

## **Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students**

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### **Abstract**

*This study investigates the inclination towards entrepreneurship among university students in the northern region of the Peninsular Malaysia. Specifically, it aims to examine the relationship between entrepreneurship education and inclination towards entrepreneurship. The influence of demographic characteristics and family business background on university students' inclination towards entrepreneurship is also being examined. An empirical test carried out on the data gathered from questionnaires demonstrates that two entrepreneurship education variables are found to have statistically significant relationship on the inclination towards entrepreneurship. At the meantime, two demographic variables and a family business background variable have an effect on university students' inclination towards entrepreneurship. Finally, based on the findings, the implications of the study have been forwarded.*

**Keywords:** Entrepreneurship education; inclination towards entrepreneurship; demographic characteristics; family business background; university students

### **Introduction**

Entrepreneurship has become an everyday buzzword. Policymakers, economists, academics and even university students are talking about it. Seminars, conferences and workshops are being organised every year across the world which emphasised on the importance of entrepreneurship to country, society as well as individual development (Bécharde and Toulouse 1998; Schaper and Volery 2004; Matlay and Westhead 2005). Today, entrepreneurship is regarded as one of the best economic development strategies to develop country's economic growth and sustain the country's competitiveness in facing the increasing trends of globalisation (Schaper and Volery 2004; Venkatachalam and Waqif 2005). For most people, the popularity of entrepreneurship is largely due to the positive effects it has on many countries as a catalyst that creates wealth and the generation of job opportunities (Postigo and Tamborini 2002; Othman, Ghazali et al. 2005; Gurol and Atsan 2006). More specifically, entrepreneurship is a major engine driving many nations' economic growth, innovation and competitiveness (Scarborough and Zimmerer 2003; Kuratko and Hodgetts 2004). At the same time, most studies have shown there is a positive relationship between entrepreneurship and economic growth in terms of job creation, firm survival and technological change (Gorman, Hanlon et al. 1997; Lena and Wong 2003; Karanassios, Pazariskis et al. 2006).

This, in turn, has increasingly made entrepreneurship emerged as one of the most popular research domain in academic circles to study on the importance and contributions of entrepreneurship (Lee, Chang et al. 2005). Courses in entrepreneurship are also becoming a popular at college and university levels (Brown 1999). An exponential interest in entrepreneurship studies has increased amongst both undergraduate and graduate students over the last decade (Solomon, Weaver et al. 2005). One of the key factors explaining this unparalleled phenomenon is the fact that wages employment or 'secure' employment is no longer a guarantee especially in the public sector for university graduates (Collins, Hannon et al. 2004; Kamau-Maina 2006; Postigo, Iacobucci et al. 2006). In addition the luxury thought of university graduates are the elite and intelligent group in the society, whom can easily acquire a job upon graduation has no longer reflected the realities of today's employment world (Seet and Seet 2006). In today's competitive job environment, total job opportunities are inevitably limited and thus one must compete to secure a job as supply of jobs is limited.

As a result, many graduates are unable to get a job upon graduation. Students are now apparently searching for a business education that can equip them with the necessary entrepreneurial knowledge and skills to succeed in running businesses or to create a job from seizing existing entrepreneurial opportunities (Brown 1999; Henry 2003). Therefore many universities and colleges around the world have responded to this demand by introducing entrepreneurial courses to students in an effort to promote entrepreneurship as well as a professional entrepreneurship career (Postigo and Tamborini 2002). For instance, in the United States, there are more than 1500 colleges and universities that offer courses in entrepreneurship and small business management to some 15,000 students (Scarborough and Zimmerer 2003; Kuratko 2005). Many dialogues, forums and training programmes organised by educational institutions are all in favour of entrepreneurship development apart from being the subject taught at colleges and universities (Landstrom 2005). Undoubtedly, all these are being done with one major goal, namely to foster entrepreneurial spirit and expect attitude change in students, after undertaking entrepreneurial courses. Students are also expected to value entrepreneurship as a personal and future career development alternative (Kantis, Postigo et al. 2002).

### ***The development of entrepreneurship education – A brief overview***

The history of entrepreneurship education could be dated back in 1938 when Shigeru Fijii, who was the teaching pioneer at Kobe University, Japan had initiated education in entrepreneurship (Alberti, Sciascia et al. 2004). Despite that, most of the entrepreneurship courses and programmes were pioneered and introduced in American universities. Many American universities have comparatively long tradition as entrepreneurship education providers through its business schools and have well documented entrepreneurship courses, paving the way for entrepreneurship studies as a legitimate area of academic programmes (Franke and Luthje 2004; Raichaudhuri 2005). Entrepreneurship education, according to Binks (2005), refers 'to the pedagogical process involved in the encouragement of entrepreneurial activities behaviours and mindsets...' (p. 2). Functionally entrepreneurship education has been lauded as being able to create and increase awareness as well as promote self employment as a career choice among young people (Clayton 1989; Fleming 1996). Therefore the role of entrepreneurship education is mainly to build an entrepreneurial culture among young people that, in turn, would improve their career choices towards entrepreneurship (Deakins, Glancey et al. 2005).

