Student Entrepreneurship in Great Britain

Intentions and Activities

GUESSS

Global University Entrepreneurial Spirit Students' Survey

THE BRITISH REPORT OF THE 2016 GUESSS PROJECT

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*Established in 1987, the SBRC is one of the leading research groups in the UK in the field of small business and entrepreneurship. We have developed a growing international reputation, based on an extensive portfolio of research and consultancy, both in the UK and overseas.

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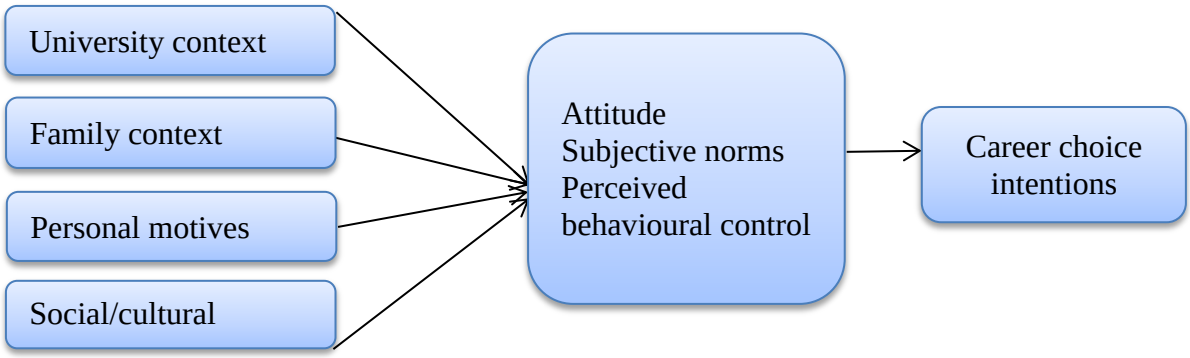
1. Introduction

It is widely accepted that entrepreneurship is a driving force of the economy (Audretsch and Thurik, 2001). The need for more entrepreneurial activities in society has been highlighted by many academic studies (e.g. Nabi et al., 2016; Saridakis et al., 2016; Valliere and Peterson, 2009; Pittaway and Cope, 2007; Wennekers and Thurik, 1999; Storey, 1994) and has been recognised by governments in the UK and abroad (OECD, 2015). Arguably, enterprise education can have a role in developing necessary capabilities, influencing entrepreneurial attitudes and perceptions but these can vary between different groups of the population, such as between males and females (e.g. Westhead and Solesvik, 2016). As such, student entrepreneurship is a very important and fascinating topic serving both economic and social functions and thus deserving further attention by academics, practitioners, policy makers and other stakeholders.

The Global University Entrepreneurial Spirit Students' Survey (GUESSS) is an international research project which investigates the entrepreneurial intentions and activities of students using a geographical and temporal comparison. It was founded at the Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG) in 2003, and is now coordinated by the University of St. Gallen and the University of Bern (Switzerland, IMU). As a research platform, GUESSS helps to identify antecedents and boundary conditions in the context of new venture creation and entrepreneurial careers in general. Importantly, GUESSS generates insights into entrepreneurial traditions and conditions for entrepreneurship by examining, for example, the role of individual attitude, motivation and family background, university entrepreneurial environment and learning, as well as social and cultural factors that might affect the choice of an entrepreneurial career.

The theoretical foundation of GUESSS is the Theory of Planned Behaviour (Ajzen, 1991, 2002; Fishbein and Ajzen, 1975). Its underlying argument is that the intention to perform a specific behaviour is influenced by three main factors: attitude toward the behaviour, subjective norms, and perceived behavioural control (see Figure 1).

Figure 1: Theoretical framework



GUESSS data have been used in international and national reports,[1] as well as academic publications which explore, among others, the issues of family support for creating new venture (Sieger and Minola, 2016; Edelman et al., 2016), the intention-action gap among student entrepreneurs and the contextual factors (Shirokova et al., 2015), social identity of founders and its effect on firm creation processes and outcomes (Sieger et al., 2016), the emergence of start-ups in the organizational context of universities (Bergmann et al., 2016) and opportunity beliefs among university entrepreneurs (Bergmann, 2015).[2]

The seventh GUESSS was conducted in 2016 with 50 countries, more than 1,000 universities, and more than 122,000 students took part. In the UK the project was coordinated by Small Business Research Centre at Kingston University. Specifically, a comprehensive online survey was distributed to university partners in the UK resulting in over 1,000 responses from 15 universities.

This report aims to examine various aspects related to entrepreneurship among students studying in Britain (England, Scotland and Wales). The unique dataset allows us to explore the properties of the data and extract useful information about the profile and background of the students, their career choice intentions immediately after graduation and five years after completion of studies, students' involvement in entrepreneurial education, their views about the university entrepreneurial climate, attitude towards entrepreneurship, start-up motivation, current entrepreneurial activities and related business performance.

[1] http://www.guesssurvey.org/e_publication_nat.html
[2] For more information about the published research see http://www.guesssurvey.org/e_publication_further.html

This report covers five main areas related to sample demographics, career choice and entrepreneurial intentions of students, drivers of entrepreneurial intentions, nascent entrepreneurship and, finally, current entrepreneurial activity and outcomes. The analysis pays significant attention to differences between males and females, and British and non-British students. These distinctions are not only important from an academic perspective, but also from a policy perceptive; there is a need for more research on gender gap and immigration-entrepreneurship link, and for tailored policies aiming to promote entrepreneurship among different groups. A descriptive summary of the data is supplemented by more advanced quantitative techniques/analysis, including necessary testing and modelling, that enabled us to extract more refined evidence in relation to those topics.

The analysis, therefore, generates impact on both research and practice informing practitioners, scholars, educators, and policy-makers about the trends in entrepreneurial intentions and activities of university students in Britain. Indeed, this report is written in a period of increasing uncertainty generated by the potential effects of "Brexit", as well as internationally adverse economic climate and challenges in which student entrepreneurship can play a significant role in building resilience and stimulating prosperity and job creation.

2. Students' profile and demographics

2.1 Personal characteristics

In Britain 1,074 students participated in GUESSS project in 2016. The respondents' mean age is 24.5 with a standard deviation of 5.2 years; the median is 22 years. Since the mean is higher than the median the distribution is positively skewed. The skewness of the distribution is 1.1, and the kurtosis is 3 (a normal distribution has a kurtosis of 3). Splitting the sample by gender (32.15% of our sample are male and 67.87% are female) we find that the mean ages for females and males are 24.2 and 25.3 years respectively. The difference in the mean age between females and males is found to be statistically significant (F-value=9.68 and p-value= 0.002). Moreover, separating British students (61.94%) from non-British ones (38.06%), we find that the British students (mean=24 years) to be younger than the non-British students (mean=25.4 years). Similarly, the difference in the mean age between the two groups is found to be statistically significant (F-value=18.55 and p-value=0.000).

To sum up the above discussion, in Figures 2 and 3 we present the univariate kernel density estimates of age by gender and nationality. The solid vertical lines denote the mean age by gender in Figure 2, and the mean age by nationality in Figure 3. Finally, Figure 4 provides information on the percentage of British students and non-British students by gender in the sample. It shows that 64% of the females are British compared with nearly 57% in the male sub-sample (*F*-value=5.88 and *p*-value=0.015).

