# Students' propensity to entrepreneurship: an exploratory study from Greece

# Irene Fafaliou

Department of Economics, University of Piraeus, 80 Karaoli and Dimitriou Str., 185 34 Piraeus, Greece E-mail: fafaliou@unipi.gr

**Abstract:** This paper seeks to provide evidence on the entrepreneurial propensity of a sample of 364 Greek students, who, at the time of our research, attended classes at a specific University of Economics and Business Studies. Our findings demonstrate that almost half of the students surveyed (46.5%) were positively disposed towards entrepreneurship despite any difficulties that they could probably encounter in the pre- and early-startup phase of their business venture. One third of the respondents (34.7%) reported that they already had an idea of the type of business they desired to establish. However, the majority stated that they were insufficiently prepared to become self-employed. In conclusion, there is much scope to designate and ameliorate entrepreneurship courses across the curricula of the specific university; such efforts could be further enhanced through more targeted longitudinal research in Greece and other South European countries, which face similarly increasing graduates' unemployment levels.

**Keywords:** students' entrepreneurial propensity; facilitating entrepreneurship; tertiary education; Greece.

**Reference** to this paper should be made as follows: Fafaliou, I. (2012) 'Students' propensity to entrepreneurship: an exploratory study from Greece', *Int. J. Innovation and Regional Development*, Vol. 4, Nos. 3/4, pp.293–313.

**Biographical notes:** Irene Fafaliou is an Assistant Professor in Enterprise Policy and Small and Medium Sized Enterprises Support Measures at the Economics Department, University of Piraeus, Greece. She holds a PhD in Social Sciences from Leicester University, UK. Much of her research is focused on the links between enterprises and markets, technology transfer and entrepreneurship. She has acted as a Research Fellow of the European Observatory for SMEs and worked for several EU projects. Her work has been published in a number of leading referred journals. She is currently working for the development of the innovation and entrepreneurship unit of the University of Piraeus.

This paper is a revised and expanded version of a paper entitled 'Entrepreneurial intents of university students: evidence from Greece', presented at the 5th European Conference on Entrepreneurship and Innovation (ECIE 2010), National and Kapodistrian University of Athens, Greece, 16–17 September 2010.

## 1 Introduction

In recent years, scholars and government officials show a growing interest in business startups, particularly those founded by well-educated young people (Audretsch, 2007; European Commission, 2008). At a macroeconomic level, the reason for this development is mainly attributed to an increasing belief that entrepreneurship can play a decisive role both in job generation as well as in the creation of innovation and wealth (Reynolds et al., 2001; Ahmad and Hoffman, 2008; Keilbach et al., 2009; Mariotti, 2009). At an individual level, entrepreneurship is today recognised as a much more worthy employment option compared to previous decades, since due to the recent economic and financial crises, in Greece in particular, but also worldwide, it is more probable that young educated people cannot any more be as easily occupied in traditional employment types, as in the past (Henderson and Robertson, 2000; Bosma et al., 2010).

As a corollary, there is an immense concern regarding the role that certain higher education systems in different countries can play in fostering students' decisions to found a business upon graduation or even earlier. Although there is no consensus regarding the impact that entrepreneurship courses actually have on university students' decision to opt for self-employment [see for e.g., Bechard and Gregoire (2005); Schaper and Casimir (2007), p.120], the number of entrepreneurship study courses delivered by higher education institutions worldwide is growing fast (Kuratko, 2003; Gibb, 2002; Schramm, 2006; Klaper and Leger-Jarniou, 2006; Volkmann et al., 2009). The rationale behind such initiatives is that basic literacy in entrepreneurial concepts can at least raise awareness on an entrepreneurial career (Reynolds et al., 2003; Storey and Greene, 2010). Accordingly, other writers argue that since entrepreneurship can be learned, well designed university programmes could promote various components necessary for entrepreneurship – such as judgement, risk taking, independency and creativity – thus pulling students towards an entrepreneurial life-style (Kolvereid and Moen, 1997; Knight and Yorke, 2002; Gibb, 2002)

Despite, however, the increase in study programmes that promote the attractiveness of entrepreneurship, as an option for the students' career choice, and the role higher education can play to this end, it still remains unclear which are the factors that actually influence an individual's (in our case a student's) propensity to become an entrepreneur (Gartner, 1985; Gartner et al., 2004). On the one hand, the reason for this uncertainty is partially attributed to differences in entrepreneurship education from country to country and even more across the same country from one educational institution to another, mainly due to differences in learning practices and practical administrative support (Kuratko, 2005; Pittaway and Cope, 2007). On the other hand, a considerable number of researchers argue that no general conclusion can be reached on the matter since there are differences in the way individuals (students) perceive the barriers or facilitators encountered during the pre-foundation and/or early start-up phase of the entrepreneurial process (Krueger and Brazeal, 1994). In this sense, it is important to combine both perspectives and, by focusing on an individual analysis level, explore the factors that a student considers as leading him/her towards entrepreneurship within a universityspecific environment.

To our knowledge, students' propensity to new venture creation is under-explored in the Greek entrepreneurship literature. Earlier Greek studies have focused on issues related to startup and early post-startup phases of the entrepreneurial process and the appropriateness of the university curricula to foster students' entrepreneurship in engineering or ICT courses (Papayannakis et al., 2008); however, they seem to have marginalised the pre- and early startup phases of the entrepreneurial activity itself.

In particular, our aim is to provide evidence on the entrepreneurial propensity of a sample of 364 Greek students, who, at the time of our research, attended classes at a university offering a business and economics curriculum, the University of Piraeus (UoP). Our main research question is: "What are the intrinsic and/or extrinsic factors that exert greater influence on the surveyed students' propensity towards entrepreneurship?" In other words, which are the factors favouring and/or preventing the students in our sample from considering entrepreneurship as a career option? Based on the existing literature, briefly summarised in the following section, we take the premise that there is a variety of 'pull' and 'push' factors which can give us useful insights on students' propensity to entrepreneurship (Krueger, 1993; Krueger et al., 2000; Boissin et al., 2009).