In other words, the objectives of entrepreneurship education are aimed in changing students' state of behaviours and even intention that makes them to understand entrepreneurship, to become entrepreneurial and to become an entrepreneur that finally resulted in the formation of new businesses as well as new job opportunities (Fayolle and Gailly 2005; Hannon 2005; Venkatachalam and Waqif 2005). In achieving this, the design of entrepreneurship education curriculum need to be creative, innovative and imaginative and most importantly is 'tying academic learning to the real world' (Robinson and Haynes 1991, p. 51). It worth noting that entrepreneurship education is the general term used in the North America while in the United Kingdom, Ireland and some European countries, the term enterprise education is widely used (Hagan 2004). For the purpose of this paper, entrepreneurship education is employed as it has been termed and broadly used and accepted by most Malaysian universities.

### ***Why entrepreneurship education and training?***

Research has been extensively focused on the field of entrepreneurship education, which has enjoyed exponential growth level internationally (Hill, Cinneide et al. 2003; Raichaudhuri 2005). This is evident from the strands of studies which have been conducted on the ability of entrepreneurship to create new jobs and the importance of entrepreneurship education in producing potential entrepreneurs from the educational system (Kourilsky 1995; Kuratko 2005; Venkatachalam and Waqif 2005). For example, Volery and Mueller (2006) highlight the possibility of the role of entrepreneurship education in influencing an individual's decision to become an entrepreneur. Participation in entrepreneurship education, in this regard, has been associated with the increasing interest towards choosing entrepreneurship as a viable career option (Gorman, Hanlon et al. 1997).

To this end, universities and other institutions of higher learning have been given the mandate to play a leading role in inculcating students with the entrepreneurial knowledge and skills that will be useful in their future career endeavours (Nurmi and Paasio 2007). Entrepreneurship education has been recognised as one of the vital determinants that could influence students' career decisions (Kolvereid and Moen 1997; Peterman and Kennedy 2003). Due to that influence, there is a need to examine how entrepreneurship education could influence university students' propensity to entrepreneurship. Despite the exponential growing research interest in the area of entrepreneurship education (see Wang and Wong 2004; Wong and Lena 2005; Menzies and Tatoff 2006), as far as the researchers are aware, very little research has been specifically investigated the relationship between entrepreneurship education and entrepreneurial inclination particularly on Malaysian university students.

Hence it is the aim of this research to contribute to the current literature by identifying the variables of entrepreneurship education that influence students' inclination towards entrepreneurship specifically in Malaysian settings. Taking the above statement into account, this paper primarily investigates if entrepreneurship education can be adequately influenced Malaysian university students' inclination towards entrepreneurship. Particularly, this paper aims and attempts to investigate the relationship between entrepreneurship education and university students' inclination towards entrepreneurship among Malaysian university students in northern region of the Peninsular Malaysia. The following section briefly discusses each attribute of entrepreneurship education that could have influence university students' inclination towards entrepreneurship. Each attribute is succinctly explained and followed by the hypothesised propositions for the study.

### ***The university's role in promoting entrepreneurship***

Universities play a functional role in promoting entrepreneurship education to develop regional and society economies (Binks, Starkey et al. 2006; Co and Mitchell 2006). Mahlberg (1996) agrees the remarks by stating that schools and universities have a key role to play in promoting entrepreneurship since educational institutions are ideally considered the place in shaping entrepreneurial cultures and aspirations among students while they are studying to survive in today's robust business milieu (Autio, Keeley et al. 1997; Landstrom 2005). This could probably because universities are seedbeds of entrepreneurship to teach their students the way to think and behave entrepreneurially (Bygrave 2004). Universities, in this respect, should position themselves as a hub of entrepreneurship by making a substantial contributions in nurturing an entrepreneurial environment that combines factors that contribute to the development of entrepreneurship (Gnyawali and Fogel 1994).

As a provider of entrepreneurship training programmes, universities must do all the best it could to create an entrepreneurially supportive environment that could encourage entrepreneurial activity in turn would help to develop an enterprise culture among university students who are tomorrow's entrepreneurs (Roffe 1999). Autio, Keeley, Klofsten, & Ulfstedt (1997) in their study on entrepreneurial intentions of technology and sciences students across four countries consistently conclude that university teaching environments are the most influential factors that affect students' perceptions towards entrepreneurial career and entrepreneurial convictions. Hence it is important to present a positive image of entrepreneurship as career option to draw students' attentions within the university environment by providing the resources and other facilities available to them. As we have to always remember that even though individuals have the relevant entrepreneurial knowledge and skills, if they do not possess positive image about entrepreneurship, they might eventually not venture into the field (Alberti, Sciascia et al. 2004).

Towards this end, universities, by creating an entrepreneurial culture across campus, are expected to influence students' decision to creation businesses with its considerable influential factor on students. This may due to students' preferences towards career are easily influenced by the environmental conditions in which they are interacting with as they are young and always looking for appropriate models (Gnyawali and Fogel 1994; Fayolle and Degeorge 2006). Given the strong role that a university could play in fostering entrepreneurship among university students, it is hypothesised that:

H1: The role to promote entrepreneurship played by the university increases the likelihood of Malaysian university students to be more entrepreneurially-inclined.

### ***The entrepreneurial curriculum and content***

Having expose to entrepreneurship seems to be a key factor to develop and foster entrepreneurialism (Charney and Libecap 2003; Hannon 2005). However due to its multidisciplinary in nature, perhaps the pedagogical issue of entrepreneurship is always unfinished discussion (Kent 1990; Fiet 2000a; Cooper, Bottomley et al. 2004). It appears to be unfinished debate from little uniformity concerning how, who and what to teach entrepreneurship with regard to its contextual and conceptual understandings despite entrepreneurship education has been increasingly gained the attention from academia (Falkang and Alberti 2000; Raichaudhuri 2005). This happens largely due to the four possible viewpoints held by different people when developing the entrepreneurship programmes: from the educators viewpoints; the student-entrepreneurs; those who design the programmes and the evaluators (Bécharde and Toulouse 1998, p. 318).