Figure 2: Univariate kernel density estimates of age by gender

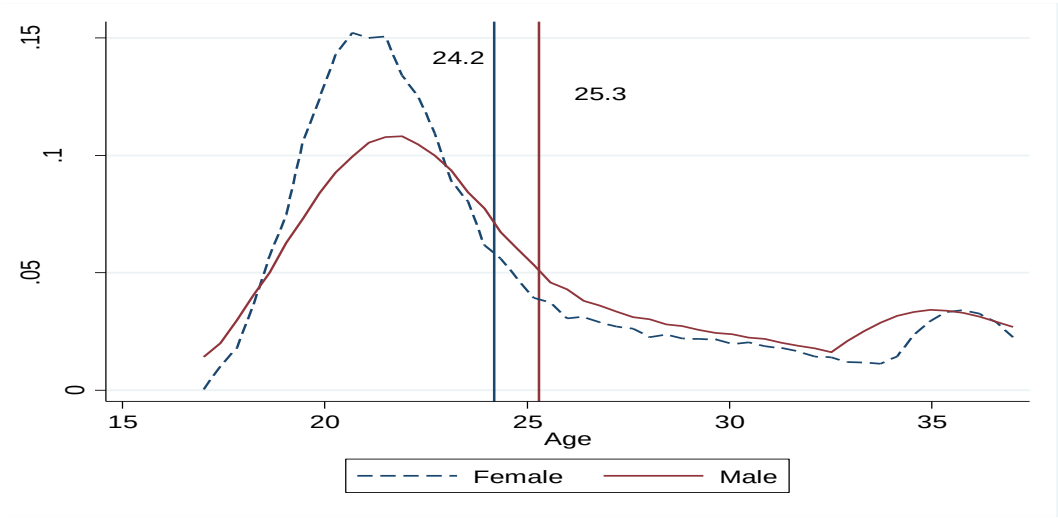


Figure 3: Univariate kernel density estimates of age by nationality

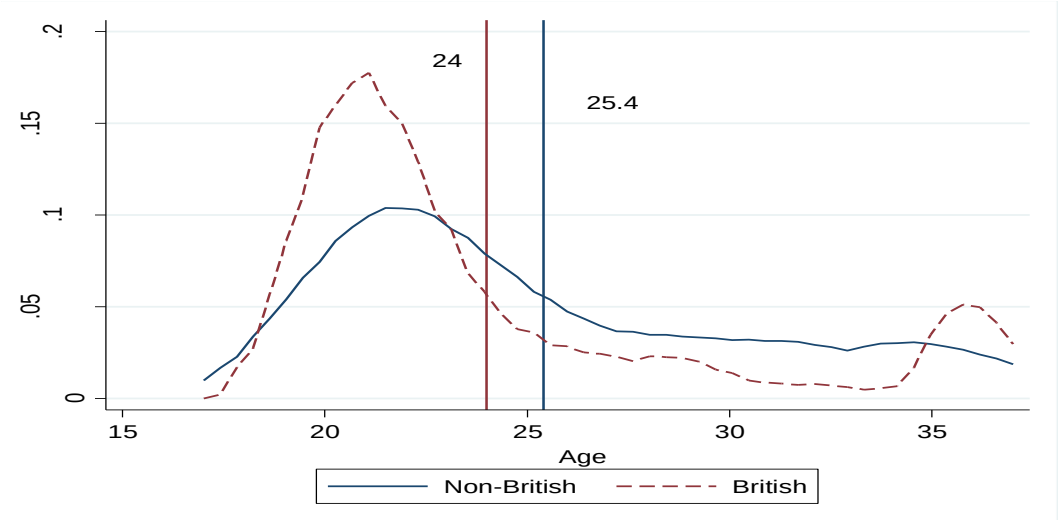
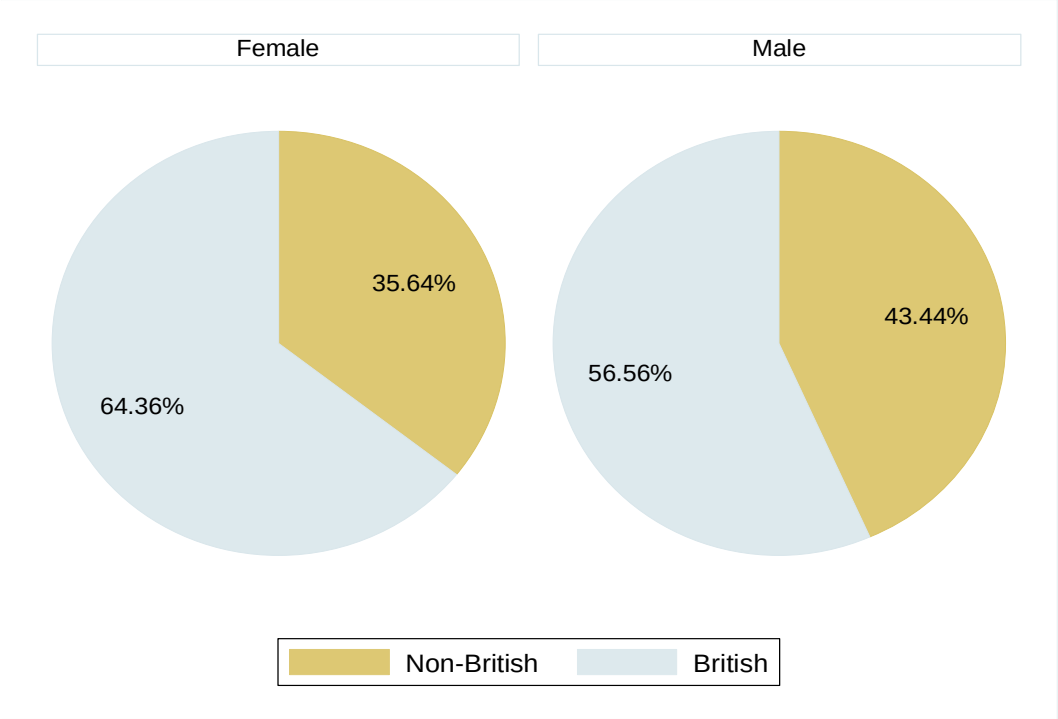


Figure 4: Nationality of respondents by gender

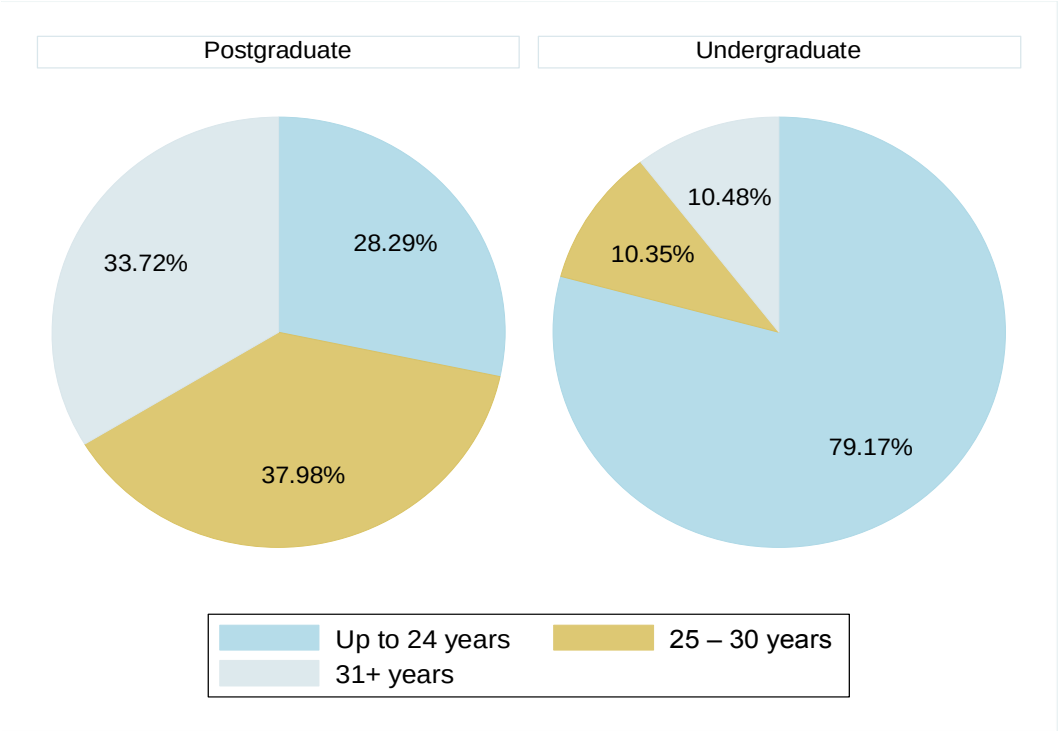


2.2 University studies

Students from 15 universities across Britain took part in the study,[3] but most of them are from institutions located in London area (77.56%). The rest of the sample comprises students studying in England but outside the London area (11.82%) and students from institutions located in Scotland and Wales (10.34%). 75.42% of the students are undergraduate students whereas the rest of them study at postgraduate level (24.58%). Figure 5 shows that the majority of the students who are studying at undergraduate level are in "up to 24 years" age group (79.17%), whereas those at postgraduate level are represented more equally by different age groups (F-value=1.89 and p-value=0.152).[4]

[3] Responses from 15 named British universities comprised over 99% of the sample.
[4] To facilitate the analysis, respondents were grouped into three categories: up to 24 years (66.67%), 25-30 years (17.09%), and 31+ years (16.24%).

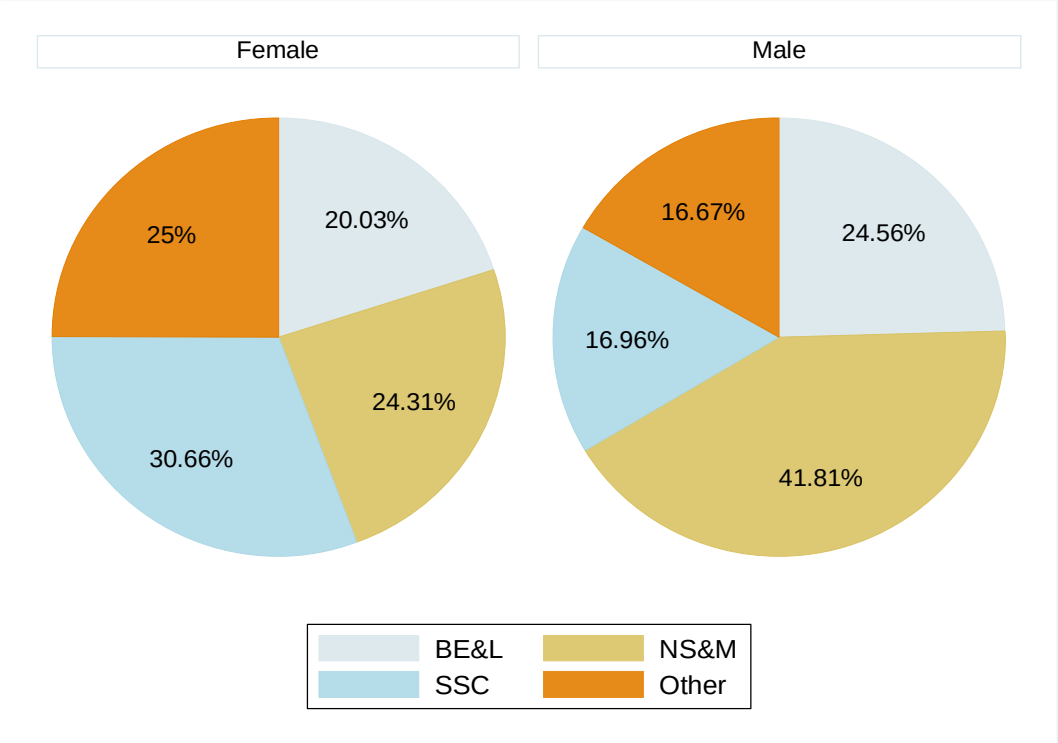
Figure 5: Age groups by level of studies



Most of the students study Natural Sciences and Medicine (NS&M) or Social Sciences (SSC): 30.04% and 26.12%, respectively; 21.46% study Business, Economics and Law (BE&L) and the rest of them study other fields (22.39%).

In Figure 6, the analysis reveals that NS&M is among the most popular fields of study for men (41.81%) compared with 24.31% for females. Females are more likely than males to be equally spread across different study fields with the highest proportion in SSC: 30.66% (compared with 16.96% for men). The test of equality of proportions suggests significant differences within both males' (F-value=16.76 and p-value=0.000) and females' (F-value=5.54 and p-value=0.001) groups.

Figure 6: Study fields by gender



3. Career choice intentions

3.1 Overview of career intentions and gender comparisons

Table 1 shows career choice intentions of students right after studies (olive green column) and five years later (yellow row), as well as transitions from the initial intended career option to the one after five years since then (white matrix). Looking first at the green right side column, we see that the majority of students in Great Britain prefer to work as employees straight after their studies (81.73%) and only 6.52% intend to become a founder.

Turning to career paths five years later (yellow bottom line), however, we find that over a half of the students intend to work as an employee and nearly 29% of them to become a founder. Looking at the transition table, we see that only 59.18% of those intending to move to employment will remain at this state five years later. Importantly, 28.26% of them intend to leave the employment state and become a founder. We observe more stable career choice intention among those who initially intend to become a founder with about 61% of them to be at the same employment state five years later.

Table 1: Career intentions right after graduation and five years later

	Career path five years later				
Career path right after studies	Employee	Founder	Successor	Other	Total
Employee	519 59.18%	251 28.62%	39 4.45%	68 7.75%	877 81.73%
Founder	10 14.29%	43 61.43%	6 8.57%	11 15.71%	70 6.52%
Successor	1 14.29%	3 42.86%	1 14.29%	2 28.57%	7 0.65%
Other	46 38.66%	14 11.76%	1 0.84%	58 48.74%	119 11.09%
Total	576 53.68%	311 28.98%	47 4.38%	139 12.95%	1,073 100%

Table 2 presents the career choice intentions of male and female students. The share of intentional founders immediately after studies is slightly higher amongst male students (about 6% for females and 7% for males). However, the only statistical difference in responses between males and females is found in the "Other" category (*F*-value= 6.44 and *p*-value=0.011). Similarly, when we examine the career intentions five years later, we observe that the intention to become a founder has increased significantly amongst both men and women. However, statistical differences between males and females are found within the "Successor" (*F*-value=3.70 and *p*-value=0.055) and "Other" (*F*-value=8.36 and *p*-value=0.004) career intention categories. These results suggest that gender does not play significant role in students' immediate or future entrepreneurial intentions.