Given that Greece has a very short academic tradition in providing entrepreneurship courses, our results contribute to the efforts made by educators and administrators of the University at hand so as to adjust their entrepreneurship programmes to the reported needs of their students. Further, given that Greece, as many other South-European countries, anticipates unprecedented high levels of youth unemployment and increasing graduates' expatriation rates, this paper can also be useful to policy-makers since it expands their knowledge on some country –and university– specific factors related to students' entrepreneurial propensity.

### 2 Literature review and construction of hypotheses

The existing entrepreneurship literature that examines the factors influencing entrepreneurial propensity is rich, inter-disciplinary, and diversified depending on the goals the researchers wish to investigate (Gartner et al., 2004). In particular, several prior studies have given emphasis on an individual's personal and socio-demographic characteristics (such as gender, age, regional origin, professional background, work experience and educational status) as potential factors affecting disposition towards entrepreneurship (Carland et al., 1988).

More recently, another school of thought, though marginalised for almost twenty years, has revisited the role an individual's personality can play vis a vis the entrepreneurial propensity (Zhao et al., 2010). Earlier studies in the context of the personality perspective, based on the pioneering work of David McClelland, exemplified in his 1961 book *The Achieving Society*, have given special emphasis on the importance of a single trait, i.e. the self-achievement motivation (McClelland, 1961), which employed a more psychological view in explaining entrepreneurial propensity. Following the contradictory and inconclusive findings of McClelland's (1961) work (Chell et al., 1991) several other scholars proposed a number of alternative physiological traits that may influence an individual's propensity to entrepreneurship [see for example Brockhaus (1982, p.512); Timmons et al. (1985)]. However, as Gartner (1988, p.21) concludes, the

list of traits related to the physiological profile of the entrepreneur typically cited in the literature is immense and inconclusive.

Consequently, another school of thought has been developed to complement the deficits of the personality traits theory in explaining individuals' propensity to entrepreneurship. This perspective has its origins in the field of behavioural economics and argues that the entrepreneurial behaviour (i.e., functions, activities and actions) is associated with perception of opportunities and the entrepreneurial process of new venture creation (Casson, 1982). Under this perspective, most researchers relate an individual's propensity to start a commercially related activity with intentions and/or capacity (Shapero, 1982; Ajzen, 1991).

Other writers, such as Naffziger et al. (1994), have specifically discussed the role of contextual factors to impact an individual's entrepreneurial propensity. Further, Henderson and Robertson's (2000) show that the main factors mobilising young adults to become entrepreneurs are money (income) and independency (being one's own boss).

Krueger et al. (2000) give a more complicated view of the propensity of an individual to become an entrepreneur. They argue that the entrepreneurial propensity is subjective and influenced by the cultural environment (i.e., opportunity seeking; entrepreneurial traits; capability beliefs; responsibility taking; entrepreneurial motivation; and entrepreneurial fears). Along similar lines, Burns (2001) proposes that the propensity of an individual to become an entrepreneur is reflected in four features:

- a the personal character traits
- b antecedent influences
- c situational factors
- d the culture of society.

Based on the indications and suggestions of the literature at hand, in this study we classified the factors, which we assumed as possibly influencing students' propensity to entrepreneurship, into three main categories, i.e., *socio-demographic, motivational, and environmental* (Krueger, 1993; Arinius and Minniti, 2005). These categories are summarised in Tables 1, 2, and 3, respectively. Further, on the basis of the additional issues set by the entrepreneurial propensity literature hereby, we examined 15 supplementary factors (Table 5).

Our working hypotheses were the following:

- H1 Socio-demographic variables have an impact on the surveyed students' propensity to entrepreneurship.
- H2 Motivational variables are significantly correlated with the surveyed students' propensity to entrepreneurship.
- H3 Environmental variables have a negative impact on the surveyed students' propensity to entrepreneurship.
- H4 The surveyed women face more difficulties than men in the pre-foundation phase.

## 3 Research methodology

To investigate students' entrepreneurship propensity in the specific university context, we conducted an exploratory survey by means of a structured questionnaire. The present study constitutes part of a cross-country survey project on the students' intentions to enter the entrepreneurial world, which was firstly introduced in 2008 by the German Center for Entrepreneurship (ZMG), located in Zweibrücken and Ludwigshafen, Germany [for further information, see Ruda et al. (2008, 2009)].

### 3.1 The questionnaire

The questionnaire contained 25 questions and it was based on an original version with 31 hypothesis and 153 variables developed and extensively tested in surveys undertaken by or under the auspices of the German Center for Entrepreneurship (ZMG). The initial questionnaire was in German language, then translated into English and, finally, into Greek. In an effort to minimise the possibility of translation biases the questionnaire distributed to the Greek students was bilingual, which is both in English and Greek (Brislin, 1970).

#### 3.2 Data collection: sample and context

The standardised questionnaire was delivered personally by the researcher to a sample of undergraduates and graduates, who filled in the answers *in situ* and anonymously. The field research was undertaken during the winter-term 2009 and spring-term 2010. Before handing over the questionnaire, the researcher explained the purpose of the survey to the students and they all agreed to participate (N = 367). Finally, we received 364 qualified responses, while three were not properly answered.

The first section of the questionnaire aimed at examining students' propensity to entrepreneurship in relation to nine *socio-demographic factors*, which were assumed to influence a student's propensity to entrepreneurship (Table 1).

| Table 1 | Socio-demographic | factors that may | have an impact of | on foundation pro | opensity |
|---------|-------------------|------------------|-------------------|-------------------|----------|
|         | 01                |                  | 1                 | 1                 | 1 2      |

| Factors                                    |
|--|
| Gender                                     |
| Age  |
| Undergraduate or postgraduate study course |
| Number of terms                            |
| Student's entrepreneurial background       |
| Mother's entrepreneurial background        |
| Father's entrepreneurial background        |
| Other persons' entrepreneurial background  |
| Student's experience in leadership         |

Another section of the questionnaire was designed to examine which motivational factors, according to the respondents' perception, could encourage and/or prevent them from considering entrepreneurship as a career option. This part was built upon eight main *motivational factors,* which were also assumed as potential descriptors of a student's propensity to found a business venture (Table 2).