Edwards and Muir (2005) also express the same viewpoint that entrepreneurial curriculum develops differently across universities, either as an optional module within business courses or a specific courses on entrepreneurship. Levie (1999) in his study on entrepreneurship education in England found that entrepreneurship teaching and courses are generally classified into two approaches: courses *for* entrepreneurship and courses *about* entrepreneurship. The decisions on teaching methodologies in entrepreneurship courses are therefore could be influenced by the aim of the educational objective.

To produce students who are capable to deal with real entrepreneurial activity or to transform students' entrepreneurial competencies to practical way is closely centred on courses *for* entrepreneurship. While courses *about* entrepreneurship concerned with teaching entrepreneurship as a required subject in the syllabus via traditional methods (Gibb 2002(a)). Thus, the major challenge of entrepreneurship in relation to education is the appropriateness of curriculum and teaching methods in developing students entrepreneurial competencies and skills (Garavan and O'Cinneide 1994). With regard to the content of the entrepreneurial courses, Brown (1999) indicates that the entrepreneurship course content should be informal with an emphasis more on hands-on teaching methods. He then outlines the core structure of teaching entrepreneurship courses should draw on:

- Critical thinking
- Reliance on experience – successful courses access students skills and needs
- Thinking about entrepreneurship as a career
- Use guest speakers who are experienced entrepreneurs

In response, Vesper (2004) categorises four kind of knowledge useful for entrepreneurs and hence the entrepreneurship course content should be developed according to these knowledge:

- i) business-general knowledge – it applies to most firms, including the new ventures
- ii) venture-general knowledge – it applies to most start-ups, but not so much to going firms
- iii) opportunity-specific knowledge – it is about the knowledge about the existence of an un-served market and about how the resources need to be ventured in
- iv) venture-specific knowledge – it is about the knowledge on how to produce a particular product or goods

In terms of teaching methods, different researchers propose different approaches in delivering entrepreneurial knowledge and skills to students (Fiet 2000a; Fiet 2000b). Hence, there have been seemed to be lots of approaches to teach entrepreneurship ranging from the conventional approach such as textbooks (Fiet 2002), examinations (McMullan and Cahoon 1979) to unconventional like business plan (Audet 2000), life histories of working entrepreneurs (McKenzie 2004); guest lectures (Brown 1999; Klandt and Volkmann 2006) and field study or visiting to business organisations (Cooper, Bottomley et al. 2004). Notwithstanding the differences in curriculum and delivery approach, the ultimate aim of entrepreneurial programmes is to stimulate entrepreneurship awareness among students that, in turn, would increase their interest in entrepreneurship. Therefore

H2: The entrepreneurial curriculum and content increase the likelihood of Malaysian university students' to be more entrepreneurially-inclined.

### **Role models**

The effect of role models on inclination towards entrepreneurship is widely discussed in the literature (see Ghazali, Ghosh et al. 1995; Deakins, Glancey et al. 2005; Van Auken, Stephens et al. 2006; Kirkwood 2007). According Hisrich, Peters, & Shepherd (2005), role models are '*individuals influencing an entrepreneur's career choice or styles*' (p. 68). They further accentuates that role models have vital influence on individuals in determining entrepreneurial careers as they would provide the useful business-related information, guidance as well as moral supports. Role models, in this context, are very imperative because they provide individuals a training for socialisation (Postigo, Iacobucci et al. 2006; Rajkonwar 2006). It is more credible for individuals to act of becoming a successful entrepreneur by having a good example that they can relate to (Bygrave 2004). It is based on the assumption that having to see successful persons in business, an individual would have the aspiration to imitate in order to become a successful person in business too (Caputo and Dolinsky 1998). Given the importance of role models, the role of educators and friends of university students are examined as to how they might influence students' inclination towards entrepreneurship (Peterman and Kennedy 2003; Wong and Lena 2005).

The role of the teachers is indispensable in education as they '*prepare, encourage and cultivate students*' (Boyle 2007, p.12). According to Hytti and O'Gorman (2004), educators are a critical element to the development of effective enterprise education initiatives. The role played by educators, in this instance, is to actively guide and inspire students' interest towards entrepreneurship by providing real-life business experiences (Hannon 2005). This is because educators are given the responsibility to mould the personality and characters of students, apart from imparting knowledge in the class. Educators' role, in the profession stance, as knowledge disseminator have significant effects on students' minds as they tend to absorb whatever an educator delivered and taught (Bligh 1998). On the other hand, friends are also found to influence individual's inclination towards entrepreneurship. Dillard and Campbell (1981) point out that White American students seem to be influenced more by non-parental factors such as peers when deciding on their career development.