Table 2: Career intentions of male and female students

Career intention		Career path right after studies	Career path 5 years later
Employee			
	Female	80.77%	53.94%
	Male	84.26%	53.35%
Founder			
	Female	5.81%	27.80%
	Male	7.29%	31.49%
Successor			
	Female	0.69%	3.32%
	Male	0.58%	6.12%
Other			
	Female	12.72%	14.94%
	Male	7.87%	9.04%
Total		1,066 (Male=343 and Female=723)	

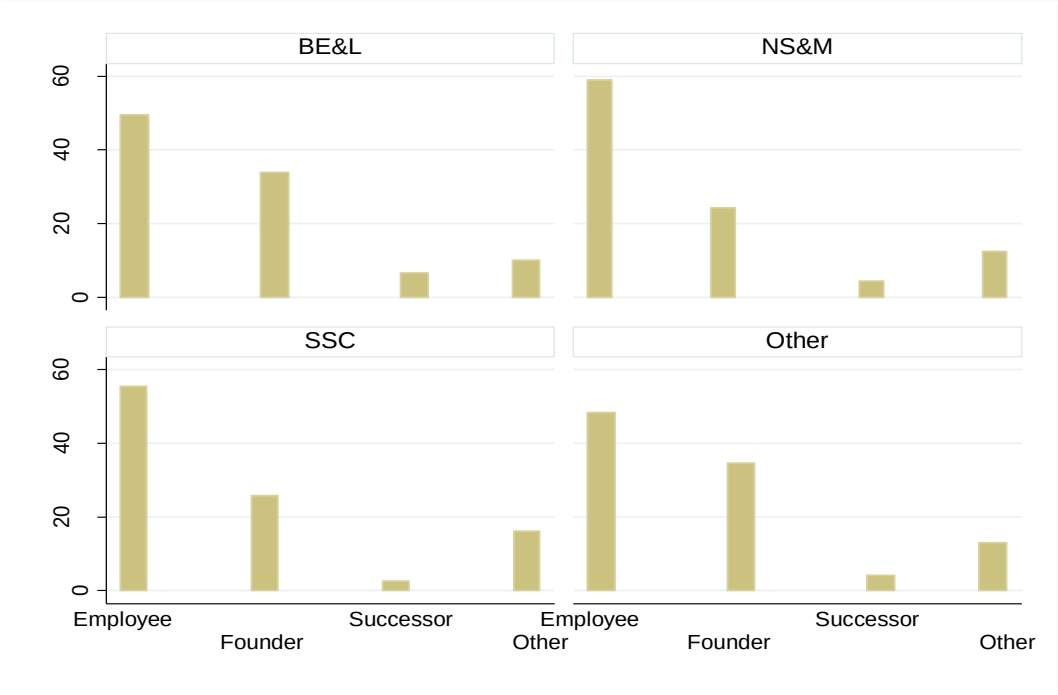
3.2 Career choice by field of study

Figure 7 shows that the level of interest in employment and business ownership immediately after graduation amongst students from different disciplines is similar. Specifically, within each field of study the most favoured immediate career choice is to be an *employee*: 83.48% for "BE&L" students; 84.78% for "NS&M" students; 77.06% for "SSC" students; and 81.25% for students from "Other" disciplines.

However, the analysis suggests that the field of study becomes more influential on the above career intentions five years after graduation (Figure 8). We find that there is a much stronger intention from all students, independently of the field of study, to move from employment to *business ownership*. However, students with "BE&L" educational background are more likely to choose an entrepreneurial career (33.91%) than those with "NS&M" (24.22%; *F*-value=6.06 and *p*-value=0.014) or "SSC" (25.81%; *F*-value=3.94 and *p*-value=0.047) educational backgrounds.

Figure 7: Career choice intentions by study field directly after studies

Figure 8: Career choice intentions by study field five years after studies



3.3 Students' entrepreneurial intentions

For an analysis of entrepreneurial intentions students were asked to indicate their level of agreement to a number of statements from 1 (strongly disagree) to 7 (strongly agree). This approach allows for a more detailed picture of entrepreneurial intentions going beyond a simple 'yes' or 'no' response to the question whether they are going to become an entrepreneur. Table 3 shows the entrepreneurial intentions by gender and nationality. The results show that males score higher than females on all indicators. Similarly non-British students score higher than British ones. We find that the differences in the averages (means) between males and females, and British and non-British to be statistically significant in all items measuring entrepreneurial career intention.[5]

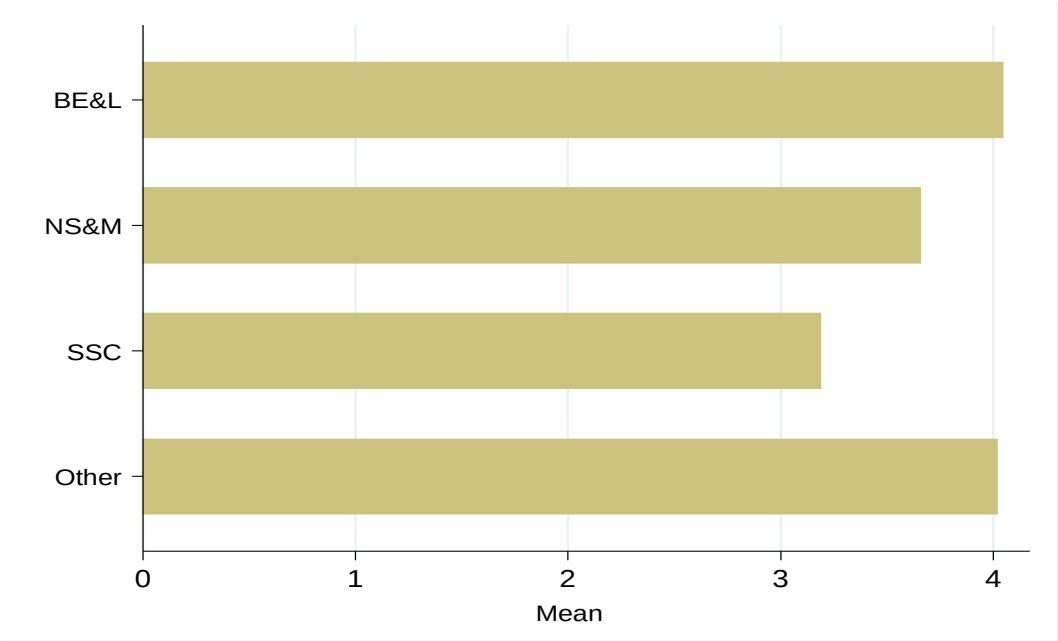
Table 3: Entrepreneurial intention indicators by gender and nationality

Entrepreneurial indicators	Overall	Female	Male	British	Non-British
I am ready to do anything to be an entrepreneur	3.388	3.181	3.842	3.241	3.638
My professional goal is to become an entrepreneur	3.427	3.226	3.865	3.227	3.766
I will make every effort to start and run my own firm	3.670	3.470	4.109	3.450	4.045
I am determined to create a firm in the future	3.886	3.664	4.372	3.639	4.306
I have very seriously thought of starting a firm	3.870	3.642	4.368	3.681	4.189
I have the strong intention to start a firm someday	3.963	3.726	4.480	3.709	4.393
Total	968	664	304	609	359

Further, the six measures capturing entrepreneurial intentions are combined in a single measure with an overall mean=3.708 (Cronbach's alpha=0.963). Figure 9 shows the strength of entrepreneurial intentions across study fields. The results suggest that students undertaking "BE&L" (mean=4.045) have stronger entrepreneurial intentions than "NS&M" (mean=3.658; *F*-value=4.94 and *p*-value=0.026) and "SSC" students (mean=3.189; *F*-value=23.41 and *p*-value=0.000).

[5] We also test the equality of the means within each gender and nationality group, but the null hypothesis of equal means is rejected in all cases.

Figure 9: Strength of entrepreneurial intentions across study fields



4. Determinants of entrepreneurial intentions

4.1 The university context

The literature suggests that the university context, its provision and engagement in entrepreneurial education, can affect students' entrepreneurial intentions (Bergmann et al., 2016; Maresch et al., 2016; Saeed et al., 2015; Stamboulis and Barlas, 2014; Walter et al., 2013; Sánchez, 2011; Smith and Beasley, 2011; Blackford et al., 2009; Schwarz et al., 2009; Greene and Saridakis, 2008). Students were asked to what extent they have been attending entrepreneurship-related courses. The results are presented in Table 4.

The analysis shows that about 77% of females have not attended an entrepreneurship course compared with about 65% of males. Nearly 14% of males are on a specific entrepreneurship programme, or attended a compulsory entrepreneurship course. Among British students 78% have not attended any entrepreneurship courses, and only 2% are studying on a specific entrepreneurship programme, compared with 5.5% of non-British students. The differences in responses by gender and nationality are found to be all statistically significant. The findings may partly explain those presented earlier in Table 3 suggesting that males and non-British students tend to have higher entrepreneurial intentions than females and British students, respectively.

Table 4: Attendance of entrepreneurship courses by gender and nationality

Attendance of entrepreneurship courses	Overall	Female	Male	British	Non-British
I have not attended a course on entrepreneurship so far	73.440	77.330	65.192	78.015	66.005
I have attended at least one entrepreneurship course as elective	14.934	12.239	20.649	11.908	19.851
I have attended at least one entrepreneurship course as compulsory part of my studies	11.248	9.736	14.454	9.771	13.648
I am studying in a specific programme on entrepreneurship	3.214	2.086	5.605	1.832	5.459
Total	1,058	719	339	655	403

The entrepreneurial climate at universities can be another factor that may have an impact on the entrepreneurial intentions of students. Students were asked to what extent they agree or disagree (using a seven-point scale where 1=not at all, 7=very much) with a range of statements regarding their university and their learning experience. The average importance of different factors is shown by gender and nationality in Table 5. Overall, the results show that the entrepreneurial climate in British universities stimulates entrepreneurial career/activities (overall mean=4.254, Cronbach's alpha=0.888). Males perceive a stronger entrepreneurial climate than females but the differences in the means are found to be statistically insignificant for all items. Furthermore, we find that non-British students perceive a stronger entrepreneurial climate than British students, in all items capturing the university entrepreneurial environment. These differences are found to be statistically significant in all three cases (F-value=10.24and p-value= 0.001, F-value=15.18 and p-value=0.000 and F-value=17.71 and p-value=0.000).

