of the students did not answer the question about their parents' occupation. Likewise, a large proportion of students did not answer the question on parents' education. However, looking only at the valid cases, six out of ten students had parents with higher education (see Figure 11 in Annex 1).

As for the previous school, around 40 percent of students came from state funded schools and 10 percent came from privately funded schools; and close to a third of the students did not have a valid answer for this question. Meanwhile, around 8 percent of students previously studied in another EU country and 9 percent studied overseas. Lastly, around half the students who did A levels before coming to the SoG reported scores from ABB to BBB, a quarter had scores BBC and lower and the other quarter had attained AAB or higher.

The proportion of students in the SoG who managed to progress remained constant over time approximately one in ten were not able to progress (see Table 2).[3]

Table 2 Overview of progression status in SoG

Period		Progression status						
		Progressed	Withdraw programme	ROA	Out of attendance	Withdraw college	Other	Total
2011/12	n	361	11	10	10	6	0	398
	%	90.7%	2.8%	2.5%	2.5%	1.5%	0.0%	100.0%
2012/13	n	366	4	12	9	4	6	401
	%	91.3%	1.0%	3.0%	2.2%	1.0%	1.5%	100.0%
2013/14	n	369	8	6	17	8	5	413
	%	89.3%	1.9%	1.5%	4.1%	1.9%	1.2%	100.0%

Source: SPO

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[1] Students that started university at 21 or more years of age.
[2] Nearly four out of ten students on year 2013/14 did not answer the ethnicity question. However, looking just at valid cases the proportions from the two previous periods remained (see Figure 4 in Annex 1).
[3] It is important to notice that Tables 1 and 2 include every student enrolled in the SoG each year, which means many of the students in a year are also present in the next year.

Over a hundred students attained a degree every year from 2011 to 2014 in the SoG and over time students' performance has seen a slight improvement (see Table 3). The proportion of first degrees went from 10 percent in 2011/12 to 14 percent in 2013/14 and just under a third of the students scored 2.2 or lower.

Table 3 Overview of attainment status in SoG

Period		Attainment						
		1st	2.1	2.2	3rd	Pass	Aegrotat	Total
2011/12	n	10	55	31	3	5	0	104
	%	9.6%	52.9%	29.8%	2.9%	4.8%	0.0%	100.0%
2012/13	n	13	72	30	1	1	0	117
	%	11.1%	61.5%	25.6%	0.9%	0.9%	0.0%	100.0%
2013/14	n	18	71	30	3	8	1	131
	%	13.7%	54.2%	22.9%	2.3%	6.1%	0.8%	100.0%

Source: SPO

Section 1: Progression and attainment in the School of Geography

> **Key points**
>
> - Entry qualifications were an important predictor of university attainment
> - White students achieved better grades than Black and Minority Ethnic (BME) students
> - BME students were more likely to come from lower socioeconomic backgrounds yet this does not seem to explain performance
> - Overseas students performed worse than UK and EU students
> - Mature students attained lower grades
> - Students from privately funded schools were less likely to attain first class degrees
> - Students from lower socioeconomic backgrounds performed slightly better than the rest
> - Women achieved higher degree grades than men
> - Students with disabilities performed similarly to the rest

This chapter examines progression and attainment in regard to a set of variables: gender, age, domicile, ethnicity, disabilities, bursary recipient, parents' occupation, parents' education, previous school and entry scores. This preliminary analysis uses cross tabulations in order to detect possible patterns in relation to attainment and progression.

Key findings from cross tabulations between the variables and attainment and progression showed students performed worse when they had lower entry qualifications and were male, mature, Black and Minority Ethnic students (BME), from overseas and from privately funded schools. On the other hand, coming from a lower socioeconomic background was not found to have a negative effect on attainment and progression and there were minor differences between disabled and not disabled students.

Gender dimensions of degree performance

Several studies have identified differences by gender on degree performance in higher education. Scholars seem to agree that on average female undergraduate students obtain better grades than male students in general (McNabb et al, 2002; Naylor and Smith, 2004; Barrow et al, 2009) and in Geography in specific (Smith, 2004). While some studies found men had greater chances of achieving first class degrees as well as lower grades (thirds, passes and fails) than women (Rudd, 1984; Smith & Naylor, 2001; McNabb et al, 2002), others have suggested that the gender gap in terms of first degree attainment has reduced (Hoskins et al 1997; Richardson & Woodley, 2003; Woodfield & Earl-Novell, 2006; Barrow et al, 2009).

These patterns of reflected in the current study where Figure 1 shows female students were more likely to attain good grades than male students and men were more likely to score 2.2 or lower. Women were also slightly more likely to obtain first class degrees.

Figure 1 Attainment and gender in SoG from 2011 to 2014
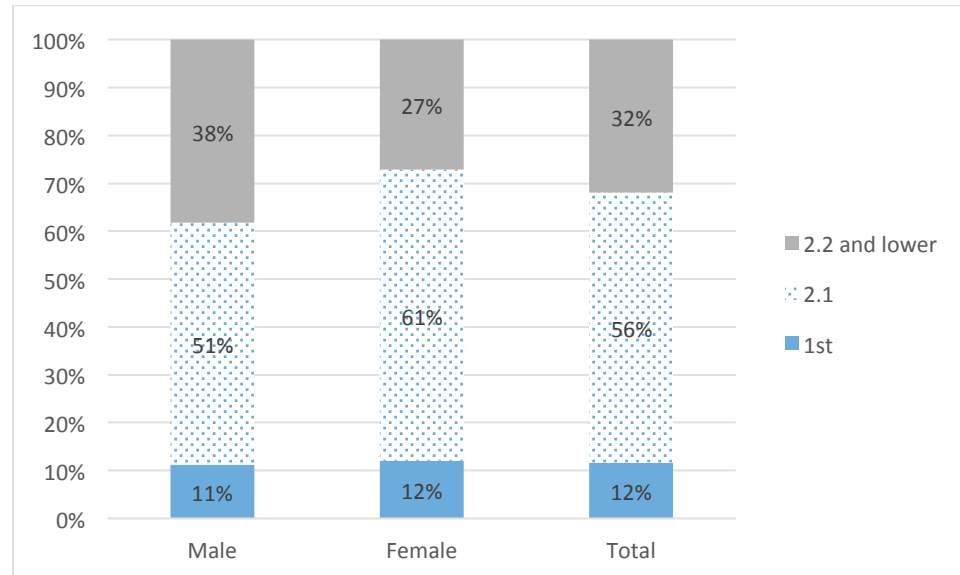
Source: SPO (n=351)

This was further reinforced in relation to progression rates although less markedly than for attainment in that differences by gender in terms of progression are small (see Figure 2) although female students were still slightly more likely to progress than male students.

Figure 2 Progression and gender in SoG
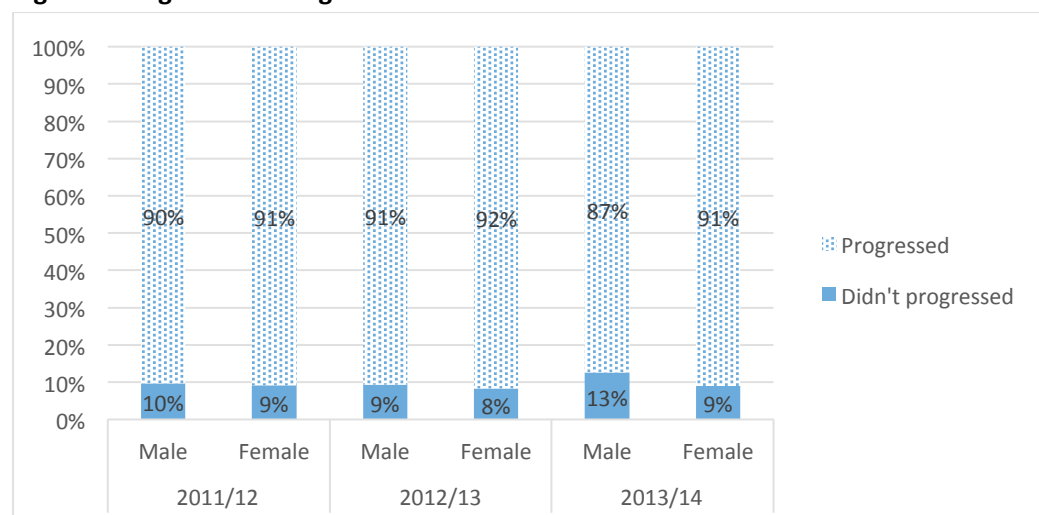
Source: SPO (2011/12 n=397; 2012/13 n=400; 2013/14 n=413)

Existing research on why these differences emerge are thought to be related to the choice of subjects made by men and women or the type of universities that male and female students attend.

In turn, they have been inked with to individual characteristics such as age and socioeconomic status (McNabb et al, 2002). Some scholars have also identified "prejudice" from examiners as the possible explanation for women having fewer proportion of first class degrees (Rudd, 1984; Bradley, 1984). Others have looked at social and psychological factors (Mellanby et al. 2000; Surtees et al, 2002) with some intriguing results. For example, Surtees et al (2002) found that these problems are twice as common on women at Cambridge University.

In the case of the Geography students interviewed or participating in the focus group discussions, few were surprised to learn about the gender differences in attainment and progression. Two students (C and D) noted that they felt it made sense that women achieved better grades. Student A also agreed and linked this difference to "the social side of things" in that he believed partying and drinking goes together with sports, an activity which is commonly male-dominated. These findings also emerged in part from Smith's (2004) study of the Geography department at Brunel university where young men were seen to attain lower grades because of a 'macho' culture that valued socialising and sporting prowess over studying compared with young women who were reported to be more dedicated and hard-working.

However, there was also some challenging of these patterns among some of the students in relation to ethnic background with Student C reporting that "Bangladeshi female education is not pushed; it's always seen as quite pointless as you are going to be in charge of the house". In this sense she thought she was an exception, arguing that "(…) in my house we are four daughters and that perhaps made my dad think about investing in our education". A similarly gendered perspective that challenges the reality of the findings came from Student F who stated: "For us [Asians], the son is supposed to be the highest achiever, whereas the daughter is going to get married; a man has to do well because he's going to stand on his own; there's a lot of pressure and no everyone can handle it; women have less pressure".

Age dimensions of degree performance

The age of students has also been found to be linked with academic performance. In the past, there was concern about how mature students would perform at university and some studies have found they were more likely to drop out and to fail (see e.g. Woodley, 1984). Mature students were said to lack the basic skills to undertake higher education or to have "age-related intellectual deficits", although there was no strong evidence to support this (Richardson, 1994). In more recent studies, however, mature students have been found to have better degree outcomes that the rest (Hoskins et al, 1997; Barrow et al 2009).

Figure 3 Mature students (MS) and progression in SoG
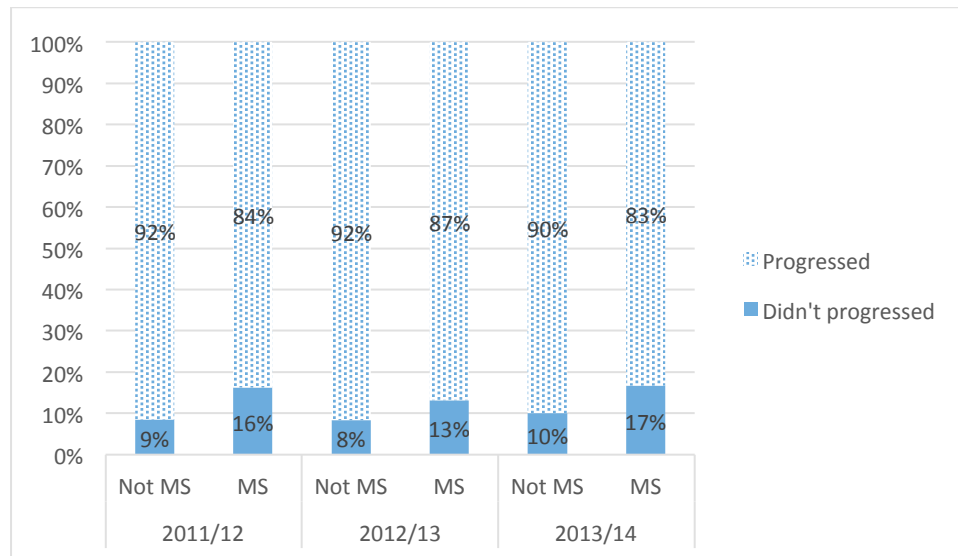
Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

The early identified patterns are partly reflected in the SoG in that mature students were less likely to progress (see Figure 3). In turn, they were also more likely to attain a 2.2 and lower grades (see Figure 4). These quantitative results therefore contradict more recent findings in the literature and suggest that the situation has worsened over time.

Figure 4 Mature students (MS) and attainment in SoG from 2011 to 2014
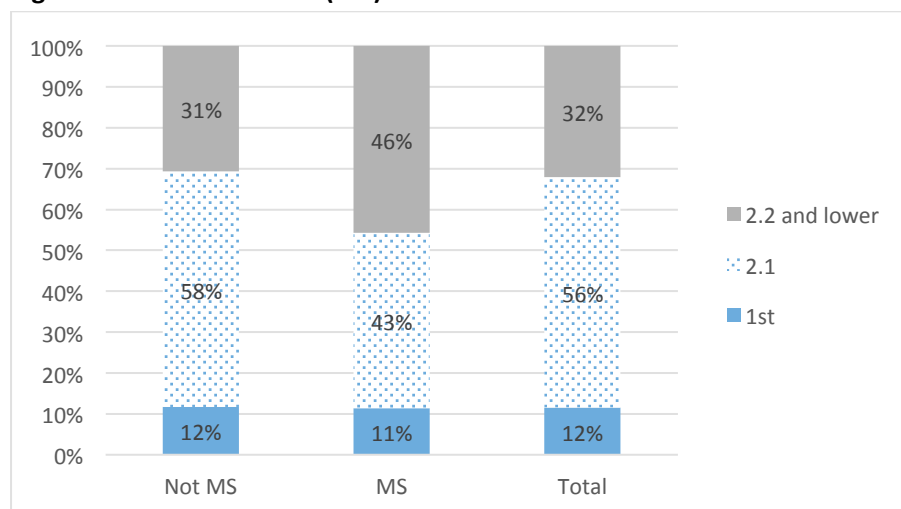
Source: SPO (n=352)

There are different aspects that can work for and against mature students. Re-joining academia after a certain period of time can be difficult as they might feel disconnected from academic life. In this regard, Student D stated that: "if anything, I suppose that people coming straight from school do not lose the rhythm (…) there is continuity (…) mature students like myself need to pick it up again and learn how to do research and write essays. You get disconnected (…) I imagine people who try to come back after ten years would have it even more difficult." In addition, student C thought older students would be more likely to have other responsibilities especially in relation to family, which can affect their performance as they juggle multiple demands on their time.