This might due to students believe friends are the best source and place to seek advice and even capital (Schaper and Volery 2004). Nanda and Sorensen (2006) acknowledge the role of peers in influencing one's decision to become entrepreneurs. The so-called 'peer effects' who have had previous experiences in self-employment do have an impact on individual's decisions to consider entrepreneurship during their transitional career from present occupation. Djankov, Miguel, Qian, Roland, & Zhuravskaya (2004) in their studies on five countries about the development of entrepreneurship conclude that those who have childhood friends are most likely to follow their footsteps to become an entrepreneur. Similarly, a survey on young Australians' attitudes towards entrepreneurship conducted by Sergeant and Crawford (2001) agree that friends are significantly influenced their decision to start a business.

With reference to the above discussion, the following hypothesis is developed:

H3: The availability of role models (educators or friends) increases the likelihood of Malaysian university students to be more entrepreneurially-inclined.

### ***The entrepreneurial internship programmes***

The learning process of entrepreneurship should not only confine just to the classroom discussions but the interaction with today's dynamic business environment is vital because of '*critical entrepreneurial skills can only be developed and refined if they are practised*' (Dilts and Fowler 1999, p. 52). This is to enable students to gain hands-on experience by seeing, touching and feeling about the business world (McIntyre and Roche 1999; Cooper, Bottomley et al. 2004). For this reason, entrepreneurial internship is seen as a good mechanism to provide students with such a learning experience in a real business milieu (Dilts and Fowler 1999). Internship as according to Gault, Redington, & Schlager (2000) is '*generally part-time field experiences and encompasses a wider variety of academic disciplines and organisational settings*' with its main goal to eventually lead students to become self-employed (Dilts and Fowler 1999). Mohd Shariff, Abdul Mutalib, & Ahmad Fadzil (2000) highlight the objective of having internship programme is to expose students to the perspectives of industry practical and its nature of work practices. It is a training strategy that transforms theoretical knowledge to application as well as develops individuals' working skills in real career world (Dodge and McKeough 2003).

Neill and Mulholland (2003) point out that the students' placement and/or work experience programmes is very crucial for undergraduates as it exposes and prepares a student for the real working experience and as an external extracurricular learning activity. Having the entrepreneurial internship programmes offer a lot of advantages for universities, organisations as well as students (Dilts and Fowler 1999; Hildebeitel, Leaby et al. 2000). For instance, students with entrepreneurial internship experience tend to exhibit lower job dissatisfaction than those without internship experience (Hildebeitel, Leaby et al. 2000). A study by Gault, Redington, & Schlager (2000) also vindicate that interns who have participated in the internship programmes tend to have higher career preparation about their jobs and higher level of intrinsic and extrinsic rewards satisfactions. Hence, acquiring applicable entrepreneurial experience does have a positive relation with individual's intention and readiness in pursuit of business opportunities because of their early exposure to business environments (Cooper, Bottomley et al. 2004).

In sum, looking at the benefits of internship programmes to students, many researchers suggested that entrepreneurial internship programmes should become a compulsory component of students' educational structure (Hildebeitel, Leaby et al. 2000). This, in turn, has made internship programmes become an important integral part of today's educational curriculum in preparing university students towards entrepreneurial career (Raymond and McNabb 1993). In other words, having a good entrepreneurial internship programmes will have a great impact on more university students to have higher interest in entrepreneurship, thus resulting in:

H4: The entrepreneurial internship programmes increase the likelihood of Malaysian university students' to be more entrepreneurially-inclined.

### ***The demographic characteristics and family business background***

Much research has been suggested the influence of demographic and family background on individual's inclination towards entrepreneurship (for example Koh 1995; Koh 1996; Reitan 1997; Breen 1998; Lin, Picot et al. 2000; Dunn 2004; Smith 2005; Veciana, Aponte et al. 2005; Kirkwood 2007). The common premise is that a good influence brought by family as well as personal own experiences about entrepreneurship would contribute to higher entrepreneurial inclination (Koh 1996; Mazzarol, Volery et al. 1999; Kirkwood 2007). The following summarised the research that have been scholarly conducted on the demographic characteristics as well as the family business background on entrepreneurship.

Table 1: Demographic characteristics and family business background

| Characteristics                         | Researched by  |
|---|--|
| Gender                                  | Ghazali, Ghosh, & Tay (1995); Kourilsky and Walstad (1998); Phan, Wong, & Wang (2002); Dunn (2004); Seet and Seet (2006)   |
| Ethnicity                               | Blau (1985); Wang and Wong (2004); Othman, Ghazali, & Cheng (2005)   |
| Religion                                | Adas (2006); Graafland, Mazereeuw, & Yahia (2006)  |
| Age                                     | Lorrain and Raymond (1991); Weber and Schaper (2003)   |
| Birth order                             | Koh (1996)   |
| Places of origin                        | Zainal, Grigga, & Planisek (1995)  |
| Programmes of study                     | Crant (1996); Koh (1995); Lena and Wong (2003)   |
| Working experience                      | Ghazali, Ghosh, & Tay (1995); Kristiansen and Indarti (2004); Othman, Ghazali, & Sung (2006)   |
| Parents' business background influences | Crant (1996); Sanders and Nee (1996); Koh (1996); Fisher and Padmawidjaja (1999); Tkachev and Kolvereid (1999); Dunn (2004); Wang and Wong (2004); Veciana, Aponte, & Urbano (2005); Kirkwood (2007) |

With the different results presenting by previous research, this study particularly controlled the university students' demographic characteristics and family business background by the following hypotheses:

H5: The relationship between entrepreneurship education and entrepreneurial inclination is stronger for:

- i) gender
- ii) programmes of study
- iii) working experience
- iv) father's occupation
- v) mother's occupation