 Table 2
 Motivational factors that may have an impact on foundation propensity

| Factors   |
|---|
| Fear of unemployment                                |
| Pursuit of self-actualisation                       |
| Possibility of obtaining higher income              |
| Desire for flexibility in working hours             |
| Matter of prestige                                  |
| Desideratum/desire for autonomy (be one's own boss) |
| Realisation of ideas                                |
| Risk propensity                                     |
|   |

A further part of the questionnaire (Table 3), comprised of fourteen pre-described *questions*, which were assumed to influence propensity; here students were asked to report on a number of *environment factors* related to problems expected to be encountered during the pre-startup and early startup phase of their entrepreneurial effort.

| <b>Fable 3</b> Environmental factors that may have an impact on for | undation propensi | ty |
|---|-------------------|----|
|---|-------------------|----|

| Factors   |
|---|
| Prospects of problems concerning credit capital acquisition       |
| Estimation of financial risk                                      |
| Disposability of equity   |
| Attitude towards the market condition                             |
| Sales expectancy  |
| Fear of failure   |
| Assessment of bureaucratic hassle                                 |
| Stances over available entrepreneurial qualifications             |
| Evaluation of existing know-how                                   |
| Appraisal of lacking customer contacts                            |
| Expected difficulties in locating appropriate foundation partners |
| Valuation of non-existence of adequate business ideas             |
| Opinion about the politico-economic environment                   |
| Rating the availability of courage                                |

Finally, the students were presented with 15 supplementary pre-described *questions*, which were also assumed to be related to their business foundation propensity (Table 4).

 Table 4
 Supplementary factors that may have an impact on foundation propensity

#### 3.3 Statistical analysis and measures

Following data collection, statistical analysis and interpretation were performed. The *socio-demographic, motivational, environmental* and *supplementary* factors (see Tables 1 to 4) constitute the independent variables of the analysis while the dependent variable is the students' entrepreneurial propensity, which is constructed by the targeted question: *Have you ever dealt with the possibility of founding a business*? (None or not yet considered/other). The data derived from the group of questions related to the supplementary factors were used only for the descriptive analysis purposes and no correlations were established (see Table 5).

Associations between categorical variables were tested by the use of contingency tables and the calculation of chi-square tests  $(x^2)$  without the correction of continuity. Associations between ordered variables and categorical variables were evaluated using the Mann Whitney test (Norusis, 2007; Corder and Foreman, 2009). Continuous variables are presented in the paper as mean  $\pm$  standard deviation, ordered variables as median (interquartile range), and categorical variables as relative frequencies (%).

For all statistical calculations SPSS version 15.0 was used (SPSS Inc, Chicago, II, USA). A probability value of 5% was considered as statistically significant (p-value < 0.05).

#### 4 Correlations and results of the survey

### 4.1 Descriptive statistics of students' entrepreneurial characteristics

Table 5, as well as Figures 1 to 8, illustrates the descriptive statistics of the survey. In particular, as Table 5 displays, from the total 364 participants, 56.5% were female and

43.5% male. The ages of the majority of the respondents (74.7%) ranged from 20-25 years. When they were asked whether they had any 'idea' for starting a new business venture, 65.3% of the respondents self-reported 'no', whilst 34.7% 'yes'.

Descriptive statistics of students' entrepreneurial characteristics Table 5

| Variables                                     |                 |  |
|---|-----------------|--|
| Gender  |                 |  |
| Female  | 56.5%           |  |
| Male  | 43.5%           |  |
| Age   |                 |  |
| < 20 years                                    | 25.3%           |  |
| > 20 years                                    | 74.7%           |  |
| Number of terms                               |                 |  |
| 1st–3rd                                       | 27%             |  |
| 4th–6th                                       | 26.2%           |  |
| > 6th   | 42.4%           |  |
| Postgraduate studies                          | 4.4%            |  |
| Foundation idea                               |                 |  |
| No  | 65.3%           |  |
| Yes   | 34.7%           |  |
| Probability in founding (in percent)§         | $46.5 \pm 24.8$ |  |
| Difficulties concerning start up <sup>¶</sup> |                 |  |
| Missing 'right' business idea                 | 4 (3, 5)        |  |
| Missing 'right' foundation partner            | 5 (3, 5)        |  |
| Missing entrepreneurial qualification         | 4 (2, 5)        |  |
| Missing courage                               | 3 (0, 5)        |  |
| Missing available time                        | 3 (2, 5)        |  |
| Missing customer contacts                     | 5 (3, 5)        |  |
| Missing equity                                | 5 (4, 6)        |  |
| Missing dept capital                          | 5 (3, 6)        |  |
| Know-how deficit                              | 4 (3, 5)        |  |
| Own financial risk                            | 5 (3, 5)        |  |
| Low turnover                                  | 5 (3, 5)        |  |
| Low profit                                    | 5 (4, 6)        |  |
| Support of family and friends                 | 2 (0, 4)        |  |
| Politico-economic environment                 | 5 (4, 6)        |  |
| Economic situation                            | 5 (4, 6)        |  |
| Fear of failure                               | 4 (3, 5)        |  |
| Extensive official channels                   | 5 (3, 6)        |  |

Notes: <sup>§</sup> Data are presented as mean ± standard deviation. <sup>¶</sup> Data are presented as median (interquartile range).