On the other hand, mature students can potentially be more dedicated as they have had time to consider their options before opting for higher education. This was reported by Student D who believed mature students knew what they wanted and that this played in their favour.

Ethnic dimensions of degree performance

Several studies have found that white students have better grades than their peers while black Caribbean and black African students underperform at university (Connor et al, 2004; Broecke & Nicholls, 2007; Barrow et al, 2009). These differences are reduced when socioeconomic background and previous academic performance are taken into account (Connor et al, 2004). However, scholars admit that the fact that different ethnic groups have different attainment remains unexplained, even after controlling for other variables (Connor et al, 2004; Broecke & Nicholls, 2007).

In terms of the relationship between progression and ethnicity, Figure 5 shows that in all periods white students were slightly less likely to progress than BME students.

Figure 5 Progression and ethnicity in SoG
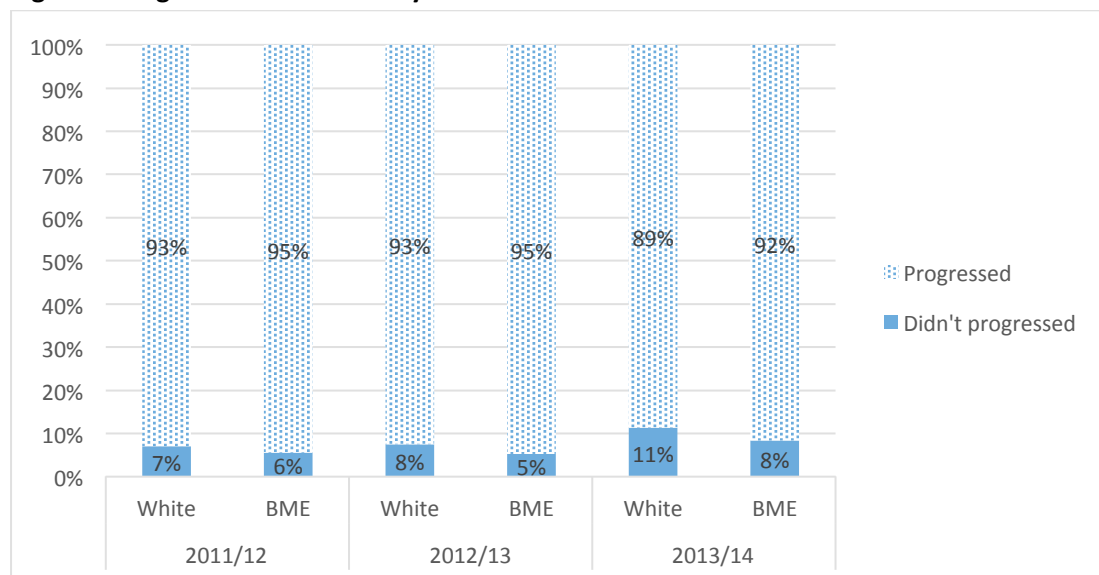
Source: SPO (2011/12 n=372; 2012/13 n=374; 2013/14 n= 256)

However, results in terms of attainment show that white students had more chances of achieving first class degrees and were less likely to get a 2.2 degree or lower than BME students (see Figure 6). Also, nearly half of the 38 black students achieved a degree between 2011 and 1014 scored 2.2 and less.

Figure 6 Attainment and ethnicity in SoG from 2011 to 2014
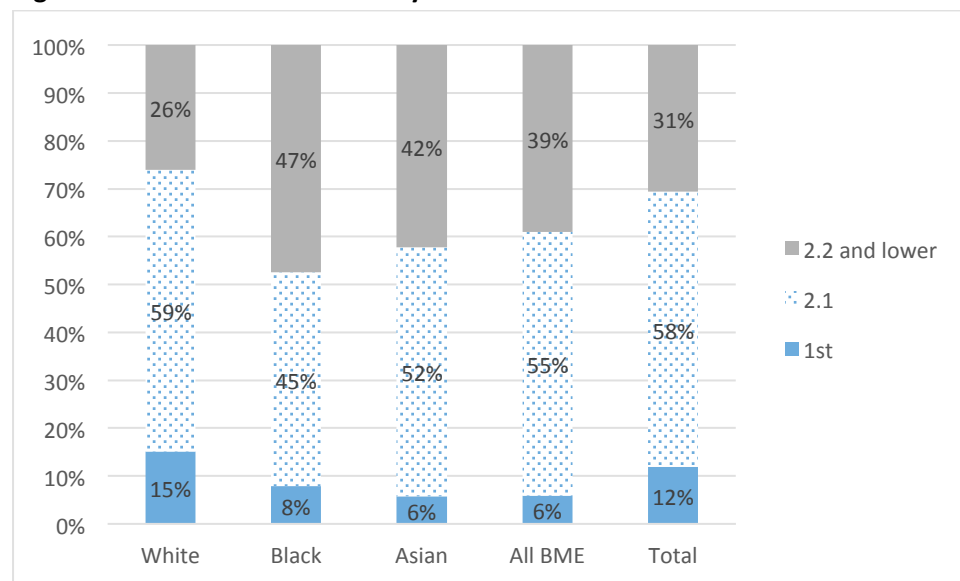
Source: SPO (n=337)

These results are in accordance with those found in the literature yet the reasons for these differences are not clear. During focus groups and interviews some students claimed that ethnicity differences were a reflection of the difficulties experienced by overseas students (see below). However, differences in attainment by ethnicity do not seem to be linked to the origin (i.e. home or overseas) of the student, at least not in the sense those students argued.[4] Also, the second section of this report shows that even after excluding most overseas students from the analysis, differences between white and BME students remained.

Another possible explanation points to differences in socioeconomic background. Indeed, several indicators in Table 4 show that BME students came from lower socioeconomic backgrounds. The proportion of bursary recipients was higher for BME (50 percent) than for white students (37 percent); a larger proportion of white students had parents in managerial and professional occupations and a smaller percentage of BME students reported parents with higher education. However, socioeconomic indicators were not found to have a negative effect on students' performance in SoG.

[4] EU students were predominantly white and were also more likely to achieve high marks.

Table 4 Ethnicity and attainment in SoG

Variables		White students (219 cases)	BME students (118 cases)
Attainment	1st	15%	6%
	2.1	59%	55%
	2.2 and lower	26%	39%
Gender	Male	47%	37%
	Female	53%	63%
Domicile	UK	85%	81%
	EU	11%	3%
	Overseas	4%	16%
Age	Not mature	89%	92%
	Mature	11%	8%
Bursary	Not recipient	63%	50%
	Recipient	37%	50%
Disabilities	Disabled	18%	9%
	Not disabled	82%	91%
Patent's occupation	MPO	46%	26%
	RSRO	10%	14%
	Rest of occupations	16%	18%
	No answer	28%	42%
Parents' education	Higher education	41%	32%
	Not higher education	27%	31%
	Information refused or no answer	32%	37%
Previous school	From state-funded school or college	45%	41%
	Privately funded school	10%	11%
	Unknown and missing	30%	29%
	EU school	11%	3%
	Overseas school	4%	16%
Entry scores*	BBC or lower	22%	30%
	ABB to BBB	57%	46%
	AAB or higher	21%	24%

Source: SPO (n=337) *Entry scores (n=256)

Moreover, among BME students those not receiving bursaries performed similarly to those who did received them (see Figure 7), which suggests this is not the cause for BME students' underachieving.

Figure 7 Ethnicity, bursary receipt and attainment in SoG
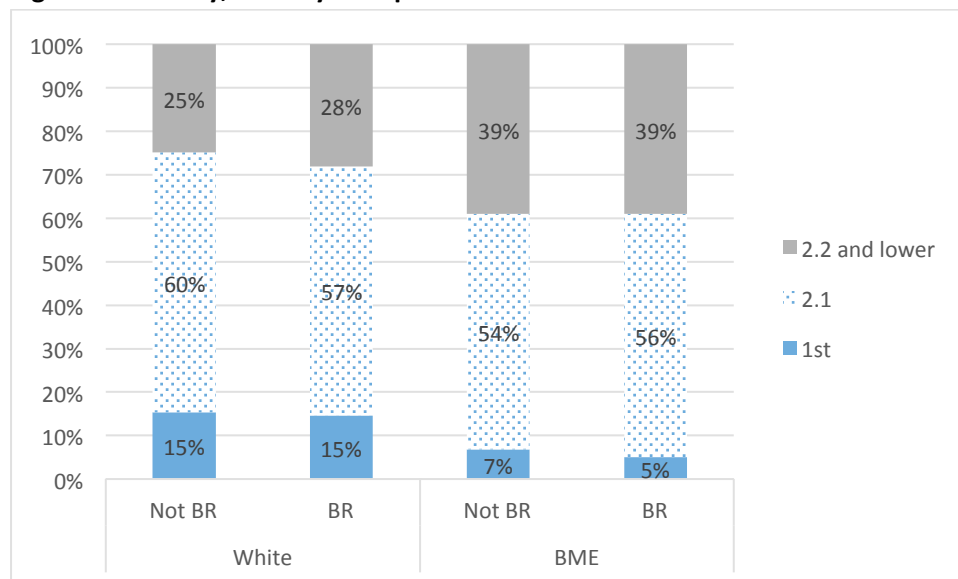
Source: SPO (n=337)

There could be a number of possible explanations for white students performing better than BME.[5] For example, the education system in Britain is uneven and students from different schools are better or worse prepared than others with evidence suggesting that BME students tend to be more likely to come from worse schools. In this sense, qualitative research from the NUS (2011:3) found a common perception in "that many Black students enter further and higher education without the same academic skills, such as study skills and understanding of theoretical debate, as their White peers". In addition, white and BME students could have cultural differences that translate into variations in aspirations that are reflected in students' grades.[6] In this regard, Ball et al. (2002) found that BME students were more likely to have lower expectations than white students. Also, there could be a *disconnection* between a predominantly white staff and BME students linked with the lack of role models for the latter. There might also be different "conceptions of learning and approaches to studying" in students from different ethnic backgrounds (Richardson, 2008:46).

In the SoG, Student A thought differences by ethnicity could be related to the topics that are taught. He said:

> "during my dissertation I have been to other places like SOAS[7] and it seems I like a very multicultural university with a wide range of ideas and where they teach alternative subjects and points of views. Maybe we have a very western boring form of studying (…) maybe even Geography itself is very White."

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[5] For a more detailed list of reasons see Senior (2012) or Singh (2011).
[6] Note that discussing cultural differences is pertinent from the moment there is a decision to capture an ethnicity variable.
[7] School of Oriental and African Studies

Student B agreed and said: "an example would be the course "Reinventing Britain" which is set in North East of England, (…) perhaps not everybody is interested on something like that (…)". Student A added: "(…) perhaps we are not teaching the things that are appealing to people who are not white".

Origin of students (home/EU/overseas) and degree performance

There is evidence to suggest that overseas students (non-EU) perform less well than British-born and EU students (Smith and Naylor, 2001; Naylor and Smith, 2004; Barrow et al, 2009). There are some obvious disadvantages that overseas students might have compared with those born in the UK in terms of degree performance, including lower language proficiency as well as lack of understanding of the education system and evaluation methods (McNabb, 2002). However, EU students do not seem to have such a penalty and they even perform better than UK students (Barrow et al, 2009).

In terms of progression, there is no clear pattern although overseas students were slightly less likely to progress than UK students in every year (see Figure 8).

Figure 8 Progression and students' domicile in SoG
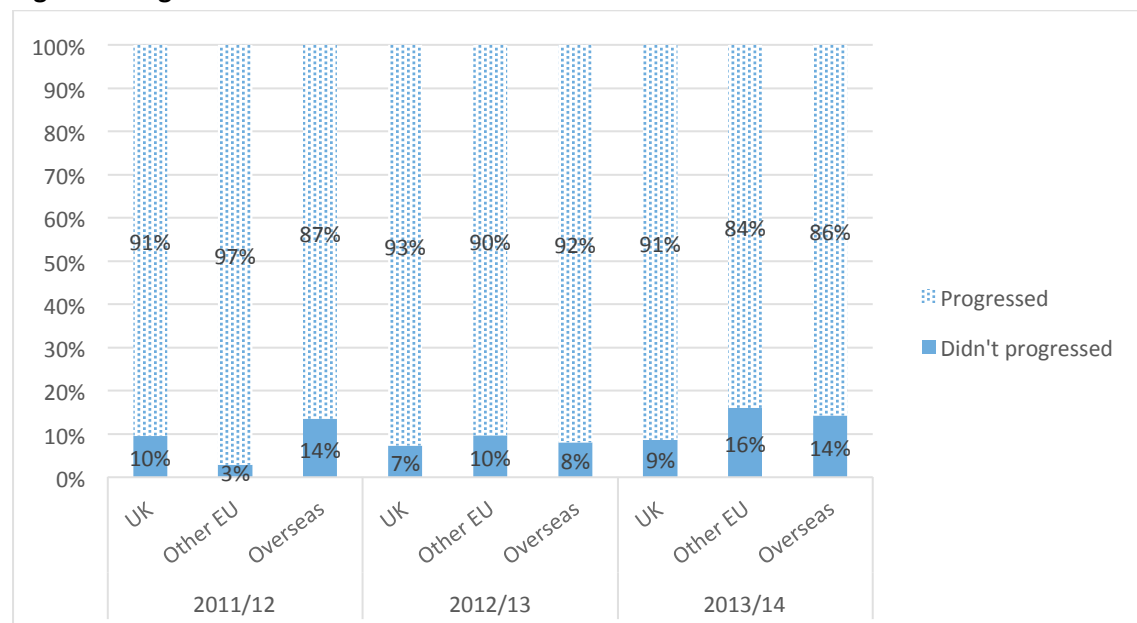
Source: SPO (2011/12 n=398; 2012/13 n=396; 2013/14 n=408)

In terms of attainment, UK students were only slightly more likely to achieve first class degrees than overseas and other EU students. However, it is noticeable that over half of overseas students attained a 2.2 degree and lower and less than a third of all students attained such marks (see Figure 9).