### **Methodology**

To examine the hypotheses, data was gathered from a self-administered questionnaire conducted among university students in the northern region of Peninsular Malaysia. The unit of analysis was the final year students in business, engineering and computing and IT programmes at three public universities, namely Universiti Utara Malaysia, Universiti Teknologi MARA (Kedah branch) and Universiti Malaysia Perlis. The questionnaire was adapted from various sources and used as a means of data collection<sup>a</sup>. It has thirteen pages that consisted of seven parts: demographic and family background, future career planning and entrepreneurial inclination, role models, the university's role in promoting entrepreneurship, the entrepreneurial curriculum and content, teaching methods for entrepreneurship course(s) and the entrepreneurial internship programmes. The scales used in the questionnaire was based on a 5-point Likert scale (with 1= strongly disagree, 2= disagree, 3= no opinion, 4=agree, 5= strongly agree) for each close-ended question.

Prior to conducting the main study, a pilot test was conducted to improve the reliability and validity of the questionnaire. 500 Malay-version of questionnaires was randomly distributed to target respondents with the help of respective lecturers in classes or lecturer halls. The participation in this study was on voluntary basis and the respondents were given one week to return the questionnaires. After the screening, 417 of the questionnaires were fully completed and usable, yielded a response rate of 83.4 per cent. SPSS version 14.0 was used to analyse the data. Descriptive analysis, a principle axis oblique factor analysis and hierarchical multiple regression were performed to examine the hypothesised propositions. In this study, a reliability coefficient of 0.50 is set as the criterion of acceptability (Helmstater 1964; Felder and Spurlin 2005). For factor analysis, as a rule of thumb, factor with higher loadings (greater than 0.3) will be chosen to represent a factor due to its greater influence and more important (Hair, Anderson et al. 1998).

### **Analysis and Results**

#### *The respondents' profiles*

Out of 417 usable questionnaires, the respondents were heavily in favour of females with 67.1 per cent (N=208) compared to males with only 32.9 per cent (N=137). In terms of ethnicity, majority were Malays with 72.2 per cent (n=301), followed by the Chinese 19.2 per cent (n=80), Indians 6.7 per cent (n=28) and others (Kadazans, Ibans and Bidayuhs) 1.9 per cent (n=8) of the total respondents. This scenario is understandably as Malay students are the majority at public universities in Malaysia.

<sup>a</sup> Please contact the authors for questionnaire

As all of the respondents were studying at the undergraduate level, they were mostly aged between 20 to 25 years old, with 97.1 per cent (n=405), whilst 2.6 per cent or 11 respondents were at the age of 26 to 30 and with one exceptional case, a respondent was aged 36 and above (0.2 per cent). With regard to their university entrance qualifications, most of the respondents were STPM holders (58.3 per cent; n=243), followed by matriculation (20.9 per cent; n=87), diploma (20.6 per cent; n=86) and other (0.2 per cent; n=1). Meanwhile for the proportion of the respondents' programmes of study, 49.2 per cent or 205 respondents were pursuing their studies in business administration, 25.9 per cent or 108 in computer and IT and finally, 24.9 per cent or 104 respondents were taking engineering course.

When comes to the respondents' working experiences, 305 of them or 83.9 per cent have had working experience and 67 or 16.1 per cent had no working experience. Those who have had working experience had been working for less than six months (68.3 per cent; N=239), 78 of them (22.3 per cent) had 6 months to one year experience and 33 of the respondents (9.4 per cent) had more than one year experiences. Pertaining to the respondents' parents' working status, most of their fathers have been working as employed workers (38.1 per cent; n=159) compared to their mothers who were unemployed (or households) (48.4 per cent; n=202). Self-employed was ranked in the second higher by the respondents for their fathers' current occupations (35.5 per cent; n=148) and being an employee for their mothers' occupations (21.3 per cent; n=89). However, 65 or 15.6 per cent and 66 or 15.8 per cent of the respondents' fathers and mother were retirees, respectively. The respondents who answered 'other' have had their parents passed away.

### Factor analysis

Prior to major analyses, factor analysis was employed to reduce or regroup the items used in measuring the following constructs either independent or dependent variables:

- Future career planning and entrepreneurial inclination
- Role models
- The university's role to promote entrepreneurship
- The entrepreneurial curriculum and content
- The entrepreneurial internship programmes

We measured future career planning and entrepreneurial inclination with fifteen questions, including four reverse-scored questions. A principal axis factoring with the oblimin rotation suggested two-factor solution with four questions were omitted due to the loadings less than 0.3. For role models, six questions were used to measure the role models. All the six questions were not reduced into separate underlying variables. Meanwhile, fourteen items were used in measuring the university's role in promoting entrepreneurship in which three were reverse-scored questions.

To measure the entrepreneurial curriculum and content, a principal axis factoring using oblimin rotation was performed on the fourteen questions, including the three reverse-scored questions. The results suggested that two-factor solution was appropriate. Finally, for the entrepreneurial internship programmes, eleven items were used with three items were reverse-scored questions. One item was extracted due to factor loadings less than 0.3 and thus ten questions were loaded into the same factor. Table 2 summarised the outcomes of the variables.