| Variables   |                       |
|---|-----------------------|
| Dealt with entrepreneurship                       |                       |
| < 1 year  | 83.4%                 |
| 1–3 years   | 13.0%                 |
| > 3 years   | 3.6%                  |
| Experience in leadership                          |                       |
| No  | 88.2%                 |
| < 2 years   | 9.1%                  |
| 2–5 years   | 2.4%                  |
| > 5 years   | 0.3%                  |
| How to found your sources                         |                       |
| Alone   | 67.4%                 |
| Team  | 32.6%                 |
| Extent of self-employed work                      |                       |
| Sideline basis                                    | 48.2%                 |
| Regular basis                                     | 51.8%                 |
| Market to operate                                 |                       |
| Local   | 29.8%                 |
| Regional  | 20.6%                 |
| National  | 32.2%                 |
| International                                     | 17.4%                 |
| Established in the market (in years) <sup>§</sup> | 7.1 ± 5.7             |
| Seed capital (in euros) <sup>§</sup>              | $186,244 \pm 667,998$ |
| Pay for start-up consultation                     |                       |
| No  | 29.6%                 |
| Yes   | 70.4%                 |
| Prefer to practice activity                       |                       |
| At home   | 11.0%                 |
| In the office off home                            | 79.3%                 |
| Direct at the customer's                          | 6.6%                  |

Table 5 Descriptive statistics of students' entrepreneurial characteristics (continued)

Notes:  ${}^{\$}$  Data are presented as mean  $\pm$  standard deviation.  ${}^{\$}$  Data are presented as median (interquartile range).

The mean score  $(\pm s.d)$  of possibility of founding a new business venture was practically found equal to 46.5% ( $\pm$  24.8), while the mean time that respondents believed they would need to become established in the market, was estimated at almost seven years

(s.d.  $\pm$  5.7). The major difficulties the participants expected to encounter in the pre-foundation phase of a business venture were: *lack of the 'right' foundation partner; customer contacts; equity; dept/seed capital; low turn-over; low profit; politico-economic environment; economic situation; extensive official channels/bureaucracy.* 

When participants were asked if they had considered getting involved in entrepreneurship in the past three years, the majority (83.4%) reported they had dealt with entrepreneurship activity for less than a year. Only 3.6% stated they had dealt with such activity for more than three years. Accordingly, when asked if they had any experience in leadership, 88.2% of the respondents answered they had no experience in the field. Further, a large proportion of the participants (67.4%) stated they desired to launch a business alone, whilst 51.8% reported preference to run their self-employment venture on a regular basis and not as a sideline work. Almost one-third of the respondents (32.2%) reported they preferred to perform their business in the national market. The rest preferences reported were: 29.8% in the local market, 20.6% in the regional, and 17.4% in the international market.

To visualise these results, Figure 1 below reveals that 59.80% of the respondents reported they had never before considered dealing with any form of entrepreneurship. 15% stated they had not yet considered starting a business venture, and 15% that they had already thought about this probability but treated such perspective as a future option. 3% stated they were in progress to start a business, whilst 7% reported they had already established one.



Figure 1 How have you already dealt with the idea of forming an enterprise?

In order to assess the participants' perception on the attractiveness of different entrepreneurial environments, we further asked them to evaluate a few pre-selected regions/countries. The results demonstrated that the large majority of the participants (78%) perceived the climate for business creation in Greece as 'rather foundation adverse'. The most popular climate reported as being 'rather foundation friendly', was in Europe (Figure 2).



Figure 2 How do you evaluate the climate for new business formation in the following countries/regions?

Further, as Figure 3 illustrates, the majority of the participants (64.30%) were 'very willing to take risks' or 'willing to take risks'.



Figure 3 How do you rank your risk propensity?

Figure 4 shows that 4% of the respondents desired to startup their business within one year. Overall, the majority of the participants (70%) in the questionnaire survey held during the winter-term 2009 and the spring-term 2010 reported they preferred to found their business at least four years later.



Figure 4 If interested in foundation, when you would be willing to found?

Findings depicted in Figure 5 below, indicate that the majority of the respondents were driven towards self-employment by extrinsic motivational factors such as 'income' (74.10%) and 'high income' (59.70%). Intrinsic motivational factors, like 'realisation of my own ideas' and 'self-actualisation' come third (57.70%) and fourth (45.30%) in order of preference, followed by the preference of the respondents to be independent ('be one's own boss' was valued at 43.80%). These results are in accordance with a large number of prior studies [see for example Naffziger et al. (1994)].



Figure 5 How important are/would be the following aspects concerning your self-employment decision?



Figure 6 Where have you already collected information?

As Figure 6 illustrates, nearly half of the respondents (46.20%) reported 'internet' as being the main source for collecting information on issues related to business startups. This was followed by the preferences for 'friends' (26.29%) and 'college' (24.60%).

As reported, the majority of the respondents (45%) in both academic terms under investigation 'had no self-employed person in their milieu'. Almost 34% of the respondents stated their 'father' and/or 'mother' (16%) were entrepreneurs. Only 6% said they 'knew of someone else in their milieu that was self-employed' (Figure 7).



Figure 7 Is anyone in your personal environment a self-employed person?

Finally, Figure 8 shows that 40% of the participants reported they intended to found a business in 'commerce'. Second in preference came the 'IT' sector (21%).



Figure 8 In which sector do you want to found a business?

Table 6 analysis allows us to test our first hypothesis. Our data indicate that the respondents that had *no entrepreneurial background* and *experience in leadership* were more likely to have never dealt with the perspective of forming an enterprise compared to their counterparts. Further, except 'age' and 'other persons' entrepreneurial background', all the rest socio-demographic independent variables included in this category, such as 'gender', 'number of terms attended', 'mother's entrepreneurial background', 'father's entrepreneurial background', and the 'study course', have significant association to the surveyed students' foundation propensity (see Table 6). Overall, the findings support our first hypothesis and are in accordance to several existing studies.