Figure 9 Attainment and students' domicile in SoG from 2011 to 2014
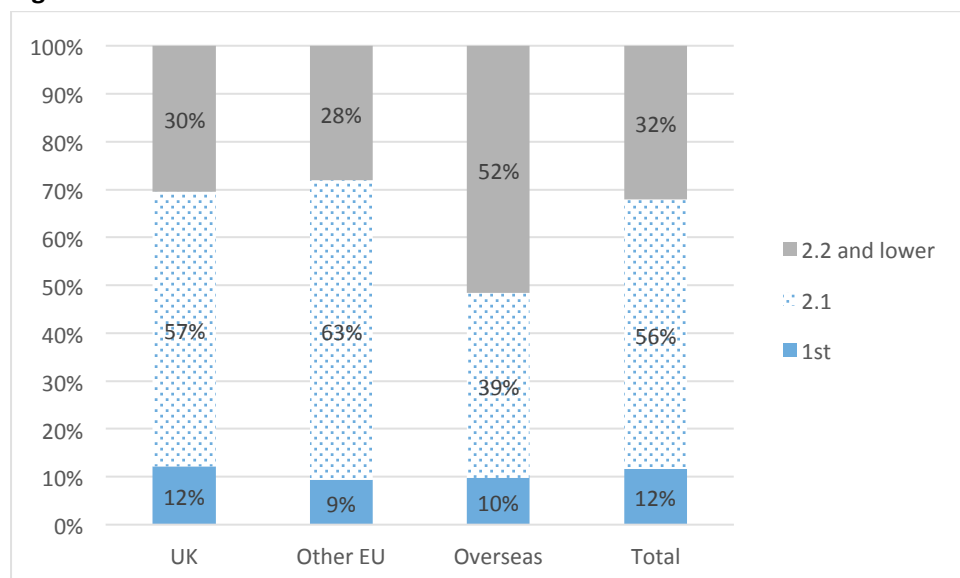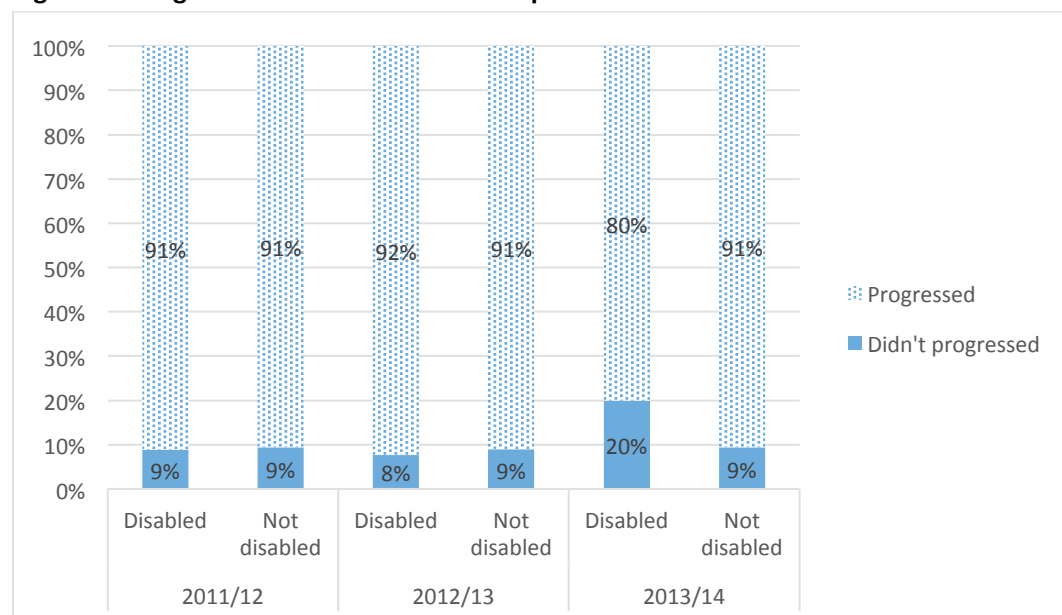

Source: SPO (n=352)

Among the explanations offered by the students themselves, language emerged as the most commonly identified as noted by Student C who believed "there might be a language issue. Not speaking good English sets people back and affects their confidence." In turn, Student D added: "Language was not an issue for me but I could see Asian students struggling; (…) language proficiency needs to be quite high and if it isn't then they can't express themselves." Also important was the greater complexity of life for overseas students who had to live away from home as Student D, who is an international student stated: "we need to consider our budget, accommodation; we need to manage our family relations back home". Indeed, financial pressures over and above the additional fees required were also frequently mentioned as Student C stated: "a lot of my international friends need to go back home which costs money". Similarly, Students A and B conceded that overseas students might have an added stress in relation to extra financial issues and pressures. However, both students also thought there could also be a link with their lifestyle. Student B said "there are some overseas students that are traveling all the time", while Student A added: "All of my flatmates were international and I never saw them in the flat; (…) and they certainly weren't in the library."

Disabilities and degree performance

Some research has identified a negative relationship between having a disability and academic performance (Naylor & Smith, 2004; Purcell et al, 2005 Broecke & Nicholls, 2007). However, Barrow et al (2009) found no relationship in this regard and believed this could be partly as a result of policy interventions at universities tackling disability inequalities.

In the SoG, only in the year 2013/14 were disabled students less likely to progress than the rest (see Figure 10). In terms of attainment, disabled students had slightly more chances to attain a 2.2 degree and lower than not-disabled students (see Figure 11).

Figure 10 Progression and students' self-reported disabilities in SoG

Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Figure 11 Attainment and students' self-reported disabilities in SoG from 2011 to 2014
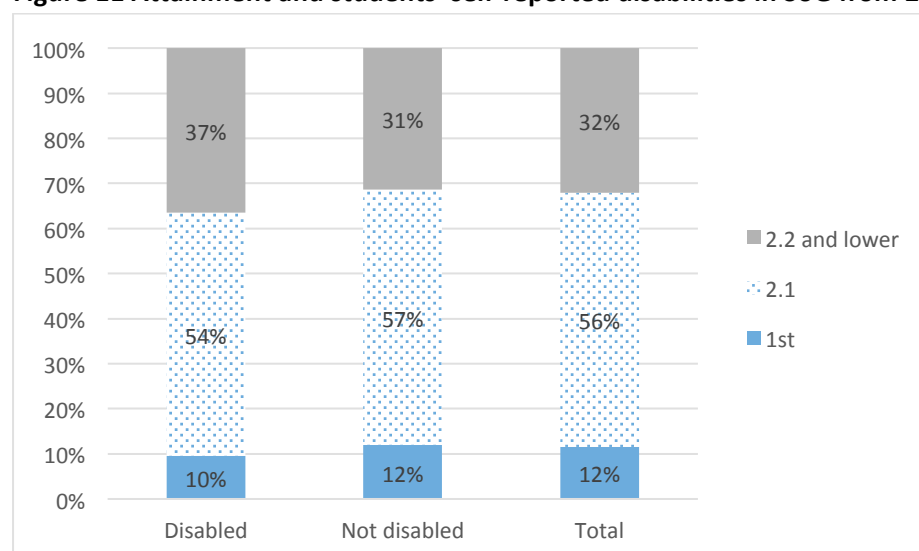
Source: SPO (n=352)

The differences in attainment and progression between disabled and not disabled students were not marked. In this case in particular, it seems reasonable believe that the SoG has an adequate system to deal with obstacles faced by disabled students generally. An awareness of mental health issues

among the student body was noted by some interviewees. For example, Student A believed that mental health has become an important topic of discussion recently:

> "Awareness (of mental health issues) is on the rise but personal awareness is less obvious; it is hard to detect when you are depressed and when you need to ask for help. (…) uni is the place where we form our identities and it is a time when we are going through a lot."

Reporting of mental health issues has been on the rise in the SoG as a whole and the School has responded positively through providing staff training (a basic level course in May 2014 with a follow-up more intensive course in November 2015).

Socioeconomic backgrounds: parents' occupational status and education and bursary receipt

Socioeconomic background (identified through parental occupation and education) are thought to have important effects on students' performance (Blundell, et al, 1997; Smith and Naylor, 2001; Dearden, Ferri and Meghir 2002). These studies agree that students whose parents have lower occupational status, have fewer chances to achieve good grades, which suggests a link between students' financial stability and attainment (Smith and Naylor, 2001). Another common finding is the positive relationship between having parents in higher education and achievement of good degrees (Blundell, et al, 1997).

Being a bursary recipient could work as an indicator of lower socioeconomic status because bursaries at QMUL are meant "to assist students who are in most need of financial support with the costs of being a student in higher education".[8] However, it is important to note two points in relation to this variable: first, international students and some EU nationals are not eligible for bursaries; and second and more important, bursaries are supposed to provide financial stability to the student and therefore this would not necessarily be a reason to underperform because their supposed disadvantage is already accounted for.

The picture in the SoG appears to challenge existing research in that in every period, students whose parents were employed in routine and semi-routine occupations had greater likelihood of progressing than all the others. In turn, students with parents in managerial and professional occupations were slightly more likely to progress than the rest of occupations (see Figure 12).

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[8] http://www.arcs.qmul.ac.uk/bursaries/qmbursaries.html)

**Figure 12 Progression of students according to parents' occupation in SoG**
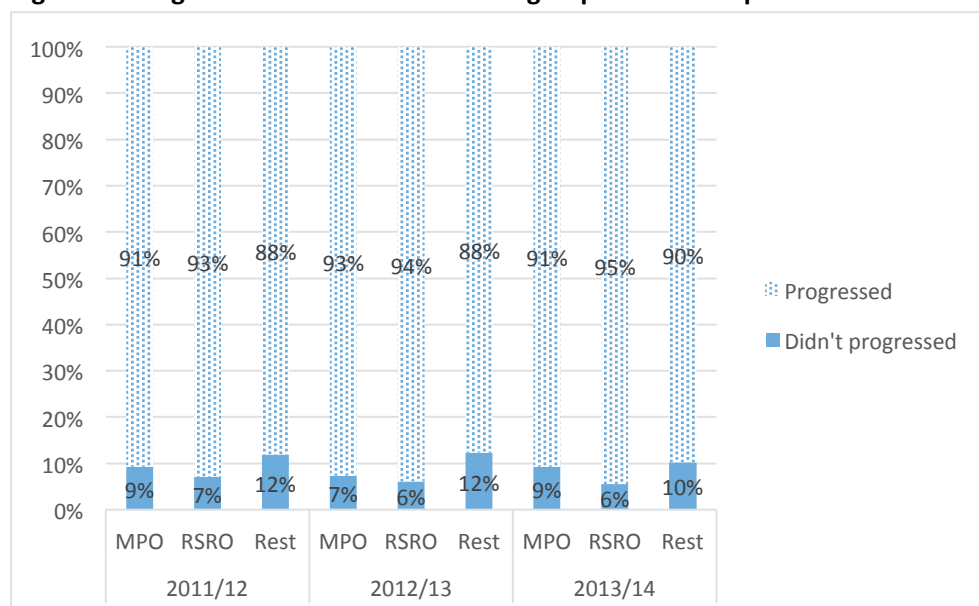
Source: SPO (2011/12 n=259: 2012/13 n=264; 2013/14 n=285)

*MPO: Parents in managerial and professional occupations (higher and lower); RSOP: Parents in routine and semi-routine occupations; Rest of occupations: Intermediate occupations, Small employers & own account workers, Lower supervisory & technical occupations.

In addition, students with parents employed in routine and semi-routine occupations proportionally achieved more first class degrees; yet those students were also more likely to score 2.2 and lower grades (see Figure 13). Students whose parents were employed in managerial and professional occupations had fewer chances to attain lower degree grades.

Figure 13 Attainment of students according to parents' occupation in SoG from 2011 to 2014
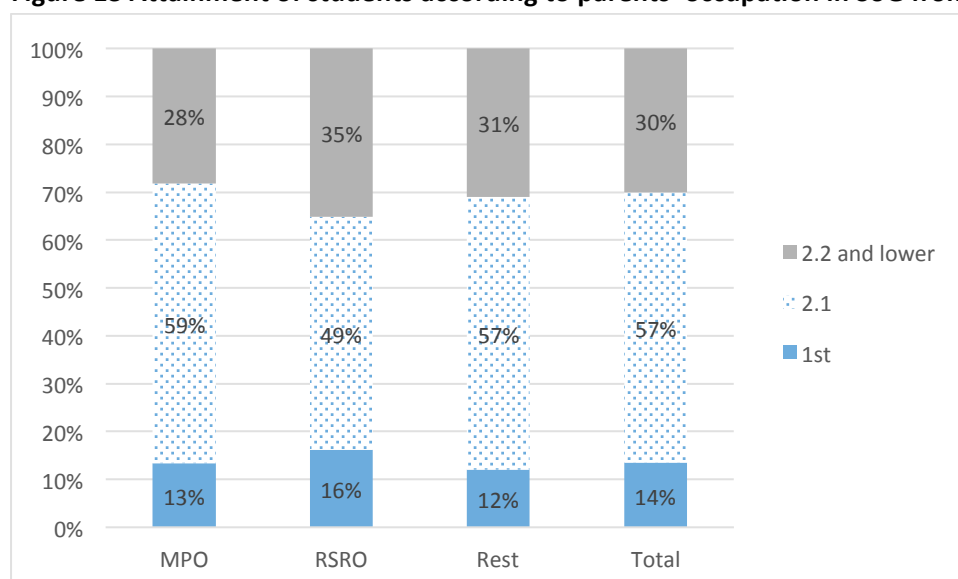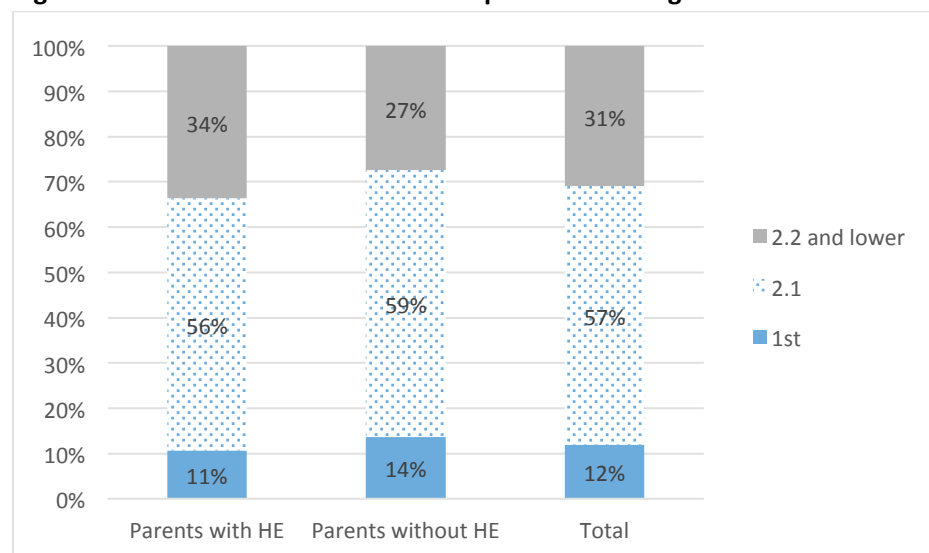

Source: SPO (n=230)

In terms of parents' education, students who stated their parents had higher education were less likely to progress in every period (see Figure 14). Likewise, students declaring parents with higher education had fewer chances to achieve a first degree and had also a larger proportion scoring 2.2 or lower than the total (see Figure 15).