Table 5: Entrepreneurial climate at universities

The university environment	Overall	Female	Male	British	Non-British
The atmosphere at my university inspires me to develop ideas for new businesses	4.133	4.098	4.205	4.000	4.348
There is a favorable climate for becoming an entrepreneur at my university	4.213	4.186	4.270	4.057	4.465
At my university, students are encouraged to engage in entrepreneurial activities	4.397	4.366	4.463	4.221	4.683
Total	1,048	711	337	648	400

In order to understand the impact of learning with regard to entrepreneurship, students were asked to indicate the extent to which they agree to the statements about their learning progress during their university studies (1=not at all, 7=very much). The overall score of entrepreneurial learning at the university is 4.153 (Cronbach's alpha=0.910).

Table 6 presents the mean scores by gender and nationality. We find that males score higher than females in terms of their evaluation of learning about entrepreneurship, but only in the first three items: "Increased my understanding of the attitudes, values and motivations of entrepreneurs"; "Increased my understanding of the actions someone has to take to start a business"; and " Enhanced my practical management skills in order to start a business," the differences in the means are found to be statistically significant (*F*-value=6.30 and *p*-value=0.012; *F*-value=7.27 and *p*-value=0.007; and *F*-value=12.56 and *p*-value=0.000, respectively). Turning to the last two columns of Table 6, we find that non-British students score higher in all five items than British students, and the differences are found to be statistically significant in all cases.

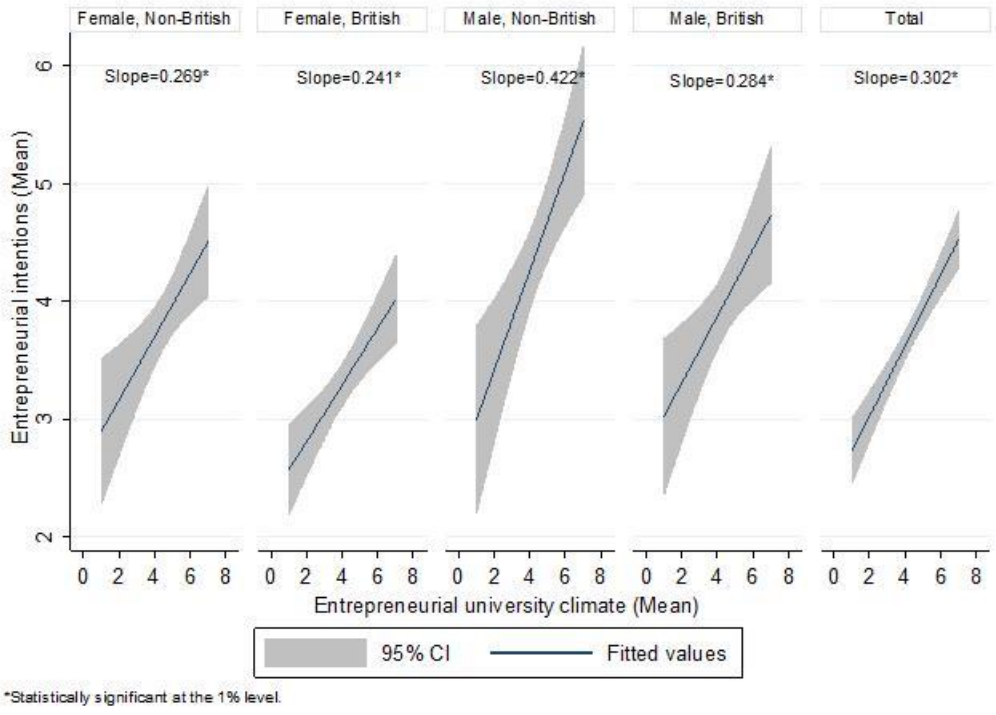
Table 6: Learning process during studies by gender and nationality

Learning process during studies	Overall	Female	Male	British	Non-British
Increased my understanding of the attitudes, values and motivations of entrepreneurs	3.980	3.882	4.188	3.782	4.305
Increased my understanding of the actions someone has to take to start a business	3.769	3.660	4.000	3.580	4.078
Enhanced my practical management skills in order to start a business	3.854	3.716	4.146	3.702	4.103
Enhanced my ability to develop networks	4.489	4.442	4.588	4.388	4.655
Enhanced my ability to identify an opportunity	4.644	4.642	4.648	4.546	4.804
Total	1,047	712	335	650	397

One interesting question to ask is what is the relationship between the entrepreneurial intentions of students and their university climate? We estimate a simple model that relates entrepreneurial intentions to entrepreneurial university climate only. We use least squares principles to obtain the intercept and slope parameters. The fitted regression line for the

overall sample and gender-nationality sub-samples are shown in Figure 10. The Figure indicates that there is a positive relationship between the entrepreneurial climate of a university and the entrepreneurial intentions of students. For the overall sample the line slope is 0.302; the coefficient is found to be statistically significant at the 1% level. The results also show that the association between entrepreneurial intentions and entrepreneurial university climate, depicted by the steepness of the slopes in Figure 10, is stronger for males than females. However, when non-British females or British females are compared with British males, the gender differences evaporate.[6] This implies that the effect of entrepreneurial university climate is strongest amongst non-British males.

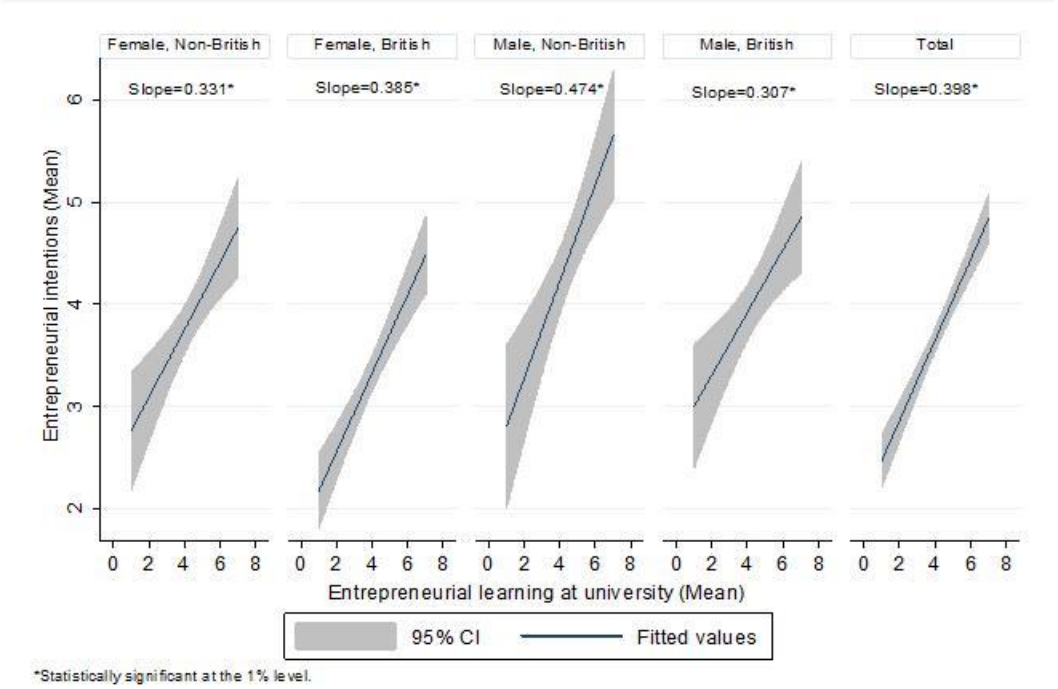
Figure 10: Entrepreneurial university climate and strength of entrepreneurial intentions



[6] We test whether the coefficients of the university entrepreneurial climate in British and non-British females sub-samples is equal to the coefficient found in the British male sub-sample; in both cases the null hypothesis cannot be rejected (F-value=0.03 and p-value=0.859; F-value=0.59 and p-value=0.444, respectively).

In addition, we examine the association between entrepreneurial intentions and entrepreneurial learning. The results are plotted in Figure 11. Comparing the finding presented in Figure 11 with those in Figure 10, it can be suggested that, overall and for each category, entrepreneurial learning is a stronger predictor of entrepreneurial intentions rather than the entrepreneurial university climate. For the whole sample, the slope of the entrepreneurial learning is 0.398 compared with 0.302. The coefficient is higher in magnitude than the one estimated for the entrepreneurial university climate (*F*-value=6.42 and *p*-value=0.011). Also, gender and nationality differences are less apparent; indeed only the coefficient for the female, non-British sub-sample is found to be statistically different from the coefficient reported in the male non-British sub-sample (although this was only statistically significant at the 10% level; *F*-value=3.17 and *p*-value=0.076).

Figure 11: Entrepreneurial learning and strength of entrepreneurial intentions



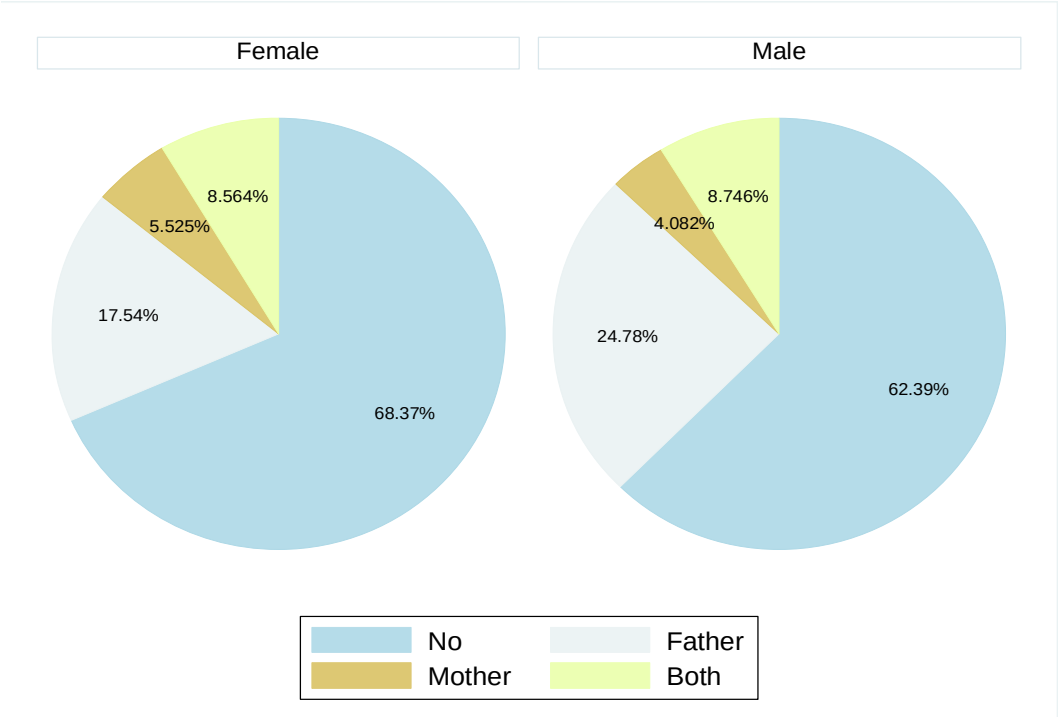
The above findings suggest that entrepreneurial intentions can be influenced by university climate and entrepreneurial learning experiences. However, the latter can have a greater impact on entrepreneurial intentions and across all categories of student than university climate.