Table 7 shows the results related to the *motivational influences on* the surveyed students' *foundation propensity*. It is observed that the participants stating that their 'risk propensity' is 'very risk averse/risk averse' are statistical significant. In other words, these students are more likely to have never considered the possibility of launching a new venture, compared to those who reported that they were 'willing to take risks/very willing to take risks'.

Table 8 analysis allows us to test our third hypothesis. Regarding the impact of the *environmental factors on students' foundation propensity*, it was found that, the following variables were statistically significant: *disposability of equity, attitude towards the market condition, bureaucratic burdens*, and *stance over available entrepreneurial qualifications* (see Table 8).

|   | Foundation proper                        |       |         |
|---|--|-------|---------|
|   | None or foundation not<br>yet considered | Other | p-value |
| Gender                                    |  |       |         |
| Female                                    | 68.8%                                    | 31.2% | 0.004   |
| Male                                      | 54.1%                                    | 45.9% | 0.004   |
| Age                                       |  |       |         |
| < 20 years old                            | 62.0%                                    | 38.0% | 0.012   |
| > 20 years old                            | 62.6%                                    | 37.4% | 0.913   |
| Number of terms                           |  |       |         |
| 1st–3rd semester                          | 62.2%                                    | 37.8% |         |
| 4th–6th semester                          | 43.6%                                    | 56.4% | 0.000   |
| > 6th semester                            | 72.1%                                    | 27.9% | 0.000   |
| Postgraduate studies                      | 81.3%                                    | 18.8% |         |
| No entrepreneurial background             |  |       |         |
| No  | 52.8%                                    | 47.2% | 0.001   |
| Yes                                       | 69.8%                                    | 30.2% | 0.001   |
| Mother's entrepreneurial background       |  |       |         |
| No  | 64.7%                                    | 35.3% | 0.000   |
| Yes                                       | 49.1%                                    | 50.9% | 0.026   |
| Father's entrepreneurial background       |  |       |         |
| No  | 68.0%                                    | 32.0% | 0.001   |
| Yes                                       | 50.8%                                    | 49.2% | 0.001   |
| Other persons' entrepreneurial background |  |       |         |
| No  | 62.3%                                    | 37.7% | 0.070   |
| Yes                                       | 61.9%                                    | 38.1% | 0.972   |
| Experience in leadership                  |  |       |         |
| No  | 65.8%                                    | 34.2% |         |
| < 2 years                                 | 33.3%                                    | 66.7% | 0.000   |
| > 2 years                                 | 40.0%                                    | 60.0% |         |
| Study course                              |  |       |         |
| Macroeconomics                            | 77.0%                                    | 23.0% |         |
| Industrial economics I                    | 80.0%                                    | 20.0% |         |
| Financial institutions                    | 84.5%                                    | 15.5% |         |
| Entrepreneurship                          | 67.5%                                    | 32.5% |         |
| E-commerce                                | 25.0%                                    | 75.0% | 0.000   |
| Computer network                          | 24.0%                                    | 75.6% |         |
| Economics of education                    | 25.0%                                    | 75.0% |         |
| Industrial marketing                      | 33.3%                                    | 66.7% |         |

# Table 6 Socio-demographic Influences on surveyed students' foundation propensity

|  | Foundation propensity                    |       |       |
|--|--|-------|-------|
|  | None or foundation not<br>yet considered | Other | р     |
| Fear of unemployment                             |  |       |       |
| Non-relevant/very non-relevant                   | 53.2%                                    | 46.8% | 0.111 |
| Relevant/very relevant                           | 64.0%                                    | 36.0% |       |
| Desideratum/desire for autonomy                  |  |       |       |
| Non-relevant/very non-relevant                   | 65.7%                                    | 34.3% | 0.492 |
| Relevant/very relevant                           | 61.2%                                    | 38.8% | 0.482 |
| Pursuit of self-actualisation                    |  |       |       |
| Non-relevant/very non-relevant                   | 76.2%                                    | 23.8% | 0.055 |
| Relevant/very relevant                           | 61.0%                                    | 39.0% | 0.055 |
| Aspiration to realise own ideas                  |  |       |       |
| Non-relevant/very non-relevant                   | 64.3%                                    | 35.7% | 0.000 |
| Relevant/very relevant                           | 61.9%                                    | 38.1% | 0.800 |
| Desire for flexible working time                 |  |       |       |
| Non-relevant/very non-relevant                   | 61.7%                                    | 38.3% | 0.041 |
| Relevant/very relevant                           | 62.2%                                    | 37.8% | 0.941 |
| Matter of prestige                               |  |       |       |
| Non-relevant/very non-relevant                   | 60.7%                                    | 39.3% | 0.001 |
| Relevant/very relevant                           | 61.6%                                    | 38.4% | 0.881 |
| Possibility of obtaining higher income           |  |       |       |
| Non-relevant/very non-relevant                   | 58.3%                                    | 41.7% | 0 774 |
| Relevant/very relevant                           | 62.4%                                    | 37.6% | 0.774 |
| Risk propensity                                  |  |       |       |
| Very risk averse/risk averse                     | 71.1%                                    | 28.9% |       |
| Willing to take risks/very willing to take risks | 57.1%                                    | 42.9% | 0.009 |

# Table 7 Motivational influences on surveyed students' foundation propensity

 
 Table 8
 Environmental Influences on surveyed students' foundation propensity (Mann-Whitney test)

|  | Foundation propensity                    |          |         |
|--|--|----------|---------|
|  | None or foundation not<br>yet considered | Other    | p-value |
| Prospect of problems concerning credit capital acquisition | 5 (3, 5)                                 | 5 (4, 6) | 0.074   |
| Estimation of financial risk                               | 4 (3, 5)                                 | 5 (3, 6) | 0.277   |
| Disposability of equity                                    | 5 (4, 6)                                 | 5 (4, 6) | 0.012   |
| Attitude towards the market condition                      | 5 (4, 6)                                 | 5 (4, 6) | 0.017   |
| Sales expectancy   | 5 (3, 5.25)                              | 5 (3, 5) | 0.551   |

Notes: Data are presented as median (interquartile range).