Table 2: Factor analysis for key variables

| Main variables and questions  | Factor loadings |
|---|-----------------|
| <i>Entrepreneurial inclination</i> ( $\alpha=0.802$ )   |                 |
| 1. Seriously considered entrepreneurship as a highly desirable career option.                   | 0.754           |
| 2. Never thought of entrepreneurship as a career choice. (R)                                    | 0.739           |
| 3. Have the planning for opening a new venture.   | 0.727           |
| 4. Won't start a business because it is too risky and I am afraid of failing. (R)               | 0.692           |
| 5. Would like someday to start my own business.   | 0.597           |
| 6. Could easily pursue a career involving self-employment.                                      | 0.492           |
| 7. If pursue a career involving self-employment, the chances of failure would be very high. (R) | 0.418           |
| 8. Prefer to work in a big organisation rather than a small firm. (R)                           | 0.305           |
| <i>Image of entrepreneurship</i> ( $\alpha=0.635$ )   |                 |
| 1. Entrepreneurship is about job creation   | 0.738           |
| 2. Entrepreneurship is an honourable profession and I respect people who are entrepreneurs.     | 0.723           |
| 3. Admire those who succeed in running their own business.                                      | 0.389           |

|   |       |
|---|-------|
| <i>Role models (<math>\alpha=0.682</math>)</i>  |       |
| 1. Care what my closest friends think about my employment decision.   | 0.624 |
| 2. Believe that closest friends think I should become self-employed.  | 0.575 |
| 3. Care what lecturers think about my employment decision.  | 0.542 |
| 4. Interested in business because my friends are in business.   | 0.491 |
| 5. Friends are main source of business-related information.   | 0.487 |
| 6. Lecturers are main source of business-related information.   | 0.395 |
| <i>The university's role to promote entrepreneurship (<math>\alpha=0.793</math>)</i>                            |       |
| 1. University is an ideal place to learn about starting a business.   | 0.583 |
| 2. More entrepreneurship and business educational programmes on campus would help students to start businesses. | 0.547 |
| 3. Entrepreneurial or business related examples are included in classroom teaching.                             | 0.541 |
| 4. Students are encouraged to pursue entrepreneurship ventures in the university.                               | 0.520 |
| 5. The university infrastructure and policies discourage entrepreneurship. (R)                                  | 0.488 |
| 6. Get to meet lots of people with good ideas for new businesses.   | 0.479 |
| 7. People are actively encouraged to pursue their own business ideas.   | 0.477 |
| 8. My university course prepares people well for entrepreneurial careers.                                       | 0.474 |
| 9. There are no student clubs on campus which promote entrepreneurship. (R)                                     | 0.460 |
| 10. University has infrastructure in place to support the start-up of new businesses.                           | 0.451 |
| 11. A creative university environment inspires me to develop ideas for new business.                            | 0.440 |
| 12. Entrepreneurial activities are limited only to business students. (R)                                       | 0.376 |
| 13. Entrepreneurship courses should be made compulsory in order to stimulate entrepreneurial spirit in campus.  | 0.372 |
| 14. The university provides resources to assist student entrepreneurs.  | 0.361 |
| <i>The entrepreneurial curriculum and content (<math>\alpha=0.827</math>)</i>                                   | 0.652 |
| 1. The instructors are experienced and competent course presenters.   | 0.646 |
| 2. As a result of taking this course, have better understanding about business.                                 | 0.638 |
| 3. The instructor did a good job of making this course relevant to the real world.                              | 0.634 |
| 4. The course developed entrepreneurial knowledge and skills.   | 0.607 |
| 5. The instructor did stimulate interest in entrepreneurship through the course(s).                             | 0.590 |
| 6. Interest towards entrepreneurship has been raised after taking the course(s).                                | 0.540 |
| 7. The course(s) provided a new and different experience.   | 0.510 |
| 8. The course(s) taught to deal with ambiguity in the real world.   | 0.508 |
| 9. The course(s) provided an opportunity to learn by doing.   |       |
| <i>Personal independent learning approach (<math>\alpha=0.552</math>)</i>                                       | 0.557 |
| 1. Do not enjoy course(s) that require a student to deal with ambiguity. (R)                                    | 0.467 |
| 2. The course(s) exposed to situations with uncertain outcomes.   | 0.443 |
| 3. Do not enjoy courses that require a student to learn by doing. (R)   | 0.429 |
| 4. The course(s) provided the opportunity to do things without conforming to formal class structures.           | 0.338 |
| 5. Prefer the rote learning approach to any other learning approach. (R)  |       |
| <i>The entrepreneurial internship programmes (<math>\alpha=0.794</math>)</i>                                    |       |
| Feel confident about tackling unfamiliar work-based problems.   | 0.661 |
| Help to develop the ability to plan and organise my day-to-day work.  | 0.616 |
| Help to develop my job-related skills.  | 0.615 |
| Provides me with a lot of new business ideas.   | 0.566 |
| Did not learn much from it. (R)   | 0.565 |
| Help to develop my problem-solving skills.  | 0.542 |
| Had lots of real business experiences that are not found in the classroom.                                      | 0.500 |
| Was used as cheap labour. (R)   | 0.444 |
| Develop my communication skills.  | 0.440 |
| 10. Did not increase my practical business knowledge. (R)   | 0.409 |