4.2 The family context

The literature suggests that family is an important influence on the entrepreneurial intentions of students, particularly the occupational background of parents (see Sieger and Minola, 2016; Edelman et al., 2016; Chlosta et al., 2012; Laspita et al., 2012; Dyer et al., 2014; Carr and Sequeira, 2007; Schroeder et al., 2011). In order to explore how parents' backgrounds influence student's career choice intentions, the survey asked respondents if one of their parents, or both, are self-employed. Almost two thirds of the sample reported that neither of their parents were self-employed; 19.83% had a self-employed father; just over 5% had a self-employed mother; and for nearly 8.57% both parents were self-employed.

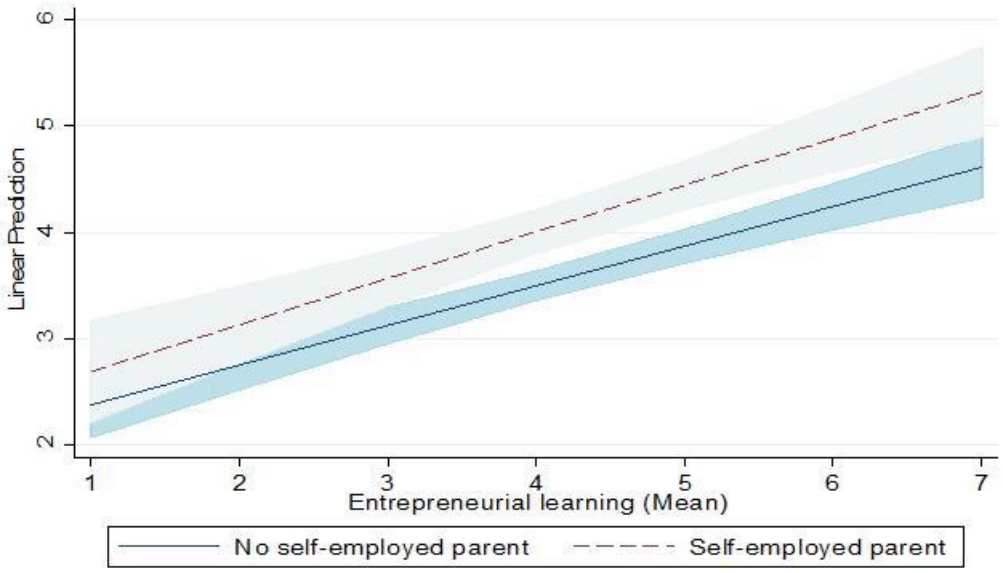
In Figure 12 we show the existence of self-employed parents by gender group. The Figure shows that males were more likely to report a self-employed parent, in particular a self-employed father (*F*-value=7.03 and *p*-value=0.008). However, we find no significant differences in the reported responses in terms of the presence of self-employed mother.

Figure 12: Existence of self-employed parents by gender



In order to investigate the broader relationship between entrepreneurial parents and their off-spring, we examine the career choice intentions among students of those with and without entrepreneurial parents. Specifically, we empirically examine the association between having a self-employed parent (taking the value of 1 if the father and/or mother are self-employed, 33.43%, and 0 otherwise) on entrepreneurial intention as well as on the ownership intention five years after graduation (taking the value of 1 if founder, 35.06%, and 0 otherwise).[7] We contrast these results on the level of entrepreneurial learning. The results are presented in Figures 13 and 14.

Figure 13: Family background and entrepreneurial intention – Predictive Margins of family entrepreneurial background with 95% Confidence Intervals (CIs)



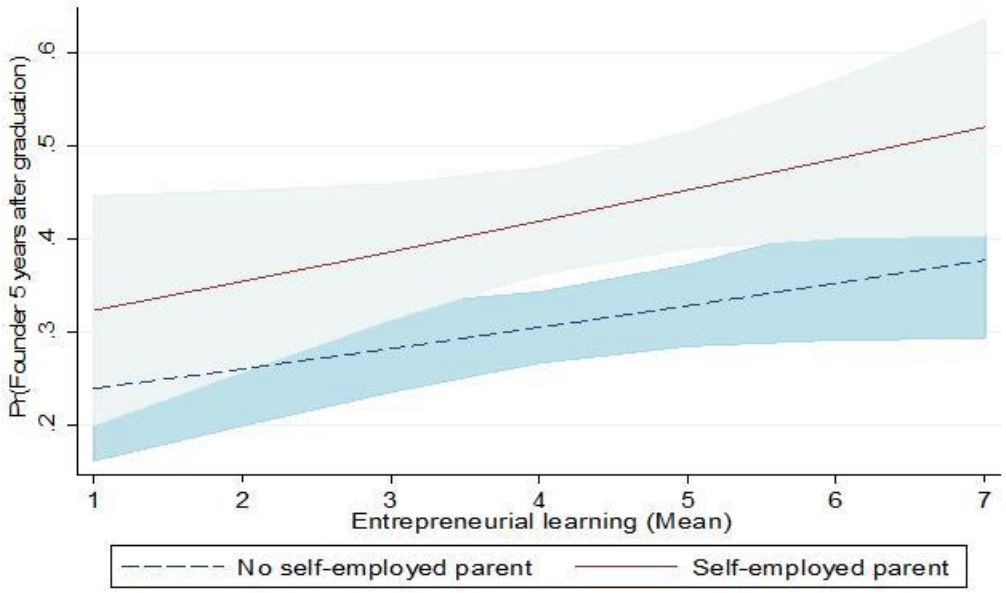
Looking at Figure 13 and considering the confidence regions, the two groups (i.e. those with self-employed parents and those without self-employed parents) appear to be statistically different across almost half of the range: denoted by the clear gap between the two slopes. However, the Figure also shows that the influence of parental occupation is weaker at lower levels and higher levels of entrepreneurial learning. In other words, parental occupation can

[7] We did not include the "successor" category (4.38%) in the ownership intentions measure to capture mainly the intention of establishing new businesses. We focus on the ownership intention five years after graduation rather than ownership intention immediately after graduation, since the latter provides us only with a small number of observations in the "founder" category (6.52%).

have an effect of entrepreneurial intentions of their off-spring but after possessing some level of entrepreneurial learning. At higher levels of entrepreneurial learning, however, this relationship appears weaker.

Turning to the intention of becoming a founder five years after graduation, the influence of family entrepreneurial background on student's business ownership intention is less clear. In particular, the role of family background is negligible with low or high entrepreneurial learning (Figure 14).

Figure 14: Family background and ownership intention five years after graduation – Predictive Margins of family entrepreneurial background with 95% CIs



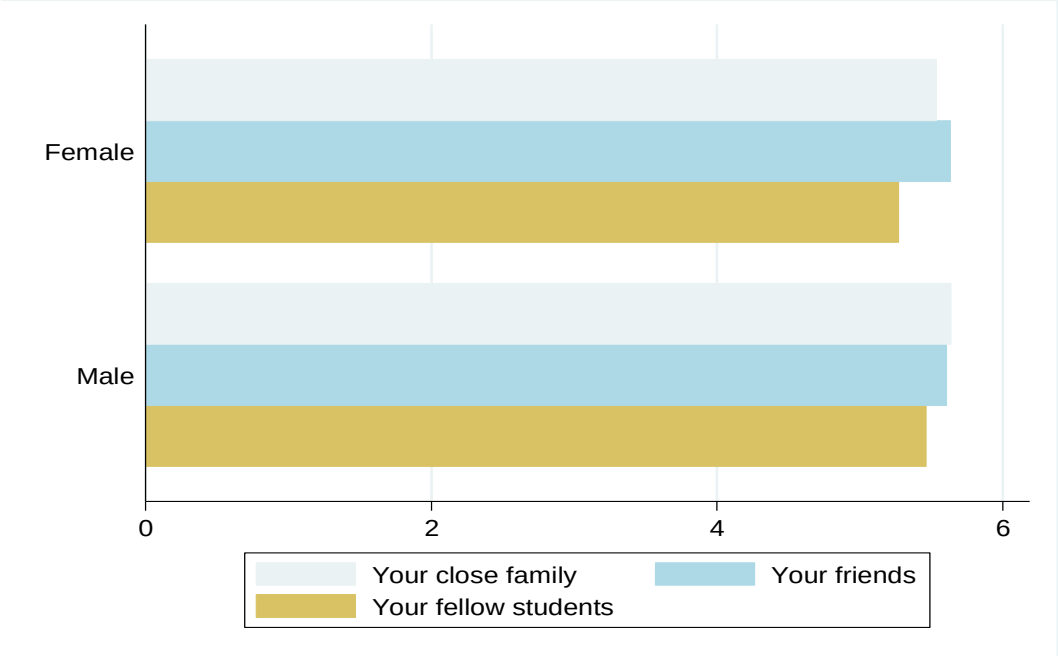
Overall, the analysis of the effect of having an entrepreneurial family background on the career choice of the students shows a positive relationship. This relationship is strongest when some basic level of entrepreneurial learning has taken place. This difference tends to weaken at higher levels of entrepreneurial learning.

4.3 The social and cultural context

Social and cultural factors, including the reactions students expect from their close peers, may also influence the career choices. Students were asked how people in their environment (family members, friends, fellow students) would react if they would pursue a career as an entrepreneur, using the scale from 1 (very negatively) to 7 (very positively). Overall, the students score high in all items with the mean being 5.508 (Cronbach's alpha=0.839).