#### Students' propensity to entrepreneurship

#### Table 8 Environmental Influences on surveyed students' foundation propensity (Mann-Whitney test) (continued)

|   | Foundation propensity                    |          |         |
|---|--|----------|---------|
|   | None or foundation not<br>yet considered | Other    | p-value |
| Fear of failure   | 4 (3, 5)                                 | 3 (2, 5) | 0.110   |
| Assessment of bureaucratic hassle                                 | 5 (3, 6)                                 | 5 (4, 6) | 0.010   |
| Stance over available entrepreneurial qualifications              | 4 (3, 5)                                 | 3 (2, 5) | 0.017   |
| Evaluation of existing know-how                                   | 4 (3, 5)                                 | 4 (3, 5) | 0.559   |
| Appraisal of lacking customer contacts                            | 5 (3, 5)                                 | 4 (3, 6) | 0.413   |
| Expected difficulties in locating appropriate foundation partners | 5 (3, 5)                                 | 5 (3, 5) | 0.765   |
| Valuation of non-existence of adequate business ideas             | 4 (3, 5)                                 | 4 (3, 5) | 0.627   |
| Opinion about the politico-economic environment                   | 5 (3, 5)                                 | 5 (4, 6) | 0.182   |
| Rating of the availability of courage                             | 3 (2, 5)                                 | 2 (0, 5) | 0.079   |

Notes: Data are presented as median (interquartile range).

Finally, Table 9 analysis allows us to test our fourth hypothesis. In particular, it shows the median degree of difficulty (interquartile range) regarding the factors of 'anticipation for an adequate business idea', 'speculation concerning available entrepreneurial qualifications', and 'feature characteristic of fear of failure' for female and male students separately. As regards gender influences on the perceived degree of difficulty of the specific factors, it was found that 'anticipation for an adequate business idea' and 'feature characteristic of fear of failure' represent an equal level of difficulty both for females and males. However, the degree of difficulty reported as affecting gender's 'speculation concerning available entrepreneurial qualifications' was higher among females compared to their male counterparts.

| Table 9 | Gender influences or | special difficulty factors |
|---------|----------------------|----------------------------|
|---------|----------------------|----------------------------|

|   | Gender   |             | n valua |
|---|----------|-------------|---------|
|   | Female   | Male p-valu |         |
| Anticipation of the existence of adequate business idea         | 4 (3, 5) | 4 (3, 5)    | 0.006   |
| Speculation concerning available entrepreneurial qualifications | 4 (3, 5) | 3 (2, 5)    | 0.020   |
| Feature characteristic of fear of failure                       | 4 (3, 5) | 3 (2, 5)    | 0.208   |

Notes: Data are presented as median (interquartile range).

#### 5 Conclusions and ways forward

The aim of this study was to examine the business foundation propensity of a sample of 364 students, who attended classes at a specific Greek University (UoP). To this end we

explored, through a questionnaire survey, the impact that a number of demographic, motivational, perceptual, and supplementary factors have on our surveyed students' entrepreneurial propensity.

We concluded that 34.7% of the respondents already had a clear idea of the type of business they would like to found. However, in accordance to similar prior studies (see for e.g., Krueger, 1993) the majority of the participants reported they were not adequately prepared for becoming self-employed. Despite the high number of fears reported with regard to difficulties expected to be encountered in the pre- and early- foundation phase of their venture creation, 46.5% of the respondents expressed their desire to found their own business. The large majority (70%) reported they planned to found a business at least four years later, thus after graduation. Such results are quite optimistic compared to findings of similar studies undertaken in University environments in other European countries, as for example in Germany and Portugal (Gerry et al., 2008; Ruda et al., 2008).

Further, our findings, consistent with many other prior studies (Campbell, 1992; Praaq and Cramer, 2001), indicate that students' propensity towards *risk-taking* constitutes the most significant psychological factor of all the motivational descriptors assumed as pulling students' propensity towards the entrepreneurial paths. Concerning the impact of *socio-demographic characteristics* it was found that almost all of them were important in influencing the surveyed students' propensity to start a new business venture: the respondents' *entrepreneurial background*; prior *personal experience in leadership*; their *father's entrepreneurial background*; and their *mother's entrepreneurial background*. *Gender*, the *number of terms*, and the *study course* appeared also to have certain influence on students' foundation propensity.

With regard to the impact of perceived environmental barriers on students' foundation propensity, our findings indicate that disposability of equity, attitude towards the market condition, bureaucratic burdens, and stance over available entrepreneurial qualifications were statistically significant. These multi-dimensional influences reported may well be explained by the negative impact that the recent adverse macroeconomic circumstances in Greece had on our students' perceptions.

This paper, yet, as any other research work, is subject to certain limitations. The most prominent one is that the design of this survey provides only a snapshot of the students' propensity to start their own business and does not allow determining whether the students who reported that they intended to become self-employed will actually do so in the future, or vise-versa. Further, the short time frame of our empirical study (two academic terms) and the absence of an accompanied qualitative study in the form of indepth interviews with the students prevented us from identifying any developing trends in the students' entrepreneurial propensity.

Nevertheless, the present study has a number of merits. In carrying out this survey, our intention was not to generalise results, nor to provide 'one-fits-for-all' recipe. Our aim was to reveal the role of a context-specific research and the importance of customised longitudinal studies. The results derived from the present survey clearly indicate that the investigated university needs to expand its efforts to systematically help individual students to better understand the entrepreneurial activity, realise their hidden talents, and recognise the prospects for self-venturing.