Figure 14 Progression of students with parents with higher education in SoG
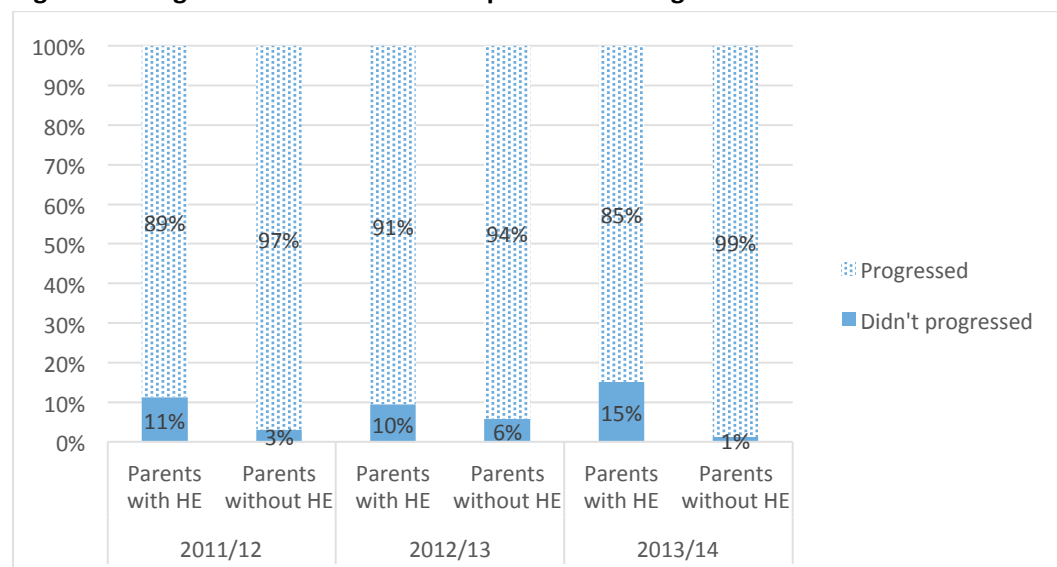
Source: SPO (2011/12 n=250; 2012/13 n=290; 2013/14 n=207)

Figure 15 Attainment of students with parents with higher education in SoG from 2011 to 2014
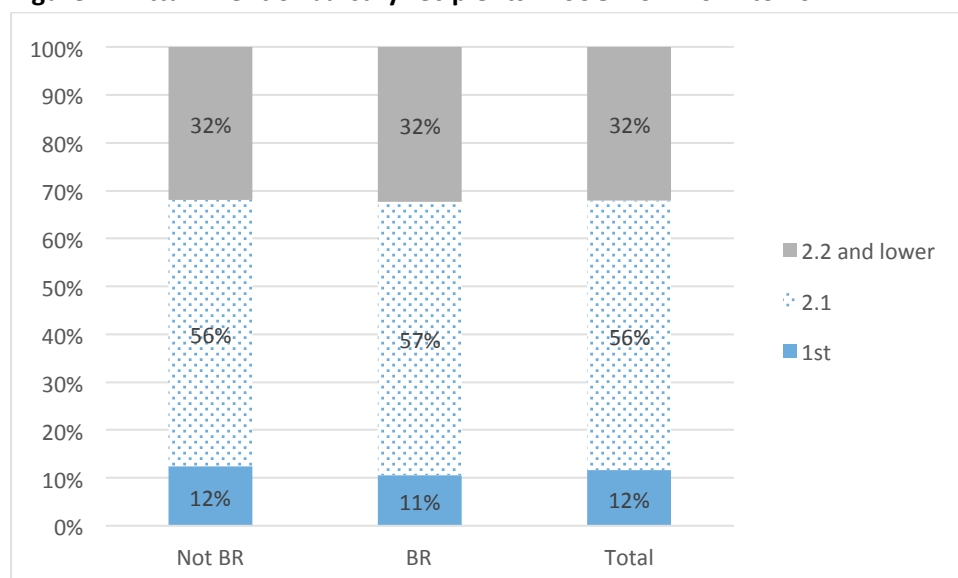

Source: SPO (n=226)

Students receiving bursaries had more chances of progressing than the rest (see Figure 16). Also, Figure 17 shows that being a bursary recipient in SoG did not have an effect on students' performance, somehow indicating the policy in place had been successful.

Figure 16 Progression of bursary recipients in SoG
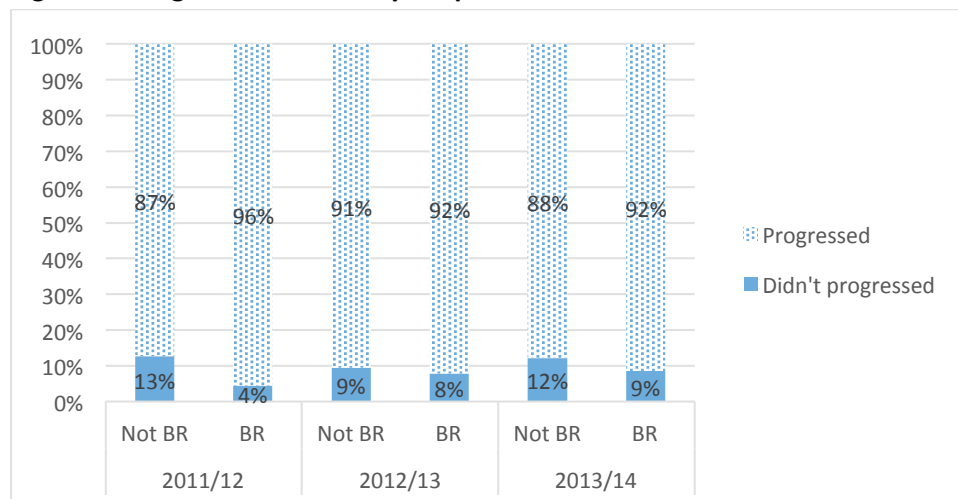
Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Figure 17 Attainment of bursary recipients in SoG from 2011 to 2014

Source: SPO (n=352)

These findings contradict what is generally found in existing research. It is interesting to note that none of the socioeconomic indicators worked as expected in that students from lower socioeconomic backgrounds were not penalized in terms of progression and attainment. Most students in the focus groups were initially surprised with these findings, however, they promptly came up with ideas on why they made sense. The most commonly identified was the need to prove that going to university was worthwhile as Student B explained:

> "Neither my father nor my mother went to university. In fact, I am the first person in my family to come to university; it could be that people in that situation work harder; perhaps we have more to prove; my parents are very proud that I am at University".

Likewise, Student C was the first in her family to go to university and her parents were both working in routine occupations, however she noted:

> "I've always wanted to overachieve and I think that it is something that comes from you, but I also feel my job is to make my parents proud; they have worked so hard for me to have this opportunity."

Students also wanted lives different from their parents as Student F noted: "my parents always say how they lived in poverty and (that) they don't want me to live like that; when you hear those stories it's like a wakeup call; it pushes you". Coming from humble origins was also seen as restricting a very active social life which could ultimately affect performance as Student A stated:

> "People from wealthier backgrounds might have more flexibility to go and do more outside their studies and have a more active social life. (…) Especially in London, if you have the money to go out and do really fun things… I can definitely see that affecting your grades".

**Previous school and entry level academic achievement**

Having studied in a private or state institution prior to university can potentially work as an indicator of social class. However, it is also known that there are differences in academic performance between students from private and state schools, with the former having a negative effect. In other words, taking individuals with equal characteristics and the same grades, on average state-school students perform better at university (Blundell et al 1997; Naylor & Smith, 2004; Barrow et al, 2009).

In terms of UK students' progression, those from state-funded schools were more likely to progress than those from privately funded schools in every period (see Figure 18).[9] Moreover, while students from state-funded schools had similar chances to achieve first class degrees than the overall sample, only 3 percent (1 out of 36) students who reported coming from a privately funded school managed to achieve a first class degree in three years (see Figure 19). Progression status of students from EU schools was slightly better than that of students from overseas schools in 2011/12. However, in 2012/13 and 2013/14 it was the other way around. Students coming from overseas schools were much more likely to attain lower grades than the rest - more than half of them scored 2.2 degrees or lower.[10]

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[9] It is important to remember that all students from state, privately funded and unknown or not reported schools are from the UK.
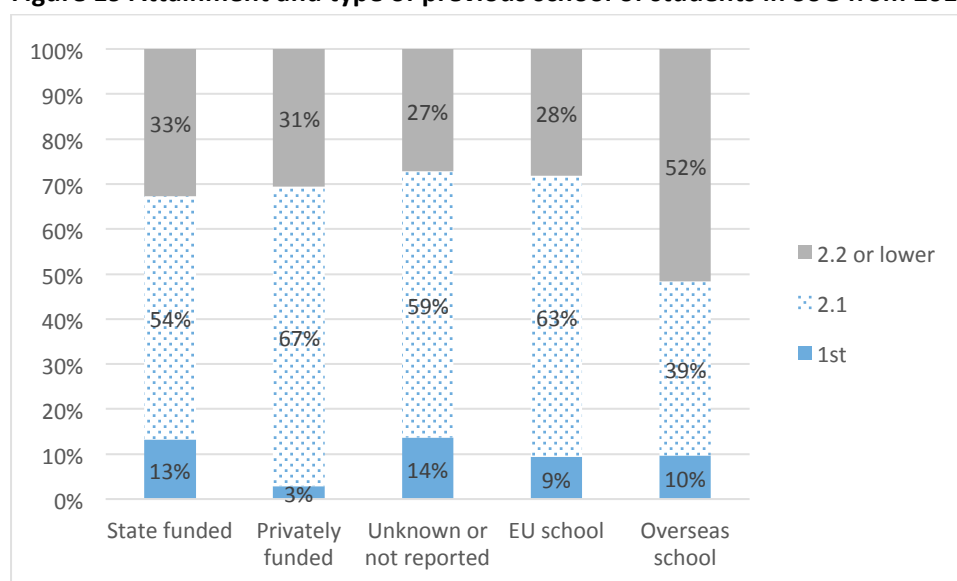[10] Please note that the proportions for EU and overseas schools are the same as those in Figures 8 and 9.

Figure 18 Progression and type of previous school of students in SoG
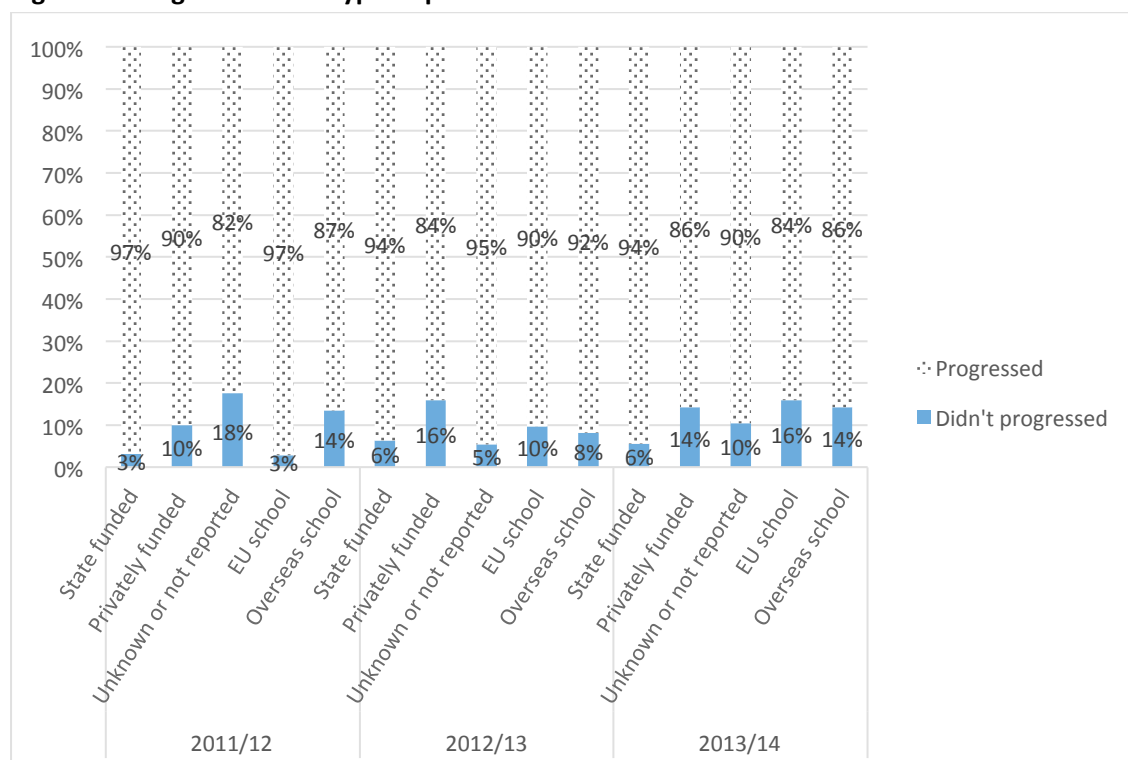
Source: SPO (2011/12 n=398; 2012/13 n=396; 2013/14 n=408)

Figure 19 Attainment and type of previous school of students in SoG from 2011 to 2014

Source: SPO (n=352)

Even though these findings concur with the existing research, the students included in the current research tended to believe it was the other way around in that they thought that students from private institutions are better prepared and therefore achieve higher grades. Students A and B, both coming from state schools, could not hide their surprise when they learned about this finding. Student B said: "so this shows there isn't anything necessarily better about private education". Student A added: "I have two friends who went to private schools and both of them are really

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struggling with their grades and both asked me for help in their dissertation". Likewise, Student B said:

> "I have a friend who went to boarding school and never had to worry about anything but she's struggling academically … people from private schools go to university because they are expected to do so - every generation before them has gone to university, whereas people from our backgrounds are here because we really want to be here; we want to improve our chances to get a better life, a good job."