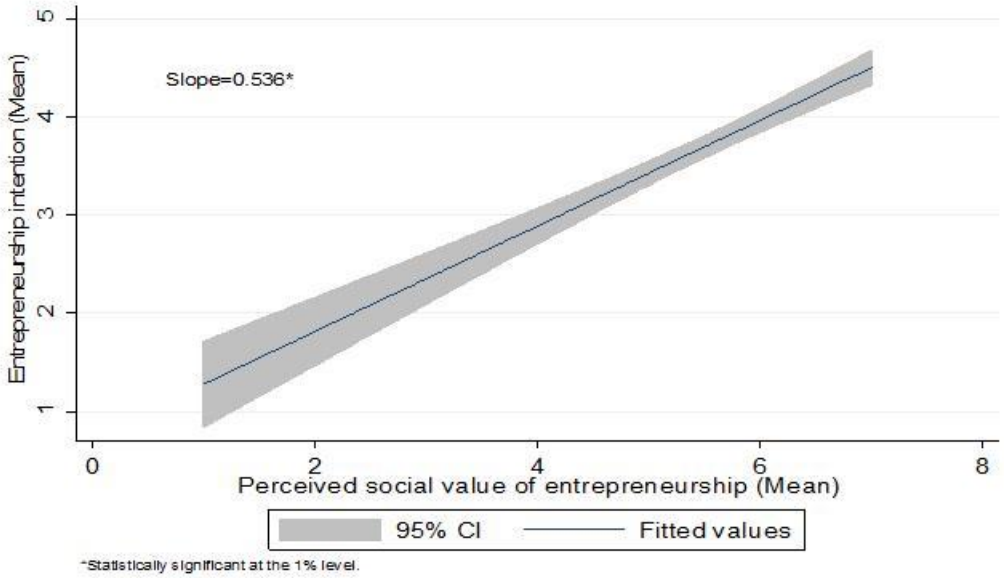
If we disaggregate the results, Figure 15 shows that males report slightly higher levels of social acceptance than females. However, the difference in the means was statistical significant only in the "fellow students" category.

Figure 15: Perceived social value of entrepreneurship by gender



We further examine the relationship between entrepreneurial intentions and the perceived social value of entrepreneurship. The results are plotted in Figure 16. These show a positive association between the two variables (coefficient=0.536 and *p*-value=0.000). In other words, students with a high perceived social value of entrepreneurship have higher levels of entrepreneurial intentions.

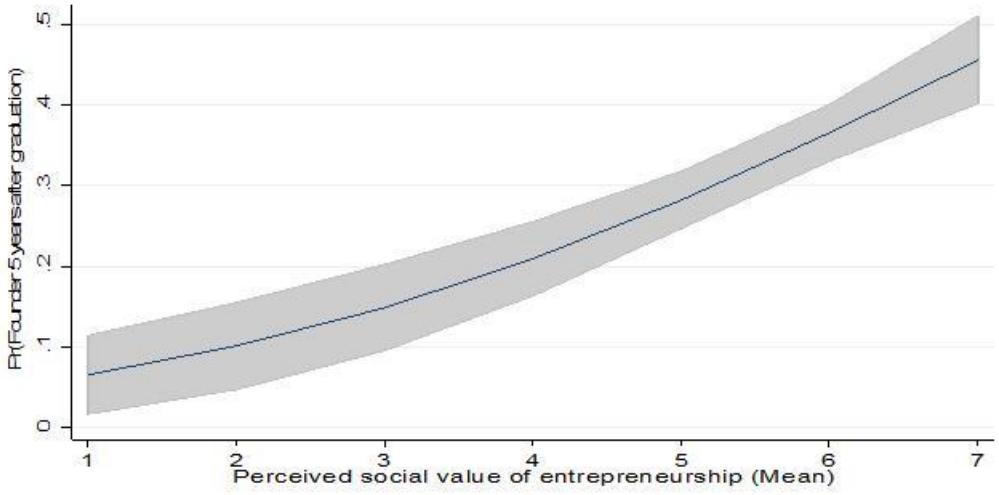
Figure 16: Perceived social value of entrepreneurship and entrepreneurial intention



This finding also holds for those students seeking to start a business after five years: we find that the social value of entrepreneurship has a positive relationship on the probability of business ownership 5 years after graduation (Figure 17).[8]

[8] Figures 16 and 17 use different variables and methods. In Figure 16, we employ Ordinary Least Squares and plot the slope coefficient. In Figure 17 we use a Probit model and plot the probabilities of the effects of a change in perceived social value of entrepreneurship on entrepreneurial ownership five years after graduation.

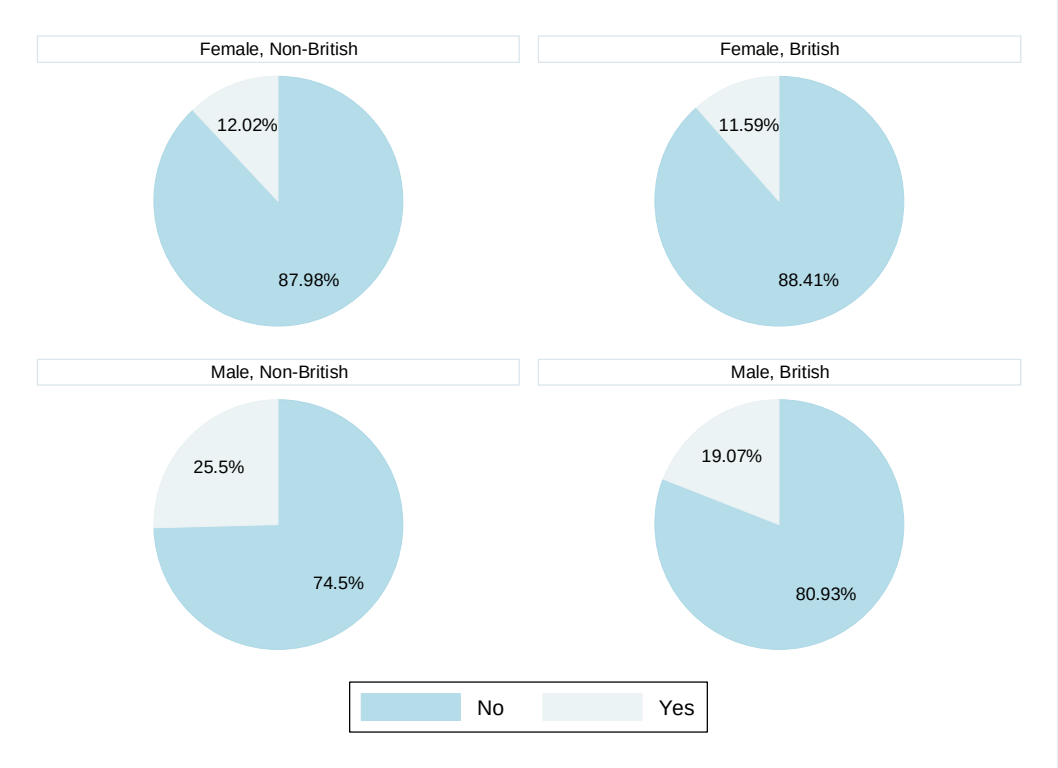
Figure 17: Perceived social value of entrepreneurship and business ownership five years after graduation – Adjusted Predictions with 95% CIs



5. Nascent entrepreneurs

From the whole sample (1,074), 162 students are currently trying to start their own business (15.08%): the nascent entrepreneurs. About 83% of them have never created any business before. The most popular sector is found to be "Advertising / Design / Marketing" (about 23% of those currently starting their own business). The average time to found a new business is estimated to be 13.5 months; the approximate ownership share in the new business will be about 72%; and about 87% of the nascent entrepreneurs plan to have up to two co-founders.

Figure 18: Nascent entrepreneurs by gender and nationality



In Figure 18 we present the nascent entrepreneurs by gender and nationality in four different charts. The charts show that males are more likely to be nascent entrepreneurs than females irrespective of nationality. Further, we find no differences in nascent entrepreneurship levels across females by nationality. However, we find significant differences between males grouped by nationality (i.e. British compared with non-British).

We then move to examine the career motives of students. In particular we examine how students assess the importance of different motives when they decide about setting up a business. This uses a range from 1 (not important at all) to 7 (very important). Table 7 shows the means of each item by gender and nationality. Although the means seem to differ between males and females, only for the item "To play a proactive role in changing how the world operates" the difference in the means is found to be statistically significant (*F*-value=8.55 and *p*-value=0.004).[9]

Table 7: Career motives of nascent entrepreneurs

Importance of different career motives	Overall	Female	Male	British	Non-British
To make money and become rich	4.351	4.508	4.160	4.318	4.400
To mainly achieve financial success	4.964	4.934	5.000	4.924	5.022
To advance my career in the business world	5.135	5.115	5.160	4.924	5.444
To be able to signal my capabilities to others	5.072	5.213	4.900	4.894	5.333
To solve a specific problem for a group of people that I strongly identify with	5.054	4.820	5.340	4.773	5.467
To play a proactive role in shaping the activities of a group of people that I strongly identify with	5.198	5.000	5.440	5.000	5.489
To solve a societal problem that private businesses usually fail to address	4.865	4.541	5.260	4.591	5.267
To do something that allows me to enact values which are core to who I am	5.604	5.393	5.860	5.591	5.622
To play a proactive role in changing how the world operates	5.468	5.082	5.940	5.303	5.711
Total	111	61	50	66	45

Importantly the gender results show that both male and females value financial motives equally (the first two items in the table), which provides further support to recent work by Saridakis et al. (2014). Yet the main motive for female nascent entrepreneurs was "To do something that allows me to enact values which are core to who I am" (mean=5.393) compared with that for men "To play a proactive role in changing how the world operates" (mean=5.940). The former motivation item was also found to score highest amongst British students, whereas the latter motivation item was the highest among the non-British students.