At a first stage, this can be achieved through further diffusion of the entrepreneurship courses across all nine departments of the UoP. Yet, this might not be enough. In addition, given that propensity to entrepreneurship appears to be higher among students with a prior experience in venturing or among those from an entrepreneurial family background, action teaching and learning experiences seem to be also required. Such efforts demand the university's closer collaboration with enterprises and further development of students' internship programmes. Accordingly, UoP can give rise to new (for Greece) forms of learning methods by accommodating, within its educational programme framework, certain entrepreneurship labs, venturing incubators, and counselling services, which could be provided to students via one-stop-shop services. To this end, a great role can also be played by government officials who need to realise that policy-inputs related to enhancing students' propensity towards entrepreneurship should be conceptualised and implemented in proper collaboration with higher education institutions.

Hopefully, this study will act as an additional platform for generating discussions about the educational needs on entrepreneurship within and across the Greek universities as well as universities from other EU countries, which seem to face similar challenges in their traditional labour markets. This, however, requires further cross-country targeted research with a longitudinal perspective. Such research can better inform academic officials, students, professionals, and other stakeholders, who have an interest in the entrepreneurship propensity of students and the related educational courses delivered at universities.

#### Acknowledgements

The author of this paper gratefully acknowledges that the research in this paper is partially supported by the ZMG German Center for Entrepreneurship.

#### References

- Ajzen, I. (1991) 'The theory of planned behaviour', *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp.179–211.
- Ahmad, N. and Hoffmann, A.N. (2008) 'A framework for addressing and measuring entrepreneurship', OECD Statistics Working Papers 2008/2, OECD Publishing, doi: 10.1787/243160627270.
- Arenius, P. and Minniti, M. (2005) 'Perceptual variables and nascent entrepreneurship, Small Business Economics', Vol. 24, No. 3, pp.233–247.
- Audretsch, D. (2007) The Entrepreneurial Society, Oxford University Press, Oxford-New York.
- Bechard, J.P. and Gregoire, D. (2005) 'Entrepreneurship education research revisited: the case of the higher education', *Academy of Management Learning and Education*, Vol. 4, No 1, pp.23–24.
- Boissin, J.P., Branchet, B., Emin, S., and Herbert, J. (2009) 'Students and Entrepreneurship: a comparative study of France and the United States', *Journal of Small Business and Entrepreneurship*, Vol. 22, No. 2, pp.101–122.
- Bosma, N., Levie, J., Bygrave, W.D., Justo, R., Lepoutre, J. and Terjesen, S. (2010) 'Global Entrepreneurship Monitor 2009', Executive Report Babson College, MA, Babson College, Santiago, Chile, Universidad del Desarollo, Haskollin Reykjavik, Iceland, Reykjavik University and London, UK, London Business School, available at http://gemconsortium.org. (accessed on 25 May 2010).
- Brislin, R.W. (1970) 'Back translation for cross-cultural research', *Journal of Cross-Cultural Psychology*, Vol. 1, No. 3, pp.185–216.

- Brockhaus, R.H. (1982) 'The psychology of the entrepreneur', in Kent, C.A., Sexton, D.L. and Vesper, K.H. (Eds.): *Encyclopedia of Entrepreneurship*, pp.39–57, Prentice Hall, Englewood Cliffs, NJ.
- Burns, P. (2001) Entrepreneurship and Small Business, Palgrave, Basingstoke.
- Campbell, C.A. (1992) 'A decision theory model for entrepreneurial acts', *Entrepreneurship Theory and Practice*, Vol. 17, No. 1, pp.21–27.
- Carland, J.W., Hoy, F., and Carland, J.C. (1988) 'Who is an entrepreneur? Is a question worth asking', *American Journal of Small Business*, Vol. 13, No. 1, pp.33–39.
- Casson, M. (1982) The Entrepreneur: An Economic Theory, Martin Robertson & Co. Ltd, Oxford.
- Chell, E., Haworth, J. and Birley, S. (1991) *The Entrepreneurial Personality: Concepts, Cases and Categories*, Routledge, London.
- Corder, G.W. and Foreman, D.I. (2009) *Nonparametric Statistics for Non-Statisticians: A Step-by-Step Approach*, Willey, New Jersey.
- European Commission, Directorate-General for Enterprise and Industry (2008) 'Survey of entrepreneurship in higher education in Europe', NIRAS Consultants, FORA, ECON Pöyry, Brussels, available at http://ec.europa.eu/enterprise/policies/sme/files/support\_measures/training\_education/highedsurvey\_en.pdf (accessed on 03 May 2009).
- Gartner, W.B. (1985) 'A conceptual framework for describing the phenomenon of new venture creation', Academy of Management Review, Vol. 10, No. 4, pp.696–706.
- Gartner, W.B. (1988) 'Who is an entrepreneur? Is the wrong question', *American Journal of Small Business*, Vol. 13, No.1, pp.11–32.
- Gartner, W., Shaver, K., Carter, N. and Reynolds, P. (2004) Handbook of Entrepreneurial Dynamics: The Process of Business Creation, Sage, Newbury Park, CA.
- Gerry, Ch., Marques, C.S. and Nogueira, F. (2008) 'Tracking student entrepreneurial potential: personal attributes and the propensity for business start-ups after graduation in a Portuguese University', *Problems and Perspectives in Management*, Vol. 6, No. 4, pp.46–54.
- Gibb, A. (2002) 'Creating conducive environments for learning and entrepreneurship: living with, dealing with, creating and enjoying uncertainty and complexity', *Industry and Higher Education*, Vol. 16, No. 3, pp. 135–148.
- Henderson, R. and Robertson, M. (2000) 'Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career', *Career Development International*, Vol. 5, No. 6, pp.279–287.
- Keilbach, M., Tamvada, J.P. and Audretsh, D.B. (Eds.) (2009) Sustaining Entrepreneurship and Economic Growth – Lessons in Policy and Industry Innovations from Germany and India, Springer, NY-London.
- Klaper, R. and Leger-Jarniou, C. (2006) 'Entrepreneurial intention among French Grande Ecole and University students: an application of Shapiro's model', *Industry and Higher Education*, Vol. 20, No. 2, pp.97–110.
- Knight, P. and Yorke, M. (2002) 'Skills plus: tuning the undergraduate curriculum', available at http://www.open.ac.uk/cobe/pdfDocs/docs-skill+/ANewIntroSkills.pdf (accessed on 02 February 2004).
- Kolvereid, L. and Moen, O. (1997) 'Entrepreneurship among business graduates: Does a major in entrepreneurship make a difference?', *Journal of European Industrial Training*, Vol. 21, No. 4, pp.154–160.
- Krueger, N.F. (1993) 'The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability', *Entrepreneurship Theory and Practice*, Vol. 18, No. 1, pp.5–21.
- Krueger, N.F., and Brazeal, D.V. (1994) 'Entrepreneurial potential and potential entrepreneurs', *Entrepreneurship Theory and Practice*, Vol. 18 No. 3, pp.91–104.
- Krueger, N.F. Jr., Reilly, M.D., Carsrud, A.L. (2000) 'Competing models of entrepreneurial intentions', *Journal of Business Venturing*, Vol. 15, No. 5, pp.411–432.