Student A, however, concluded with a rather pessimistic remark: "(…) I find it frustrating to think that those wealthy people would walk into a job straight after university because their father works in a bank in the city…"

Perhaps more important than the type of previous school are the entry qualifications. Previous academic achievement is generally found to have a strong relationship with performance in higher education (McNabb et al, 2002; Connor et al, 2004; Naylor and Smith, 2004; Purcell et al, 2005; Broecke & Nicholls, 2007; Barrow et al, 2009). In fact, some studies found high entry scores to be the most relevant factor for better academic achievement (Barrow et al 2009). In-depth analysis of this variable suggests that those students who previously studied mathematics have more chances of obtaining a good degree (Naylor and Smith, 2004). Also, Connor et al (2004) found that students from different ethnic groups have different entry qualifications.

The variable to measure entry scores was based on the best three A levels obtained by the students. Therefore, not only was the sample reduced, it also meant that this variable did not take into account certain students; notably, must non-UK students were excluded from this analysis.

Figure 20 shows that students who reported lower entry grades (BBC or lower) were less likely to progress than the rest. The other two categories (ABB to BBB and AAB or higher) had similar patterns in term of progression. In terms of attainment, entry qualifications seemed very important. Almost a third of the students with AAB or higher achieved a first class degree. In contrast, 8 percent and 4 percent of students whose entry scores were ABB to BBB and BBC or lower respectively, managed to attain a first (see Figure 21). Also, 44 percent of students who arrived to the SoG with entry grades of BBC or lower, attained a 2.2 degree and lower, which contrasts with only 17 percent from those who arrived with AAB or higher.

Figure 20 Progression and entry grades in SoG
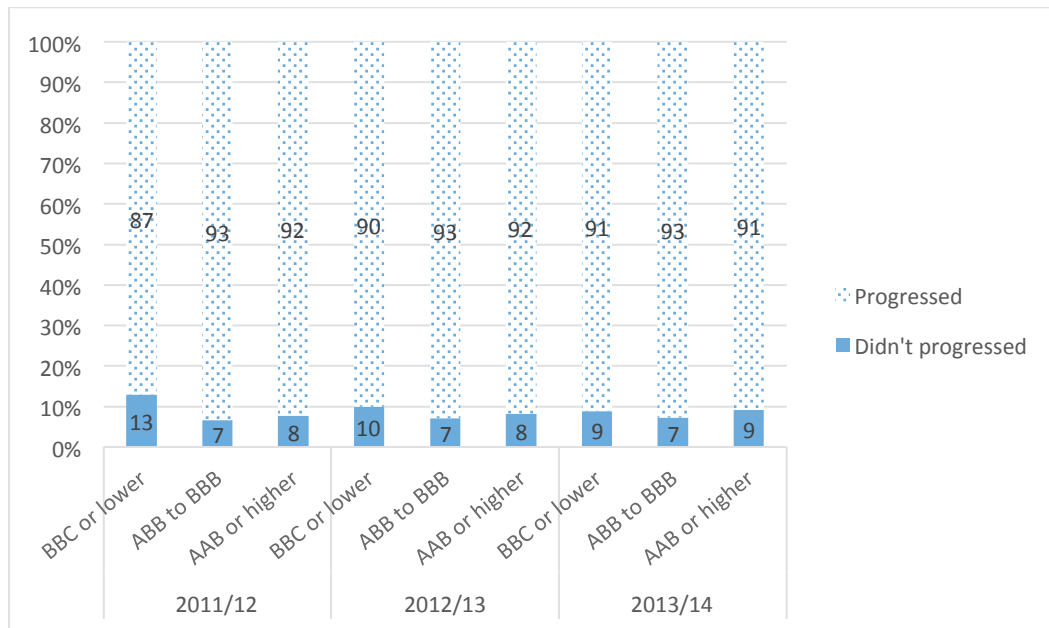
Source: SPO (2011/12 n=292; 2012/13 n=297; 2013/14 n=311)

Figure 21 Attainment and entry grades in SoG from 2011 to 2014
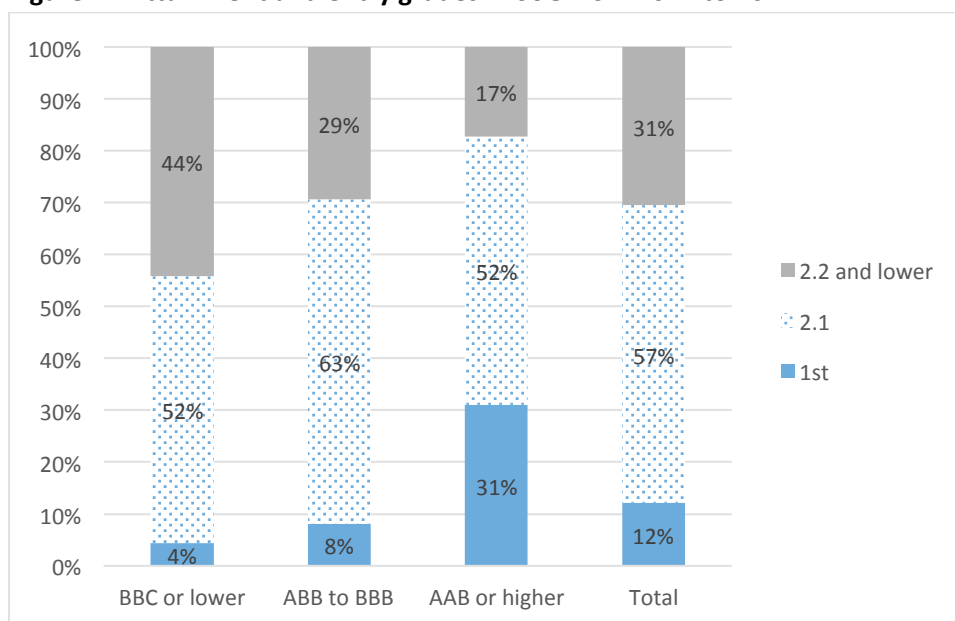
Source: SPO (n=262)

These results are in accordance with the literature. Nevertheless, it questions the SoG in terms of levelling /up students with different academic capabilities (see also below).

Section 2: Determinants of attainment of students who did 'A' levels in the School of Geography

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Key points

- Higher entry qualifications increased the probability of obtaining high marks and first class degrees
- White students were more likely to achieve high marks as well as first class degrees
- Female students had more chances of attaining high marks than male students
- Having parents employed in routine occupations was positively related with attaining a first class degree
- Having parents with higher education was negatively related to achieving a good degree
- Coming from a private school decreased the probability of obtaining a first class degree

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This section of the report considers the determinants of attainment of students who did 'A' levels in the SoG. This was done by modelling the probability of obtaining a high mark (1st and 2.1) or a first with Probit model. Table 5 provides a summary of variables used in this section, and an initial analysis of the research questions. The first column shows the average for the whole sample; columns two and three present the average of the variables for individuals with high marks (1st and 2.1) and 2.2 and lower, respectively; columns four and five present the average of the variables for individuals with firsts and 2.1 and lower, respectively. Variable "A levels" is a three-point scale where 1 is BBC or lower, 2 is ABB to BBB and 3 is AAB or higher; and the rest of the variables included in the analysis are binary response variables: gender (female), mature student, white ethnicity, bursary recipient, not disabled, parents professional occupation, parents routine occupation, parents with higher education, from state school and from private school. It is important to clarify that this analysis includes all students who obtained a final mark between 2011 and 2014 in SoG and only those who reported A levels (we considered the 3 top A levels) before entering QMUL.[11] Therefore, most EU and overseas students were excluded from this analysis.

Table 5 shows 69 percent of the sample scored high marks and 12 percent achieved a first degree. As for the variables of analysis, a preliminary view confirms the trends observed in the first part of the report: students with more chances to achieve high marks were female, white and had higher entry grades. Also, students who were more likely to achieve a first class degree were white, with parents employed in routine occupations and had higher entry qualifications.

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[11] Including entry scores in the probit model was considered fundamental as it is perhaps the most objective indicator for students' performance and because other studies (see Barrow et al 2009) have found this to be the most important determinant for academic achievement.

Table 5 Variables of analysis

Variable	All	1st and 2.1	2.2 and lower	1st	2.1 and lower
Dependent variables					
High marks	0.69	1	0		
First degree	0.12			1	0
Explanatory variables					
Gender (female)	0.56	0.62	0.44	0.59	0.56
Mature student	0.05	0.04	0.08	0.06	0.05
White ethnicity	0.63	0.68	0.53	0.88	0.60
Bursary recipient	0.47	0.47	0.46	0.44	0.47
Not disabled	0.86	0.87	0.85	0.88	0.86
Parents professional occupation	0.47	0.48	0.44	0.53	0.46
Parents routine occupation	0.11	0.10	0.13	0.16	0.10
Parents with higher education	0.40	0.38	0.46	0.38	0.41
From private school	0.13	0.12	0.14	0.03	0.14
A levels	1.96	2.05	1.75	2.47	1.89

Source: SPO (n=262)

Table 6 shows two probit models: one assessing the probability of obtaining high marks and the other calculating the probability of achieving a first degree.

Table 6 Probability of obtaining high marks or firsts (Probit models)

Variable	High marks		Firsts	
Gender (female)	0.49	***	-0.01	
Mature student	-0.17		0.76	
White ethnicity	0.44	**	1.00	***
Bursary recipient	-0.02		-0.04	
Not disabled	0.13		0.24	
Parents professional occupation	0.12		0.33	
Parents routine occupation	-0.03		0.70	*
Parents with higher education	-0.39	**	-0.19	
From private school	0.04		-1.52	**
A levels	0.39	***	0.91	***

Source: SPO (n=262)
Note: The symbols (***), (**) and (*) stand for 99%, 95% and 90% confidence, respectively.

The factors that were found to increase the probability of obtaining high marks (with at least 95 percent confidence) were: gender (female), white ethnicity and higher entry scores. Meanwhile, having parents with higher education decreases the probability of obtaining higher degree grades. The factors that were found to increase the probability of obtaining a first degree (with at least 90 per cent confidence) were: white ethnicity, having parents employed in routine occupations and higher entry scores. Coming from a private school decreases the probability of obtaining a first class degree.

Female students were more likely to attain higher degree grades and this is often found in the literature (see McNabb et al, 2002; Naylor and Smith, 2004; Barrow et al, 2009). Table 7 shows 76 percent of female students achieved high grades against 61 percent of male students. This is true even though other relevant variables pointed in the opposite direction in that there was a larger proportion of female students with parents with higher education and there was a lower proportion of white women.

Table 7 Gender dimensions of attainment

Variable	All	Gender	
		Female	Male
High marks	0.69	0.76	0.61
First degree	0.12	0.13	0.11
Gender (female)	0.56		
Mature student	0.05	0.03	0.09
White ethnicity	0.63	0.61	0.66
Bursary recipient	0.47	0.52	0.39
Not disabled	0.86	0.86	0.87
Parents professional occupation	0.47	0.47	0.47
Parents routine occupation	0.11	0.09	0.14
Parents with higher education	0.40	0.44	0.37
From private school	0.13	0.10	0.17
A levels	1.96	2.01	1.90

Source: SPO (n=262)

Part of the explanation for this might be in that women had better entry grades than men; that is, they were *better students* before starting university. Table 8 shows a quarter of female students entered the SoG with AAB and higher against 18 percent of the male students.

Table 8 Gender and entry grades

Entry grades	Male	Female	Total
AAB or higher	18%	25%	22%
ABB to BBB	53%	51%	52%
BBC or lower	29%	24%	26%

Source: SPO (n=262)

The probit model shows ethnicity played a role both in achieving high degree grades as well as attaining a first class degree. As mentioned before, this is not exclusively observed at QMUL and other studies in the UK have found similar trends (see Connor et al, 2004; Broecke & Nicholls, 2007; Barrow et al, 2009). There are some indicators that show BME students come from lower socioeconomic backgrounds in that BME students in SoG were more likely to be bursary recipients which means they were in most need of financial support; and their parents were less likely to have higher education as well as to be employed in managerial and professional occupations (see Table 9). However, those factors were not found to decrease probability of attaining higher marks.