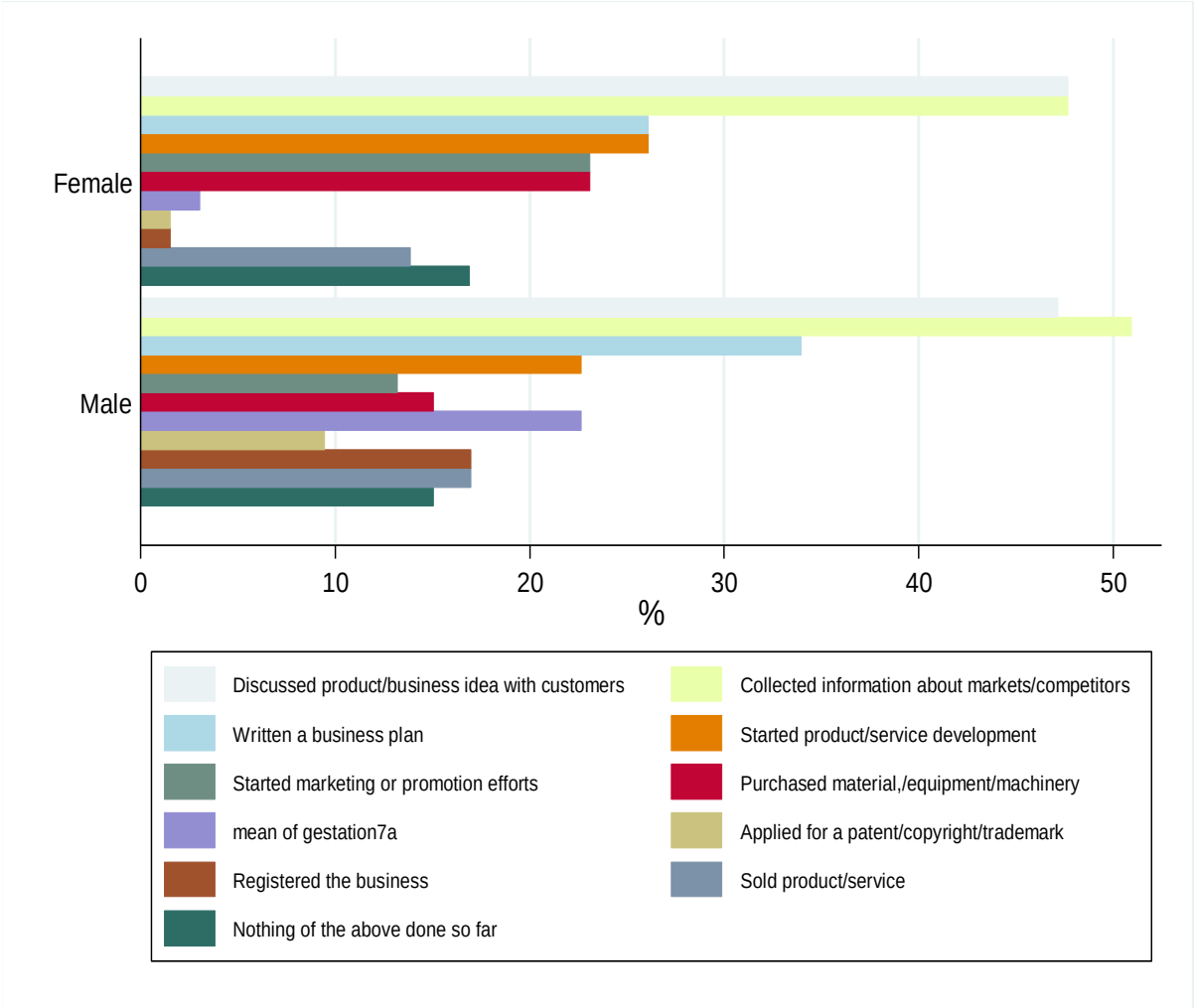
[9] However, within each gender group we reject the null hypothesis of equal means (Hotelling *F*-value=2.88 and *p*-vale=0.008; and Hotelling *F*-value=4.34 and *p*-value=0.001, respectively).

Comparing the British and non-British students, we also find that only the means for the items "To advance my career in the business world" and "To solve a specific problem for a group of people that I strongly identify with" were statistically different from each other (*F*-value=3.04 and *p*-value=0.084; and *F*-value= and *F*-value=4.65 and *p*-value=0.033). In both of these items non-British students scored higher than the British ones.[10]

Figure 19 provides an overview of the activities already completed by the nascent entrepreneurs, illustrating how far they proceeded with their perspective business. "Discussed product or business idea with potential customers" and "Collected information about markets or competitors" were equally the most popular gestation activity for females (47.69%). This was also the case for males, but "Collected information about markets or competitors" (50.94%) received slightly higher response than "Discussed product or business idea with potential customers" (47.17%). In most items capturing gestation activities between males and females, we find no gender differences. The only exceptions were in items capturing more advanced stages of business formation. Specifically we find differences in responses for the items "Attempted to obtain external funding", "Applied for a patent, copyright or trademark", "Registered the business". Hence, males were more likely to have undertaken these activities than females (*F*-value= 9.98 and *p*-value=0.002; *F*-value= 3.32 and *p*-value=0.071; *F*-value=8.09 and *p*-value=0.005, respectively).

[10] Similarly, within each nationality group we reject the null hypothesis of equal means (Hotelling *F*-value=4.04 and *p*-vale=0.001; and Hotelling *F*-value=3.88 and *p*-value=0.002, respectively).

Figure 19: Gestation activities conducted by nascent entrepreneurs



6. Active entrepreneurs

Turning to active entrepreneurs, we find that only 71 students out of 1,074 (6.61%) currently run their own business. Most of the students' are operating their businesses in "Advertising / Design / Marketing" (14.49%), "Trade" (13.04%), "Information technology" (10.14%) and "Education and training" (10.14%). The average age of these firms is 3.85 years; the average size of businesses is 2.25 employees; and the average ownership share of the student is found to be 75%. Nearly 86% of businesses have up to two co-founders, with 30.43%, 33.33% and 21.74% of the businesses to have no-cofounder, one co-founder and two co-founders, respectively. About 38% of these active entrepreneurs wish the current business to become the main occupation after graduation. This may suggest that education can be a step towards a career change, even for business owners.

Table 8: Firm creation motives by time horizon of firm life (mean scores)

Firm creation motives	Overall	Short-term	Long-term
To make money and become rich	4.118	3.857	4.538
To mainly achieve financial success	4.441	4.381	4.538
To advance my career in the business world	4.647	4.381	5.077
To be able to signal my capabilities to others	4.559	4.381	4.846
To solve a specific problem for a group of people that I strongly identify with	4.221	3.762	4.962
To play a proactive role in shaping the activities of a group of people that I strongly identify with	4.368	4.071	4.846
To solve a societal problem that private businesses usually fail to address	3.897	3.524	4.500
To do something that allows me to enact values which are core to who I am	5.294	4.952	5.846
To play a proactive role in changing how the world operates	4.279	3.952	4.808
Total	68	42	26

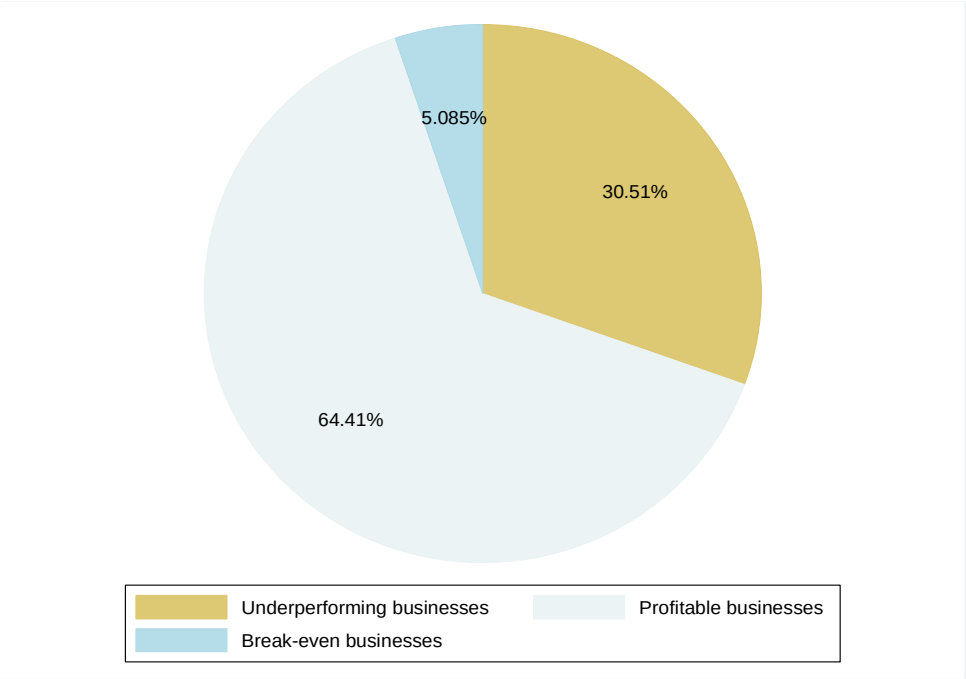
In Table 8 we examine the importance of different start-up motives of business owners, using a measure that ranges from 1 (not important at all) to 7 (very important). The item "To do something that allows me to enact values which are core to who I am" (mean=5.294) received the highest score compared with other motivations; it is followed by "To advance my career in the business world" (mean=4.647) and "To be able to signal my capabilities to others"

(mean=4.559).[11] Also Table 8 shows the means for each item by the time horizon of the firm life, which is defined as "short-term" if the students do not wish their business to be the main occupation after graduation and "long-term" if the students see this activity as a long-term project. Significant differences in the means are found for the motives "To make money and become rich" (*F*-value=2.79 and *p*-value=0.099), "To solve a specific problem for a group of people that I strongly identify with" (*F*-value=5.72 and *p*-value=0.019), "To solve a societal problem that private businesses usually fail to address" (*F*-value=4.15 and *p*-value=0.046), "To do something that allows me to enact values which are core to who I am" (*F*-value=4.56 and *p*-value=0.036) and "To play a proactive role in changing how the world operates" (*F*-value=3.10 and *p*-value=0.083). In all these items, business owners with long-term commitment score higher than those who intent to switch to a different occupation after graduation.

Business owners were asked whether or not their business generates any sales revenues, whether the sales revenues cover the costs of business and if the business makes a financial profit. Using this information we construct an index to identify three groups: underperforming businesses, break-even businesses and profitable businesses (see Figure 20). About 64% of the existing firms are profitable businesses, 5% are break-even businesses and the rest are underperforming businesses. Among business owners who wish to make a career change after graduation about 70% run currently profitable businesses; this is high compared with profitable businesses run by business owners who want to continue with the current business after graduation (56%). However, the difference in the above responses is found to be statistically insignificant. A move from a profitable business to a different occupation or occupational persistence despite business underperformance may be explained by different expectations regarding potential gains from education attainment (e.g. how university education, new knowledge and skills can help to improve business performance or open up new business opportunities).

[11] Hotelling test rejects the null hypothesis of equal means (Hotelling *F*-value=5.83 and p-vale=0.000).