**Table 3: Means, standard deviation and matrix correlations**

| Variable  | Mean | S.D. | 1      | 2       | 3      | 4      | 5      | 6     | 7      | 8      | 9      | 10     | 11     | 12 |
|---|------|------|--------|---------|--------|--------|--------|-------|--------|--------|--------|--------|--------|----|
| Entrepreneurial inclination                       | 3.72 | 0.62 | 1      |         |        |        |        |       |        |        |        |        |        |    |
| Programmes of study                               | 0.49 | 0.50 | .118** | 1       |        |        |        |       |        |        |        |        |        |    |
| Father's occupation                               | 0.35 | 0.48 | .105*  | -.068   | 1      |        |        |       |        |        |        |        |        |    |
| Mother's occupation                               | 0.13 | 0.34 | .158** | .021    | .221** | 1      |        |       |        |        |        |        |        |    |
| Gender  | 1.67 | 0.47 | .168** | -.116** | .153** | .019   | 1      |       |        |        |        |        |        |    |
| Working experience                                | 1.16 | 0.37 | .208** | .091*   | .024   | -.045  | .167** | 1     |        |        |        |        |        |    |
| Image of entrepreneurship                         | 4.44 | 0.42 | .239** | .101*   | .128** | .114** | .020   | -.021 | 1      |        |        |        |        |    |
| Role models                                       | 3.81 | 0.47 | .113*  | -.061   | .088*  | -.046  | .093*  | .017  | .199** | 1      |        |        |        |    |
| The university's role to promote entrepreneurship | 4.14 | 0.36 | .302** | .181**  | -.027  | -.052  | -.050  | .020  | .418** | .295** | 1      |        |        |    |
| The entrepreneurial internship programmes         | 4.27 | 0.37 | .153** | .021    | .055   | .050   | .065   | -.061 | .201** | .148** | .316** | 1      |        |    |
| Personal independent learning approach            | 3.91 | 0.49 | .167** | -.152** | .033   | .059   | .082*  | .109* | .180** | .186** | .233** | .244** | 1      |    |
| The entrepreneurial curriculum and content        | 4.13 | 0.40 | .319** | .214**  | .005   | -.018  | .031   | .012  | .310** | .243** | .617** | .295** | .335** | 1  |

N= 417; \*\* p<0.01; \* p<0.05

Table 3 presents the means, standard deviations and inter-correlations for the above scales and demographic as well as family business background variables coded as dummy variables. It is observed that male students and students with self-employed parents have higher inclination towards entrepreneurship. In addition, university students with working experiences were more inclined towards entrepreneurship than those without the experience. The role of universities in promoting entrepreneurship is highly correlated to the entrepreneurial curriculum and content as well as image of entrepreneurship. Interestingly, from the correlation matrix, all scales have a statistically significant correlation with entrepreneurial inclination. Hierarchical multiple regression is designed to test hypotheses where two steps are involved. Demographic characteristics and family business background are controlled first. Step two involved both the control and independent variables. The entrepreneurial inclination is the dependent variables. The results of the hypothesis testing are shown in Table 4. In step 1, when the control variables are included, the model explains 10.4 per cent of the variation in entrepreneurial inclination ( $R^2=0.104$ ). However, in step 2, after adding the independent variables to the model, it explains an additional 11.8 per cent of the variation in entrepreneurial inclination. This change in  $R^2$  is significant,  $F(6, 405)=10.223$ ;  $p<0.001$ . The results of the analysis demonstrate that the role of universities in promoting entrepreneurship ( $\beta=.152$ ,  $t=2.498$ ,  $p<0.05$ ) and the entrepreneurial curriculum and content ( $\beta=.172$ ,  $t=2.905$ ,  $p<0.01$ ) are the two significant independent variables. Therefore, the Hypothesis 1 and Hypothesis 2 were supported.

**Table 4: Regression results on entrepreneurial inclination**

|   | Model 1          | Model 2           |
|---|------------------|-------------------|
| Programmes of study (1=business; 0=other)         | 0.119*           | 0.045             |
| Father's occupation (1=self-employed; 0=other)    | 0.054            | 0.040             |
| Mother's occupation (1=self-employed; 0=other)    | 0.149**          | 0.152**           |
| Gender (1=male; 0=female)                         | 0.140**          | 0.131**           |
| Working experience (1=yes; 0=no)                  | 0.179***         | 0.184***          |
| Image of entrepreneurship                         |                  | 0.090             |
| Role models                                       |                  | -0.007            |
| The university's role to promote entrepreneurship |                  | 0.152*            |
| The entrepreneurial internship programmes         |                  | 0.024             |
| Personal independent learning approach            |                  | 0.019             |
| The entrepreneurial curriculum and content        |                  | 0.172**           |
| $R^2$   | 0.104            | 0.222             |
| Adjusted $R^2$                                    | 0.093            | 0.201             |
| $\Delta R^2$                                      | 0.104            | 0.118             |
| F value for $\Delta R^2$                          | $F(5,411)=9.534$ | $F(6,405)=10.223$ |

From Table 4, it is found that gender ( $\beta=.131$ ,  $t=2.859$ ,  $p<0.01$ ), working experience ( $\beta=.184$ ,  $t=4.043$ ,  $p<0.001$ ) and mother's occupation ( $\beta=.152$ ,  $t=3.320$ ,  $p<0.01$ ) are statistically significant for the demographic characteristics and family business background. When the other demographic and family business background variables were controlled there was a positive relationship between gender and entrepreneurial inclination, suggesting that, as expected, males have higher inclination towards entrepreneurship.