Table 9 BME and white students in SoG

Variables		Ethnicity	
		White	BME
Attainment	1st	17%	4%
	2.1	58%	59%
	2.2 and lower	26%	36%
Gender	Male	46%	41%
	Female	54%	59%
Age	Not mature	95%	95%
	Mature	6%	6%
Bursary	Not recipient	58%	43%
	Recipient	42%	57%
Disabilities	Disabled	17%	9%
	Not disabled	83%	91%
Patent's occupation*	MPO	65%	47%
	RSRO	11%	22%
	Rest of occupations	23%	32%
Patent's education*	HE	57%	48%
	Not HE	43%	52%
Previous school	State funded	52%	48%
	Privately funded	12%	14%
	Unknown	36%	37%
Entry qualifications	BBC and lower	22%	30%
	ABB to BBB	57%	46%
	AAB or higher	21%	24%

Source: SPO (n=256)

*Missing 61 and 71 cases in parents' occupation and education respectively

*MPO: Parents in managerial and professional occupations (higher and lower); RSOP: Parents in routine and semi-routine occupations; Rest of occupations: Intermediate occupations, Small employers & own account workers, Lower supervisory & technical occupations

In the SoG, students who reported having parents with Higher Education (HE) had fewer chances of attaining high degree grades. This challenges Blundell et al.'s (1997) finding of a positive relationship between having parents in higher education and achievement of good degrees. Also, the fact that having parents employed in routine occupations was found to increase the probability of obtaining a first degree contradicts research by Smith and Naylor (2001) which claimed parents' lower occupational rank negatively affected their children's chances of achieving good degree grades at university.

The reason for these discrepancies with existing research might be linked with the idea that students from lower socioeconomic backgrounds strive more and students from wealthier backgrounds are less motivated to attain high marks (see above). This could also explain why students from privately

funded schools had less likelihood of obtaining a first class degree. However, this latter finding is in fact in accordance with the literature (see Blundell et al 1997; Naylor & Smith, 2004; Barrow et al, 2009).

Finally, entry scores seemed to be the strongest variable to predict attainment, which concurs with the general literature (see McNabb et al, 2002; Connor et al, 2004; Naylor and Smith, 2004; Purcell et al, 2005; Broecke & Nicholls, 2007; Barrow et al, 2009). Table 10 shows 83 percent of students who arrived in the SoG with AAB or higher managed to achieve a high degree grade and 31 percent of them attained a first class degree, which is much better than the proportions for the other two entry scores. Also, students with ABB to BBB achieved higher grades than students with BBC or lower. It is also worth noting that most of the other variables were fairly evenly distributed among students with the three entry scores, except that there was a larger proportion of female students within those who arrived with AAB or higher.

Table 10 Entry scores

| Variable | All | Entry scores | | |
		BBC or lower	ABB to BBB	AAB or higher
High marks	0.69	0.56	0.71	0.83
First degree	0.12	0.04	0.08	0.31
Gender (female)	0.56	0.51	0.55	0.64
Mature student	0.05	0.07	0.04	0.05
White ethnicity	0.63	0.53	0.69	0.60
Bursary recipient	0.47	0.49	0.46	0.47
Not disabled	0.86	0.85	0.85	0.90
Parents professional occupation	0.47	0.43	0.49	0.47
Parents routine occupation	0.11	0.15	0.11	0.07
Parents with higher education	0.40	0.31	0.46	0.38
From private school	0.13	0.12	0.13	0.14

Source: SPO (n=256)

Conclusions

This research analysed two different samples of students from the SoG and slightly different results were obtained in each part of the investigation. The first part reflected the academic performance of all students in SoG for three consecutive years; and the second part examined the academic attainment of students in SoG who were educated in the UK.

The first part showed that students performed better when they had higher entry qualifications and were female, not mature, white, from the UK or EU and from state funded schools. On the other hand, coming from a lower socioeconomic background was not found to impact on attainment and progression negatively and there were minor differences in progression and attainment between disabled and not disabled students.

In the second part of the study, the factors that were found to increase the probability of achieving high degree grades and first class degrees were: higher entry qualifications and white ethnicity. Also, female students had greater probabilities of obtaining high marks and having parents employed in routine occupations increased the chances of achieving a first class degree. Meanwhile, coming from a private school decreased the probability of achieving a first class degree and having parents with higher education decreased the probability of obtaining high degree grades.

Perhaps one of the most obvious issues to note is the importance of lower entry grades in affecting progression and attainment. There is strong evidence to suggest that higher entry scores predict higher achievement and this finding is supported across the literature. Also, overseas students struggle more than UK and EU students, particularly if they do not come from a British curriculum. The fact that more than half of the overseas students attained a 2.2 degree and lower (compared to 32 percent of all students) is certainly evidence that more can be done in respect to this group of students. Exactly what causes overseas students to underperform might have to be examined in each individual case. However, qualitative findings as well as previous studies point to more limited language proficiency as well as lack of understanding of the education system and evaluation methods.

In addition, the SoG seems to have an issue with students from private schools and ethnicity differences in terms of attainment. However, the reasons for these disparities are far from being convincing and further research might be needed in this regard. Finally, an aspect that could not be captured by SPO indicators was students' *social life and partying.* This factor, frequently mentioned in the focus groups and interviews, should not be underestimated as it could play an important role in students' academic performance (see also Smith, 2004).

During the focus groups and interviews, students unanimously agreed that the support system in place in the SoG was adequate and worked well. Some students even suggested that it was thanks to this support that they were aiming for a first class degree - and none of them blamed the SoG for their low grades. There are, however, some aspects that could improve, in terms of clearing obstacles for vulnerable students as well as to changing students' aspirations and attitudes towards attainment.

A first set of measures in order to increase the level of attainment in the SoG would be to deal with obstacles faced by students. Some recommendations in this regard are:

- Specific mentoring around the UK education system and evaluation methods early on in the degree programme.
- Foundation courses for students with lower entry grades.
- Greater dialogue with the Student Union in order to avoid social activities that interfere with academic life.

A second and more challenging task would be to transform students' aspirations and attitudes towards achieving high degrees.[12] Actions could include:

- Improving career and employability advice in the first year with a focus on professions and postgraduate studies where high degree grades are desirable and often essential.
- Bring BME role models to give talks and promote the benefits of attaining high degree grades.
- Conduct a review of the curriculum in terms of identifying whether students are being taught a 'white' form of Geography.

Finally, it is important that all staff in the SoG who influence students' academic performance are aware of these challenges and are included in the policymaking process.

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[12] From this research it is not possible to determine what drives students to score a higher degree grade. However, it does seem clear that quite often students do not aim to attain a first class degree – perhaps a 2.1 is a more common aspiration.

References

- Ball, S.J., Reay, D. and David, M. (2002) *"Ethnic choosing": Minority ethnic students, social class and higher education choice*. London: Centre for Educational Studies.
- Barrow, M., Reilly, B., & Woodfield, R. (2009). The determinants of undergraduate degree performance: how important is gender? *British Educational Research Journal*, 35(4), 575-597.
- Blundell, R., Dearden, l., Goodman, A. and Reed, H. (1997) *Higher Education, Employment and Earnings in Britain*. London: Institute for Fiscal Studies.
- Bradley,C . (1984). Gender bias in the evaluation of students. *British Journal of Social Psychology*, 23, 147-153.
- Broecke, S. & Nicholls, T. (2007) Ethnicity and degree attainment, Department of Education and Skills, Research Report No RW92.
- Connor, C., Tyers, T., Modood, J. & Hillage, J. (2004) *Why the difference? A closer look at higher education minority ethnic students and graduates*, DfES Research Report Number RR552, London: Institute for Employment Studies.
- Dearden, Ferri and Meghir (2002) The Effect of School Quality on Educational Attainment and Wages, *The Review of Economics and Statistics*, 84(1), 1-20.
- Hoskins, S., Newstead, S. and Dennis, I. (1997) Degree performance as a function of age, gender, prior qualifications and discipline studied. *Assessment & Evaluation in Higher Education*, 22, 317-28.
- McNabb, R., Pal, S. & Sloane, P. (2002) Gender differences in educational attainment: the case of university students in England and Wales, *Economica*, 69, 481–503.
- Mellanby, J., Maxtin, M and O'doherty, J (2000), "The 'gender gap' in final examination results at Oxford University", *British Journal of Psychology*, 91, 377-390.
- Naylor, R. & Smith, J. (2004) "Degree Performance of Economics Students in UK Universities: Absolute and Relative Performance in Prior Qualifications", *Scottish Journal of Political Economy*, Vol. 51, No. 2, May 2004
- NUS (2011) "*Race for Equality: A report on the experiences of Black students in further and higher education*", London: NUS.
  http://www.nus.org.uk/PageFiles/12350/NUS_Race_for_Equality_web.pdf
- Purcell, K., P. Elias, R. Davies and N. Wilton (2005): "*The Class of '99: A study of the early labour market experience of recent graduates*", DfES Research Report RR691 RTP01-03.
- Richardson, J. T. E. (1994), "Mature students in higher education: academic performance and intellectual ability", *Higher Education*, 28, pp. 373-386.
- Richardson, J. T.E. (2008) "The attainment of ethnic minority students in UK higher education", *Studies in Higher Education*, 33:1, 33-48
- Richardson, J. T. E. & Woodley, A. (2003) Another look at the role of age, gender and subject as predictors of academic attainment in higher education, *Studies in Higher Education*, 28(4), 475–493.
- Rudd, E. (1984). A comparison between the results achieved by women and men studying for first degrees in British universities, *Studies in Higher Education*, 9, pp. 47-57.

- Senior, Nicki (2012) "*Exploring the retention and attainment of black and minority ethnic (BME) students on Social Policy pathways in higher education*", York: Higher Education Academy
- Singh, G. (2011) "*Black and minority ethnic (BME) students' participation and success in higher education: improving retention and success. A synthesis of research evidence*" York: Higher Education Academy.
- Smith, F. (2004) "It's not all about grades": accounting for gendered degree results in geography at Brunel University, *Journal of Geography in Higher Education*, 28:2, 167-178.
- Smith J. and Naylor R. (2001), Determinants of degree performance in UK universities: a statistical analysis of the 1993 student cohort, *Oxford Bulletin of Economics and Statistics*, 63, 29-58
- Surtees, P. G., Wainwright, N. W. J. & Pharoah, P. D. P. (2002) "Psychosocial factors and Gender differences in high academic attainment at Cambridge university", *Oxford Review of Education*, 28(1), 21–38.
- Woodfield, R. & Earl-Novell, S. (2006) "An assessment of the extent to which subject variation in relation to the award of first class degree between the Arts and Sciences can explain the 'gender gap'", *British Journal of Sociology of Education*, 27(3), 355–372.
- Woodley, A. (1984), "The older the better? A study of mature student performance in British universities*", Research in Education*, 32, 35-50.
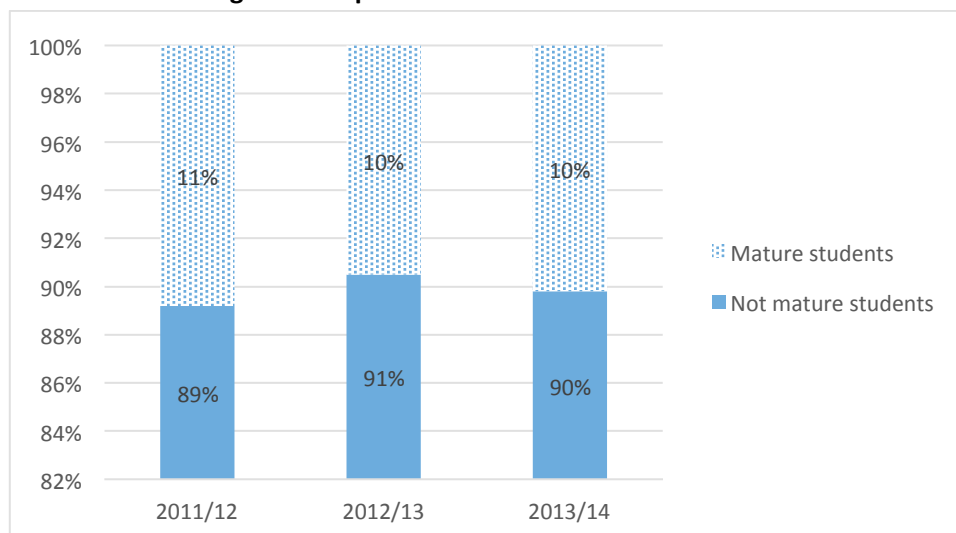
Annex 1

Gender

Figure 1 Gender distribution in SoG
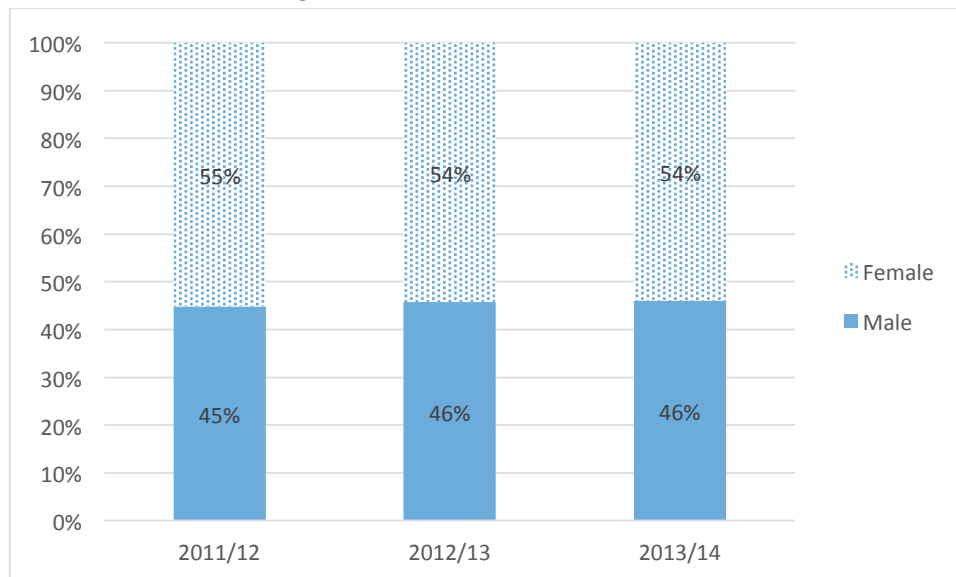
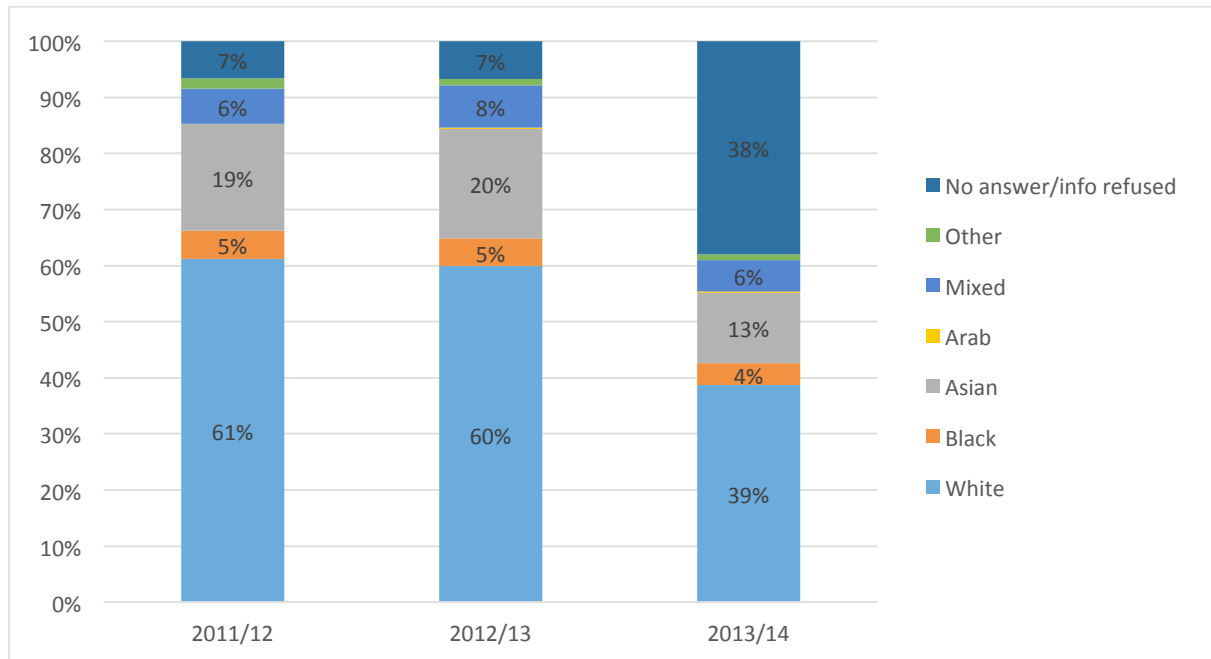Source: SPO (2011/12 n=397; 2012/13 n=400; 2013/14 n=413)