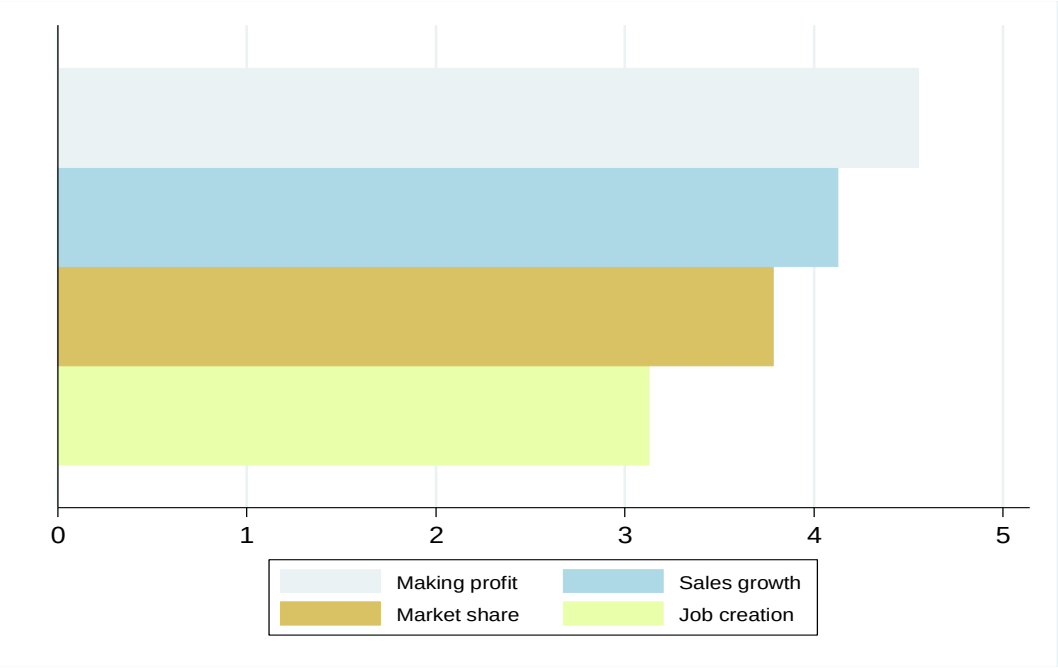
Figure 20: Performance of existing firms



Respondents were asked to rate the performance of their own business compared with competitors using the scale from 1 (very poor) to 7 (very well). Focusing only on profitable businesses only, we find that the overall performance mean of profitable firms compared with other firms in the industry to be 3.9 (Cronbach's alpha=0.851). In Figure 21 we present the mean scores for four business performance indicators: Making profit (mean=4.553), Sales growth (mean=4.132), Market share growth (mean=3.789) and Job creation (mean=3.132).[12] The results suggest that competitors seem to mainly have an advantage in market share and job creation.

[12] The Hotelling test rejects that all means are the same (Hotelling *F*-value=5.72 and *p*-value=0.003).

Figure 21: Profitable businesses compared with other businesses in the industry



Finally, business owners were asked to evaluate the satisfaction they experience from being an entrepreneur. In particular, using a scale that ranges from 1 (strongly disagree) to 7 (strongly agree) they were asked to indicate the level of agreement with the following statements: "I am satisfied with my entrepreneurial career" (mean=4.159); "Overall, I am very satisfied with my business" (mean=4.217); "I would be willing to start the same business again" (mean=4.957); and "All things consider, I am satisfied with my life as an entrepreneur" (mean=4.391).[13]

Table 9 presents the mean scores of job satisfaction by business performance. For the first two job satisfaction items, "I am satisfied with my entrepreneurial career" and "Overall, I am very satisfied with my business", we observe higher means among the profitable businesses which are significantly different compared with two other least-performing groups. Comparing the means between the least-performing groups (i.e. underperforming businesses *vs*. break-even businesses) we find the difference to be statistically insignificant. For two other job satisfaction measures, "I would be willing to start the same business again" and "All

[13] We reject the null hypothesis of equal means for these four items (Hotelling *F*-value=4.68 and *p*-value=0.005).

things consider, I am satisfied with my life as an entrepreneur", we find that the difference in the means across different performance groups to be statistically insignificant. Overall, these findings suggest that the factors affecting entrepreneurs' satisfaction go beyond pecuniary gains, and financial losses can be compensated by the non-pecuniary benefits of being an entrepreneur.

Table 9: Job satisfaction and business performance

Performance / *Satisfaction*	Underperforming businesses	Break-even businesses	Profitable businesses
I am satisfied with my entrepreneurial career	3.917	3.167	4.632
Overall, I am very satisfied with my business	3.333	3.333	4.868
I would be willing to start the same business again	5.083	5.000	5.158
All things consider, I am satisfied with my life as an entrepreneur	4.250	3.333	4.816
Total	12	6	38

8. Summary and conclusion

The GUESSS report for Britain 2016 presents findings and insights into students' entrepreneurial intentions and activities, which include over 1,000 responses. Overall, students from 15 universities from England, Scotland and Wales took part in this study.[14] Overall, more female than male students participated in the GUESSS survey 2016 in Britain: 67.87% *vs*. 32.15% respectively. This distribution is similar to previous GUESSS surveys 2011 and 2013/2014 (Blackburn and Iskandarova, 2014). Respondents who identified the UK as their country of nationality comprised the majority of the sample (61.94%). In terms of participants' age profile, British students were slightly younger that non-British with the overall respondents mean age to be 24.5 years. In the British sample the proportion of students studying at the undergraduate level is higher (nearly 75%) than those on postgraduate programmes. About 21% of students study "Business, Economics & Law", 30% "Natural Sciences and Medicine" and 26% "Social Sciences".

[14] Care should be taken regarding claims of representativeness of the student population across Britain as the sample includes a limited number of universities and from these an uneven number of survey respondents.

The analysis shows that personal characteristics, including nationality, family and social context, as well as university offerings, can influence the entrepreneurial intentions of students. These findings support existing research in the field. However, the research also extends our knowledge as the analysis in this report focuses on gender differences and differences between British and non-British students.

Compared with international trends,[15] students in Britain have similar career choice intentions, although the share of potential founders is slightly lower than overall percentage across 50 countries. Only 6.52% of students from British universities intend to set up their own business directly after studies (*vs*. 8.8% in the international sample); and 29% five years after graduation (*vs*. 38.2% in the international sample). These numbers also differ from previous studies that reported 8.8% after studies and 37.9% five years after graduation in GUESSS 2013/2014 (England); and 19.7% and 49% in GUESSS 2011 (England). The higher numbers of potential founders five years after studies indicate that business ownership is an attractive option for university students but many of them prefer to have several years of work experience as employees before starting their own business.

In this report we pay special attention to a potential students' gender and background/nationality differences. Our analysis of gender differences in regard to entrepreneurial career choice intentions does not wholly reflect an international trend (Sieger et al., 2016). In Britain we do not find clear evidence of gender playing a significant role in students' immediate or future career choice (in relation to "employee" and "founder" choice categories). Although there are differences, these are not found to be statistically significant. However, a more nuanced look at entrepreneurial intentions (i.e. the analysis of six entrepreneurial indicators), shows first, that male students have stronger entrepreneurial intentions than females; and second that non-British male students have stronger entrepreneurial intentions than British male students.

[15] For more detail about international findings see: Sieger, P., Fueglistaller, U. and Zellweger, T. (2016). Student Entrepreneurship 2016: Insights From 50 Countries. St.Gallen/Bern: KMU-HSG/IMU. http://www.guesssurvey.org/publications/publications/international-reports.html

These results suggest that entrepreneurial intentions amongst young people are shaped by a range of factors and their analysis requires appropriate methodological approaches. Entrepreneurial intentions captured by a multi-item continuous measure can be a better proxy of predicting long-term, graduate entrepreneurial trends than binary measures of career paths for given time horizons (see also Sieger et al., 2014).

Furthermore, the students' subject field can be seen as one of the key factors in career choice intentions and, in particular, for entrepreneurial intentions. The level of interest in employment and business ownership as career options is found to be similar across different study fields right after graduation. Five years after completion of their studies, students in all subject fields show an increased interest in an entrepreneurial career path. This is particularly the case in "Business, Economics & Law" (33.91%) compared with "Natural Sciences & Medicine" (24.22%) or "Social Sciences" (25.81%). The analysis of entrepreneurial intentions across study fields also shows a higher level of interest in business ownership amongst "Business, Economics & Law" students. This corresponds to the findings reported in GUESSS 2013/2014. Our findings also illustrate a link between attending entrepreneurship courses or programmes and students' entrepreneurial intentions. Again, we find a significant difference between groups: male students and non-British students are more likely to undertake a course on entrepreneurship or study in a specific entrepreneurship programme.

University climate and learning can also potentially help shape entrepreneurial intentions. As in GUESSS 2013/2014, we find a positive relationship between entrepreneurial climate in British universities and entrepreneurial intentions of students. However, entrepreneurial learning is found to be a stronger predictor of entrepreneurial intentions rather than university climate for both males and females, independently of their nationality.

The thesis about the role of entrepreneurial parents/family background in shaping the career choice intentions of young people is supported by the analysis in this study. Students with self-employed parents are more likely to have entrepreneurial intentions after acquiring certain levels of entrepreneurial learning, but the effect evaporates as entrepreneurial learning reaches higher levels. The role of family entrepreneurial backgrounds is less prominent for career choice five years after graduation.

Social and cultural factors might also affect the choice of an entrepreneurial career. The analysis supports the view that there is a positive relation between the perceived social value of entrepreneurship and entrepreneurial intentions. This becomes evident particularly for students' entrepreneurial intentions five years after graduation. The subjective norms (i.e. the perceived reactions of family members, friends and fellow students) are seen as positive by students in Britain: males reported slightly higher levels of social acceptance than females.

Regarding nascent entrepreneurs, the percentage of students in British universities who are trying to start a business (15.08%), is lower than the international sample (21.9%). The industry sectors for new business are very diverse, but the most popular sector is "Advertising/ Design/ Marketing" (23%); this is different from the previous study where the most popular sector was "Retail and wholesale". The majority of students planning to start a business want to be sole-owners or main shareholders of their businesses. Males are more likely to be nascent entrepreneurs than female students. The main career motives for these groups are different: for female nascent entrepreneurs it is "To do something that allows me to enact values which are core to who I am"; and for men "To play a proactive role in changing how the world operates". Both gender groups value financial motives equally.

A minority of the surveyed students in Britain already run their own business, and this percentage is lower than in the international sample (6.6% vs. 8.8%). Most of the students' businesses are operating in "Advertising / Design / Marketing" (14.49%), "Trade" (13.04%), "Information technology" (10.14%) and "Education and training" (10.14%). The average age of firms is 3.85 years; the average size of businesses is 2.25 employees; and the average ownership share is found to be 75%. About 64% of the existing firms are profitable businesses. Active entrepreneurs with profitable business state that they perform comparatively well in relation to making profits and sales growth, while competitors are seen as performing better on market share and job creation.

Overall, this GUESSS study provides in-depth analyses of students' entrepreneurial intentions and activities. It shows that students in British universities have a range of career intentions and experiences, and how university, family and social settings can influence entrepreneurial choices and aspirations. Furthermore, the analysis reveals some notable gender differences in the entrepreneurial spirit and activities amongst students. It also highlights the potential of non-British students to contribute to the entrepreneurial activities in Britain, providing new evidence for the debates on entrepreneurship and immigration.

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