Those students with working experiences have higher inclination towards entrepreneurship which is expected as the previous studies. However, the results show no significant between students' programmes of study and inclination towards entrepreneurship. Surprisingly, father's occupation was also not statistically significant in relation to student's inclination towards entrepreneurship in comparison to mother's occupation. Therefore, Hypothesis 5 was partially supported with two factors, namely programmes of study and father's occupation were not statistically significant. The results of the analysis seemed not to lend support to Hypothesis 3 and Hypothesis 4.

- Notes: i) Standardised coefficients betas are exhibited in the table.  
 ii) Dummy variables used for the demographic characteristics and family business background:
- Programmes of study = 1 if the student is studying business, 0 if studying in engineering and computing and IT
  - Father's occupation = 1 if father is self-employed, 0 if father is salaried employee, unemployed, retired or in between job
  - Mother's occupation = 1 if mother is self-employed, 0 if mother is salaried employee, unemployed, retired or in between job
  - Gender = 1 if the student is male, 0 if female
  - Working experience = 1 if have working experience, 0 if have no working experience
- iii) Level of significance: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### Discussions

The purpose of the study was to investigate the relationship between entrepreneurship education and university students' inclination towards entrepreneurship among Malaysian university students. We hypothesised that there is a significant relationship between entrepreneurship education and entrepreneurial inclination. In addition, we posited a relationship between entrepreneurial inclination and demographic and family business background variables. In general, the results of the analysis provide empirical supports for the position played by the university in promoting entrepreneurship (Edwards and Muir 2005; Postigo, Iacobucci et al. 2006; Nurmi and Paasio 2007). It is positively correlated to entrepreneurial inclination. This relationship may be attributable to the increasing demands from students to seek for quality education from educational institutions that could equip them with the entrepreneurial competencies in preparing them for future careers. Moreover, universities are ideally considered the place in shaping entrepreneurial cultures among students while they are studying (Mahlberg 1996). Hence, it is important for universities to provide entrepreneurially-friendly environment in encouraging and fostering entrepreneurial culture.

In doing so, universities must be able to design and/or develop the curriculum that would fulfil the students' demands as well as the industry. Furthermore, the exposure to entrepreneurial courses would certainly, to some extent, influence students' inclination towards entrepreneurship. This result is consistent with the study of Charney and Libecap (2003) and Souitaris, Zerbinati, & Al-Laham (2007). Besides that, male students have remarkably shown higher inclination towards entrepreneurship compared to female students when the other demographic variables were controlled. The current result comparable to the findings of previous studies (for example, Ghazali, Ghosh et al. 1995; Kourilsky and Walstad 1998; Phan, Wong et al. 2002) which have consistently reported that male students are more highly inclined or interested in the entrepreneurial activity. Students, with previous working experiences have also demonstrated interests towards entrepreneurship. The result concurs with the study by Ghazali, Ghosh, & Tay (1995) and Othman, Ghazali, & Sung (2006) which showed that university students with working experiences would increase their probability of being entrepreneurs.

This supported to the point that having previous working experience is an advantage for students as they have better knowledge about business creation and, most importantly a good networking, in helping them of acquiring needed sources to confidently launch a venture. Interestingly, these students are studying in the non-business area, supporting the findings of Kristiansen and Indarti (2004). Our findings added to the body of entrepreneurial study regarding to the parents' occupation. Students whose mothers are self-employed were found to be more entrepreneurially-inclined. This is somewhat intriguing finding because most literatures only considered the influence or effect of self-employed fathers (for example, Dunn 2004; Van Auken, Stephens et al. 2006). Perhaps this is a reflection of the university students' childhood upbringing process as discussed by Kirkwood (2007). As mother plays a vitally important role in upbringing their children, they might have directly established a special parent-children relationship and thus easily influence their children's decision. Nonetheless, some other important variables which might have considerably influence on individual's level of entrepreneurial inclination were found not statistically significant. For example, lecturers and friends have weak relationship on students' entrepreneurial inclination.

This is opposed to the study of Edwards and Muir (2005) who found lecturers play a huge role in influencing students' entrepreneurial inclination level. The personal independent learning approach was also to be insignificant and has weak relationship with entrepreneurial inclination. These are mainly due to several explainable reasons. In general, most of the lecturers who teach entrepreneurship courses at Malaysian universities are still lack of personal entrepreneurial experiences or entrepreneurial knowledge which leads to the difficulty for them to guide students and relate to the real issues of launching a venture. A study by Ooi and Ali (2005) support this view by stating that lecturers are found to lack of interest to teach entrepreneurship. The learning approach adopted by most Malaysian universities is still predominantly favoured in rote, teacher-centred and dependent approach (Ninnes, Aitchison et al. 1999). Thus students become a passive learner and being 'spoon-fed' in the classroom learning as that was the way they were trained to be since in primary school.

### **Conclusion**

In this paper, university students' inclination towards entrepreneurship is examined together with several related variables. The results of the analyses indicated that two entrepreneurship education variables, i.e. the university's role to promote entrepreneurship and the entrepreneurial curriculum and content along with gender, working experience and mother's occupation are statistically significant. These results are anticipated to have certain implications to both universities and students alike. The changes of the recent roles played by universities, at one hand, are much needed in order to create an entrepreneurial environment in an effort to fostering entrepreneurship among students. On the other hand, students must be ready to be able to swift their current learning approach to a more practical way which is required in the entrepreneurial learning process. The findings of the results could also hope to shed some new insights to the current entrepreneurship literature particularly in Malaysian settings.

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