Age

Figure 2 Proportion of mature students in SoG

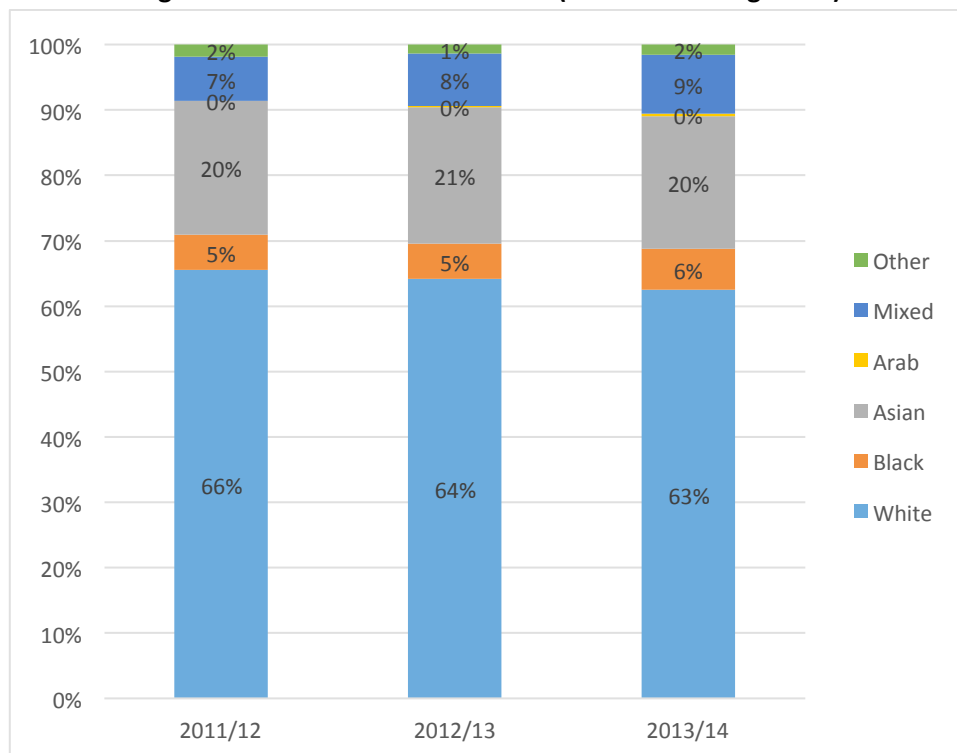Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Ethnicity

Figure 3 Ethnic distribution in SoG (with missing cases)

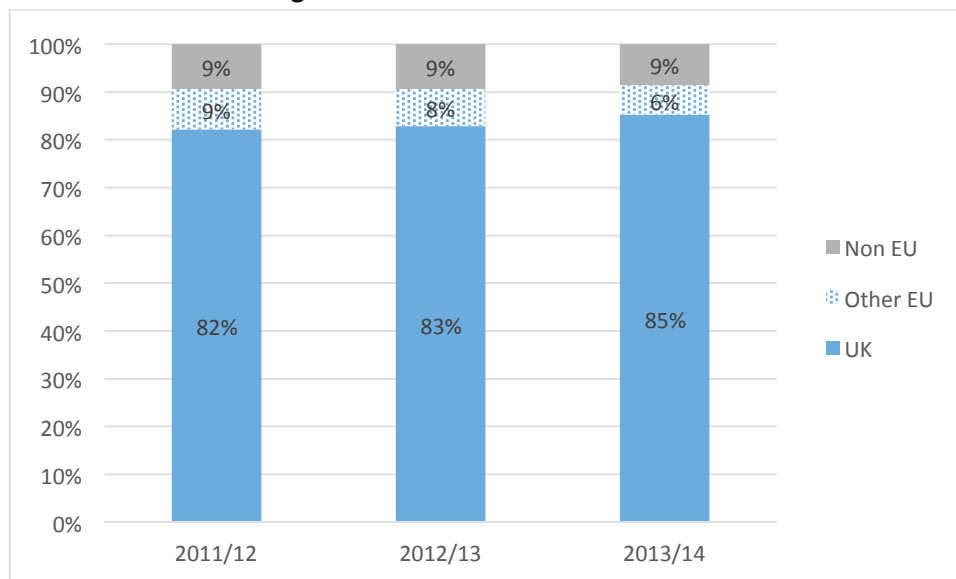Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Figure 4 Ethnic distribution in SoG (without missing cases)

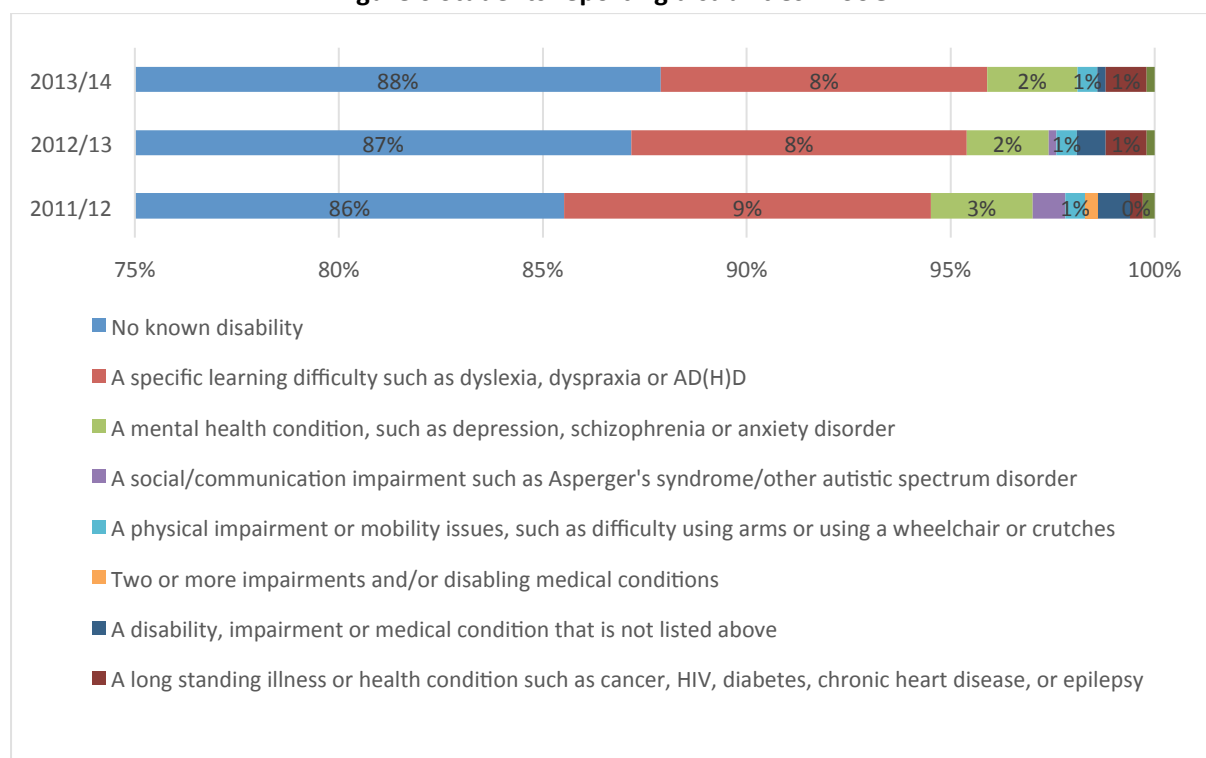Source: SPO (2011/12 n=372; 2012/13 n=374; 2013/14 n=256)

Domicile

Figure 5 Domicile of students in SoG

Source: SPO (2011/12 n=398; 2012/13 n=396; 2013/14 n=408)
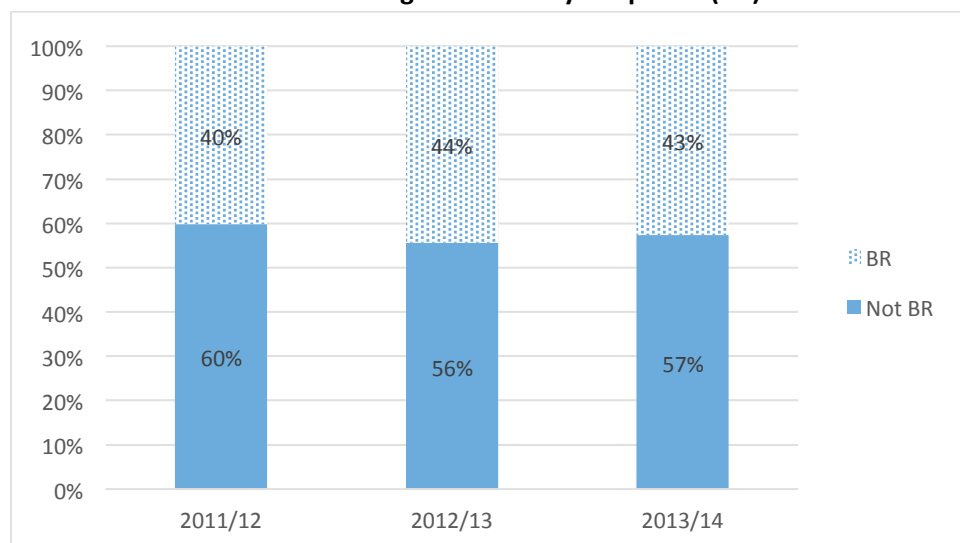
Disabilities

Figure 6 Students reporting disabilities in SoG

Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)
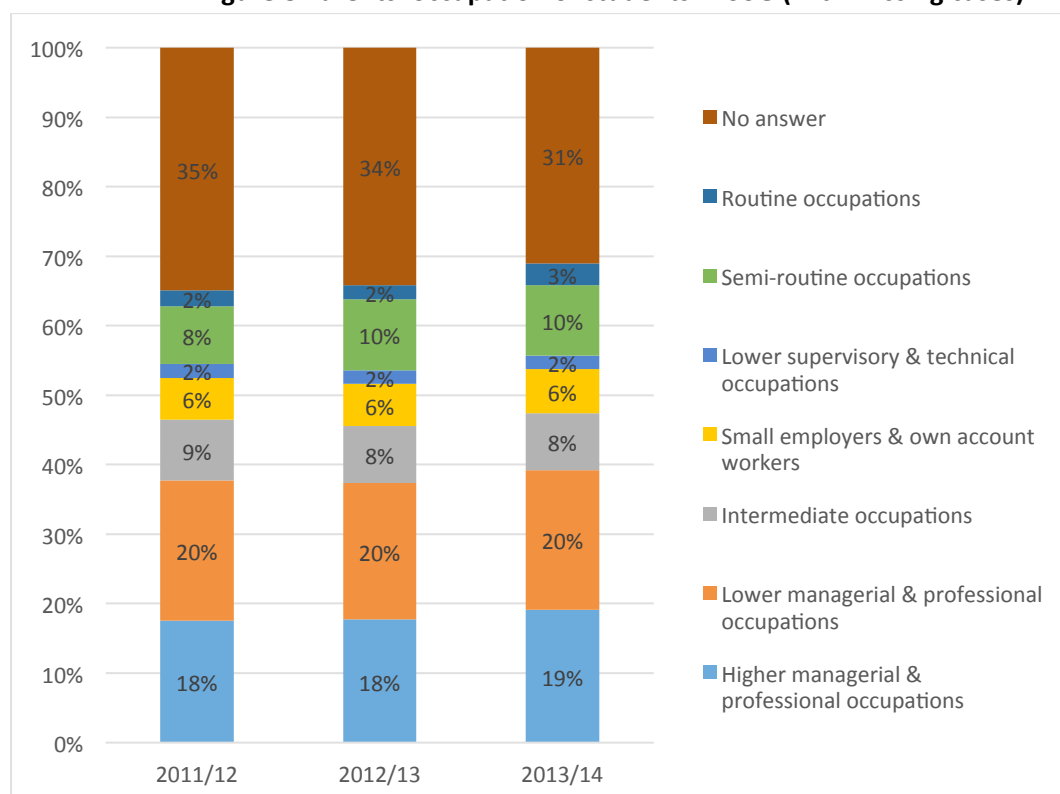
Bursary recipients