Kuratko, D. (2003) 'Entrepreneurship education: emerging trends and challenges for the 21st century', Coleman Foundation White Paper series for US Association of Small Business and Entrepreneurship – USASBE, available at http://labsel.pesarosviluppo.it/Modules/ContentManagment/Uploaded/CMItemAttachments/entrepreneurship%20education%20-%20emerging%20trends.pdf (accessed on 09 June 2009).

McClelland, D.C. (1961) The Achieving Society, Van Nostrand, New York.

- Kuratko, D. (2005) 'The emergence of entrepreneurship education: development, trends, and challenges', *Entrepreneurship Theory and Practice*, Vol. 29, No. 5, pp.577–598.
- Mariotti, S. (2009) 'Looking to entrepreneurship education during economic crisis', *The Huffington Post*, available at http://www.huffingtonpost.com/steve-mariotti/looking-to-entrepreneursh\_b 202625. html (accessed on 30 November 2009).
- Naffziger, D.W., Hornsby, J.S. and Kuratko, D. (1994) 'A proposed research model for entrepreneurial motivation', *Entrepreneurship Theory and Practice*, Vol. 18, No. 3, pp.29–42. Norusis, M. J. (2007) SPSS 15.0 Guide to Data Analysis, Prentice Hall, NY.
- Papayannakis, L., Kastelli, I., Damigos, D., and Mavrotas, G. (2008) 'Fostering entrepreneurship education in engineering curricula in Greece: Experience and challenges for a Technical University', *European Journal of Engineer Education*, Vol. 33, No. 2, pp.199–210.
- Pittaway, L. and Cope, J. (2007) 'Entrepreneurship Education: A Systematic Review of the Evidence', *International Small Business Journal*, 1 October 2007, Vol. 25, No. 5, pp.479–510.
- Praag, C.M. and Cramer, J.S. (2001) 'The roots of entrepreneurship and labor demand: individual ability and low risk', *Economica*, Vol. 68, No. 269, pp.45–62.
- Reynolds, P.D., Camp, S.M., Bygrave, W.D., Autio, E. and Hay, M. (2001) 'global entrepreneurship monitor 2001', Executive Report Babson College, IBM, Kauffman Center for Entrepreneurial Leadership and London Business School, available at http://gemconsortium.org (accessed on 02 February 2008).
- Reynolds, P.D., Bygrave, B. and Hay, M. (2003) *Global Entrepreneurship Monitor 2003 Report*, E.M. Kauffman Foundation, Kansas City, MO.
- Ruda, W., Martin, Th.A., Ascua, R. and Danko, B. (2008), 'Foundation Propensity and Entrepreneurship Characteristics of Students in Germany', in ICSB (Ed.): Advancing Small Business and Entrepreneurship: From Research to results, World Conference 2008 International Council for Small Business World Conference Proceedings, Xalifax, Canada. (ISBN 978-0-9736502-2-8).
- Ruda, W., Martin, Th.A. and Danko, B. (2009) 'Target group-specific design of student entrepreneurship support – A German example focusing on start-up motives and barriers', *Acta Polytechnica Hungarica*, Vol. 6, No. 3, pp.5–22.
- Schramm, C. (2006) Report to HM Treasury and the National Council for Graduate Entrepreneurship, E.M. Kauffman Foundation, Kansas City, MO.
- Schaper, M.T. and Casimir, G. (2007) 'The impact of Tertiary Education courses on entrepreneurial goals and intentions', in Favolle, A., *Handbook in Entrepreneurship Education: Contextual Perspectives*, Vol. 2, pp.120–129, Edward Elgar, Montpellier
- Shapero, A. (1982) 'Social dimensions of entrepreneurship', in Kent, C.A. et al. (Eds.): The Encyclopedia of Entrepreneurship, pp.72–89, Prentice-Hall, Englewood Cilffs, NJ.
- Storey, D.J. and Greene, F.J. (2010) Small Business and Entrepreneurship, Pearson Education Limited, London.
- Timmons, J.A., Smollen, L.E. and Dingee, A.L.M. (1985) New Venture Creation, Irwin, Homewood, Illinois.
- Volkmann, C., Wilson, K.E., Mariotti, S., Rabuzzi, D., Vyakarnam, S. and Sepulveda, A. (2009) 'Educating the next wave of entrepreneurs: unlocking entrepreneurial capabilities to meet the global challenges of the 21st century', A Report of the Global Education Initiative, World Economic Forum, Switzerland, April 2009, available at http://www.weforum.org/pdf/ GEI/2009/Entrepreneurship\_Education\_Report.pdf (accessed on 10 May 2009).
- Zhao, H., Seibert, S.E. and Lumpkin G.T. (2010) 'The relationship of personality to entrepreneurial intentions and performance: a meta-analytic review', *Journal of Management*, Vol. 36, No 2, pp.381–404.