Figure 7 Bursary recipients (BR) in SoG

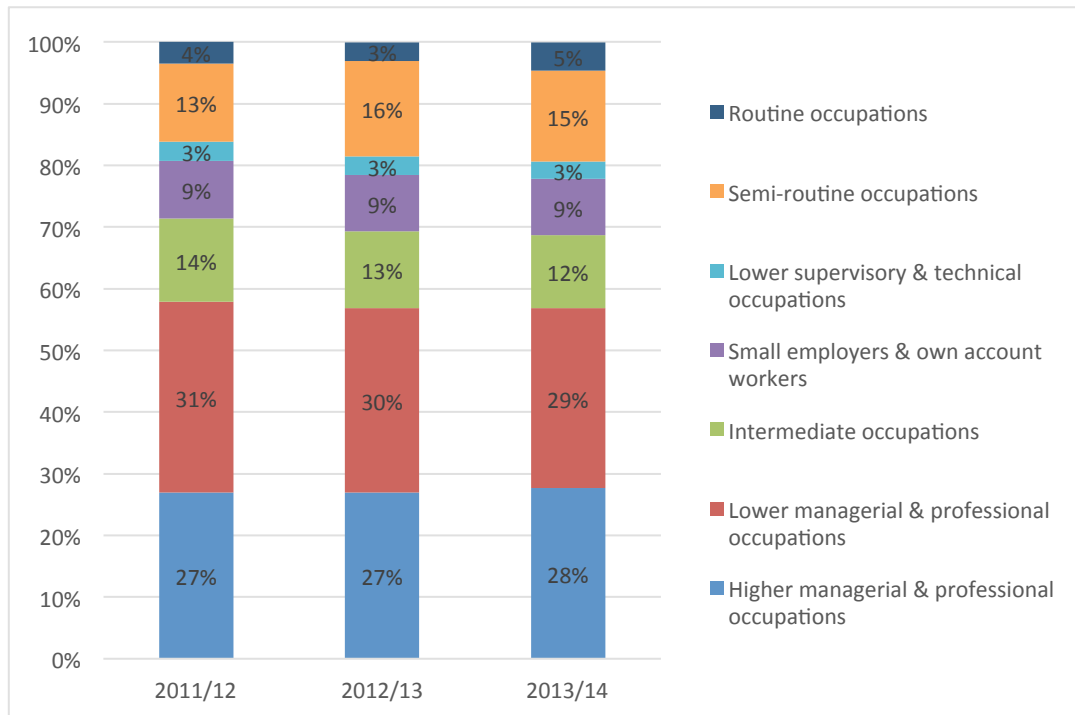Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Parents' occupation

Figure 8 Parents' occupation of students in SoG (with missing cases)

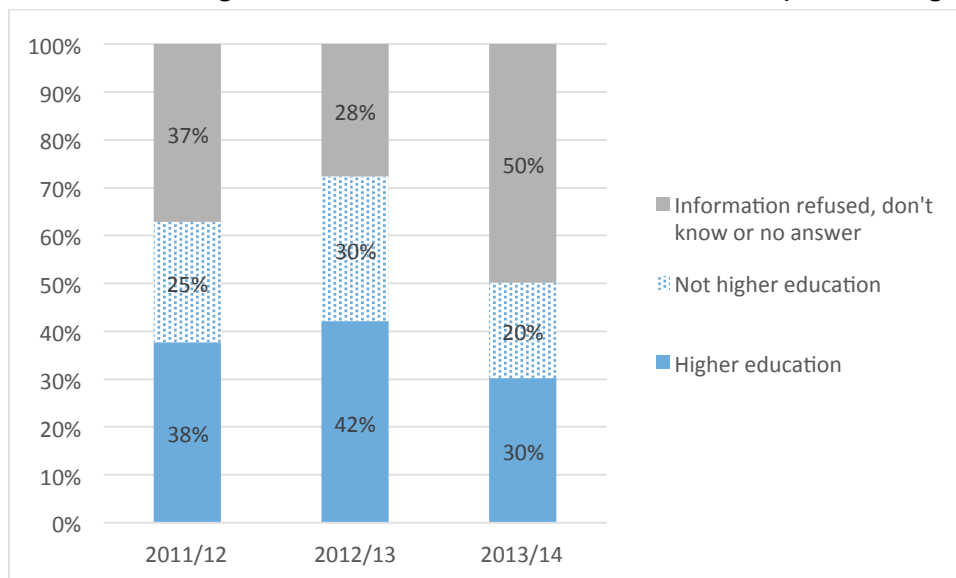Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Figure 9 Parents' occupation of students in SoG (without missing cases)

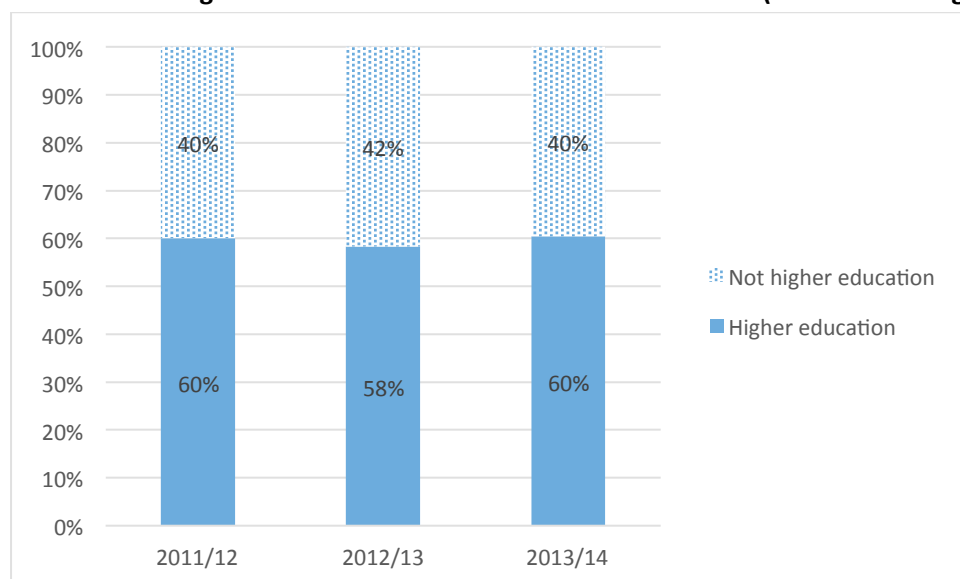
Source: SPO (2011/12 n=259; 2012/13 n=264; 2013/14 n=285)

Parents' education

Figure 10 Parents' education of students in SoG (with missing cases)

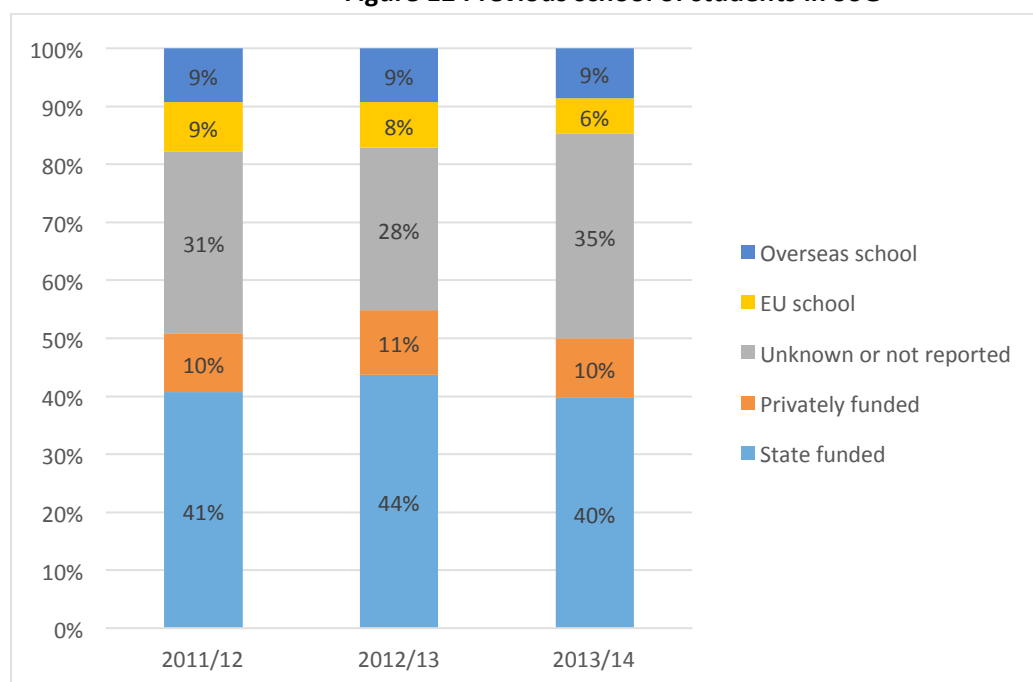Source: SPO (2011/12 n=398; 2012/13 n=401; 2013/14 n=413)

Figure 11 Parents' education of students in SoG (without missing cases)

Source: SPO (2011/12 n=250; 2012/13 n=290; 2013/14 n=207)

Previous school

Figure 12 Previous school of students in SoG

Source: SPO (2011/12 n=398; 2012/13 n=396; 2013/14 n=408)

Annex 2 Determinants of progression of students who did A levels in SoG

This analysis looks at the determinants of progression of students who did A Levels in SOG. This was done by modelling the probability of progressing with a Probit model. Table 1 provides a summary of variables used. The first column shows the average for the whole sample; columns two and three present the average of the variables for students who progressed and those who did not progress, respectively. Variable "A levels" is a three-point scale where 1 is BBC or lower, 2 is ABB to BBB and 3 is AAB or higher; and the rest of the variables included in the analysis are binary response variables: Gender (female), Mature student, White ethnicity, Bursary recipient, Not disabled, Parents professional occupation, Parents routine occupation, Parents with higher education and From state school. **This analysis uses panel data** for three consecutive years -2011/12, 2012/13, 2013/14- and includes 764 observations. It is important to clarify that this analysis looks only at those who reported A Levels (we considered the 3 top A Levels) before entering QMUL. Therefore, most EU and overseas students were left out from this analysis.

Table 1 shows 93 percent of the sample progressed in those years. As for the variables of analysis, 55 percent of them were female, 6 percent were mature students, almost two thirds identified themselves as White, 87 percent did not report any disabilities, almost half of them were bursary recipients, 45 percent had parents employed in professional occupations and 12 percent had parents in routine occupations, 43 percent had parents with higher education and 56 percent of them came from state-funded schools. A preliminary view of the variables shows differences in terms of gender, age and socioeconomic status.

Table 1 Variables of analysis

Variable	All in 2011/14 (n=764)	Progressed (n=708)	Didn't progressed (n=76)
Progressed	0.93	1.00	0.00
Sex (female)	0.54	0.55	0.46
Mature student	0.06	0.05	0.11
White ethnicity	0.65	0.65	0.64
Not disable	0.87	0.87	0.80
Bursary recipient	0.48	0.49	0.38
Parents professional occupation	0.45	0.44	0.48
Parents routine occupation	0.12	0.13	0.07
Parents w/ higher education	0.43	0.42	0.59
From state school	0.56	0.57	0.34
A levels	2.01	2.02	1.88

Source: SPO

Table 2 assesses the probability of progressing between 2011 and 2014 in SOG. The probit model shows having parents with higher education decreased the probability (with 95 percent confidence)

of progressing and coming from a state-funded school increased the probability (with 99 percent confidence) of progressing.

Table 2 Probability of progressing in SOG, 2011/14 (Probit model)

Variable	Probability to progress 2011/14	
Sex (female)	0.11	
Mature student	-0.40	
White ethnicity	0.07	
Not disable	0.15	
Bursary recipient	0.15	
Parents professional occupation	0.11	
Parents routine occupation	0.12	
Parents with higher education	-0.38	**
From state school	0.41	***
A levels	0.15	

Source: SPO (n=764)
Note: The symbols (***), (**) and (*) stand for 99%, 95% and 90% confidence, respectively.

The fact that having parents with higher education is associated with withdrawing contradicts existing research on this topic. A closer look at this variable against the rest of the variables shows similar proportions between students who reported parents with higher education and those who did not; except of course for the variables indicating socioeconomic background (i.e. parents' occupation and being a bursary recipient). Surprisingly, students with parents with higher education also had higher entry grades (see Table 3), a factor which is usually associated with better academic performance.

Table 3 Having parents with HE in SOG

Variable	All in 2011/14 (n=764)	Parents with HE (n=339)	Parents not reporting HE (n=452)
Progressed	0.93	0.90	0.95
Sex (female)	0.54	0.57	0.52
Mature student	0.06	0.05	0.06
White ethnicity	0.65	0.68	0.62
Not disable	0.87	0.83	0.89
Bursary recipient	0.48	0.40	0.55
Parents professional occupation	0.45	0.69	0.27
Parents routine occupation	0.12	0.05	0.18
Parents with higher education	0.43		
From state school	0.56	0.52	0.58
A levels	2.01	2.05	1.98

Source: SPO

Coming from a state-funded school was found to increase the probability of progressing and this result is in accordance with existing research. Again, Table 4 shows similar proportions in most variables between students who came from state-funded schools and those who did not; except for the variables indicating socioeconomic background (i.e. having parents in routine occupations and being a bursary recipient).

Table 4 Type of school in SOG

Variable	All in 2011/14 (n=764)	From State school (n=339)	Other type of school* (n=452)
Progressed	0.93	0.96	0.89
Sex (female)	0.54	0.57	0.50
Mature student	0.06	0.05	0.06
White ethnicity	0.65	0.65	0.64
Not disable	0.87	0.86	0.88
Bursary recipient	0.48	0.55	0.41
Parents professional occupation	0.45	0.43	0.47
Parents routine occupation	0.12	0.17	0.06
Parents with higher education	0.43	0.40	0.46
From state school	0.56		
A levels	2.01	2.03	1.99

Source: SPO

*Other includes privately funded and other types of schools

In both cases, coming from a lower socioeconomic background seems to be associated with greater chances to progress.