

A MODERATING EFFECT OF GENDER ON THE RELATIONSHIP BETWEEN ENTREPRENEURSHIP EDUCATIONS, ROLE OF COLLEGE, ROLE MODEL AND INCLINATION TOWARDS ENTREPRENEURSHIP: A STUDY AMONG MALAYSIAN COMMUNITY COLLEGE STUDENTS

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Abstract - This study investigates the moderating effect of gender on the relationship between entrepreneurship education, role of college, role model and inclination towards entrepreneurship among Malaysian community college students. The sample consisted of 243 students from four community colleges who were the final year students in their diploma studies in various disciplines. A survey questionnaire was employed to obtain responses concerning their entrepreneurship inclination. The data was analysed using structural equation modelling (SEM) and employing the use Amos version 22. The results of the study showed that the role of college and role model have significant influence on entrepreneurial intention. Meanwhile, entrepreneurship education has no significance effect on intention. In addition, the influence of the control variable (experience) was also not significant. The study also found a significant difference in terms of gender in the relationship between role model, role of college and entrepreneurial intention. The relationship was found to be stronger for male than female in the role model and entrepreneurial intention, whereas the relationship between the role of college and entrepreneurial intention is stronger for female than male. The study, however, did not found significant difference of gender in the relationship between entrepreneurship education and entrepreneurial intention. We provide implications and recommendations for the outcomes of the study.

Keywords: community colleges, inclination towards entrepreneurship, entrepreneurship education, role models, role of college, gender

1. Introduction

“Entrepreneurs, on the other hand, play a crucial role in ensuring that the economy remains active by providing business and employment opportunities to the people,”

(Datuk Seri Najib Tun Razak (The Star, 2015)

Today, the importance of entrepreneurship has been recognised as one of the best strategies to develop a country's economic growth and sustain its competitiveness in facing globalisation. It serves as a catalyst driving the economy through job creation, wealth generation and employment opportunities as well as social well-being (Wang & Wong, 2004; Postigo & Tamborini, 2002). The popularity of entrepreneurship is largely because of the positive effects it has on many countries as a catalyst that creates wealth and the generation of job opportunities (Gurol & Atsan, 2006; Othman, Ghazali, & Cheng, 2005; Postigo & Tamborini, 2002). More specifically, entrepreneurship is a major engine driving many nations' economic growth, innovation and competitiveness (Kuratko & Hodgetts, 2004; Scarborough & Zimmerer, 2003). Many studies have also shown that there is a positive relationship between entrepreneurship and economic growth in terms of job creation, firm survival and technological change (Gorman, Hanlon, & King, 1997; Karanassios, Pazarskis, Mitsopoulos, & Christodoulou, 2006). Setting up new business creates more jobs and plays vital role in the economic development. The formation of new business not only boosts the related industry but also help the other economic sector to progress faster (Fatoki & Patswawairi, 2012). Hence, looking at the benefits of entrepreneurship, more people are encouraged, in particular the fresh graduates to set up their own business upon graduation.

In order to nurture and inculcate the entrepreneurial spirit among people, entrepreneurship education, through its function, has been identified as being able to promote and enhance the attractiveness and benefits of self-employment among the youths of a country. Many scholars have recognised the importance of entrepreneurship education on its influence to encourage more students to become entrepreneurs (Autio, Keeley, Klofsten & Ulfstedt, 1997; Packham, Jones, Miller, Pickernell & Thomas, 2010). Hence, institutions of higher learning are burdened an indispensable role as an important source for future entrepreneurs in the various business areas such as information technology and biotechnology. Levie (1999), for example, found that institutions of higher learning such as colleges in the U.S., U.K., and Australia offer courses in the study of entrepreneurship to help create awareness amongst students that entrepreneurship is a viable career alternative.

Demographic characteristics such as gender, age and ethnicity could also be likely factors affecting students' propensity towards entrepreneurship. Reitan (1997) recommends that demographic factors such as gender deserve to be further investigated, as individuals' perceptions or attitudes towards new venture creation might be influenced by those factors. It has also been suggested by Carolis and Saporito (2006) that the inclusion of demographic characteristics may have moderating influence on individuals' entrepreneurial behaviour or new venture success.

Due to the positive influence of entrepreneurship education, there is a need to study how institutions of higher learning can develop and nurture potential entrepreneurs while they are still studying at the institutions through entrepreneurship education. Also, there is still a dearth of study on community students' entrepreneurship inclination, using demographic characteristics, to mediate between entrepreneurship education and inclination towards

entrepreneurship. Consequently, this study aims to bridge such research gap in the Malaysian context. Therefore the main objective of this study is to examine the mediating effect of gender on entrepreneurship education (independent variables) and Malaysian community college students' inclination towards entrepreneurship (dependent variable).

This paper is organised into the following parts. The first part provides the brief review of literature relating to entrepreneurship education variables and demographic characteristics and propositions derived based on the previous extant literature. The second part presents the methodology. Finally, results and conclusion are made together with the discussion of the paper and future research direction.

2. Literature Review

2.1 The College's Role in Promoting Entrepreneurship

According to Binks, M., K. Starkey, et al. (2006), entrepreneurship education is promoted by universities in order to the economics of regions and societies. A study by Mahlberg (1996) also supports that schools and universities play key role in in promoting entrepreneurship as educational institutions are aptly suitable as the premise for encouraging and developing entrepreneurial cultures and aspirations of students who are studying to survive in today's robust business milieu (Autio, Keeley, Klofsten, & Ulfstedt, 1997; Landstrom, 2005). With that notion in mind, educational institutions must do all the best it could to create an entrepreneurially conducive environment that could eventually spur the entrepreneurial activity which, in turn, be able to help in developing the enterprise culture within the students who are viewed as tomorrow's entrepreneurs (Roffe, 1999).

From the above discussion, it is therefore pertinent to highlight a positive image of entrepreneurship as a career choice in order to attract students' interest toward entrepreneurship. This can be done by providing the resources and other facilities available to them within the institution's environment. One has to be reminded that even if individuals have the relevant entrepreneurial knowledge and skills, but if they do not have the good feelings about entrepreneurship, they might ultimately not venture into the field (Alberti, Sciascia, & Poli, 2004). Taking in account the strong role that community colleges can play the important role in fostering entrepreneurship among students, it is hypothesised that:

H1: The role to promote entrepreneurship played by the community college increases the likelihood of students to be more entrepreneurially-inclined

2.2 The Entrepreneurial Curriculum and Content

As previously discussed, it is noticeable that entrepreneurship education has been a central interest to universities and colleges worldwide (Solomon, 2007). As a result, the

entrepreneurial curricula are being developed by many entrepreneurial educators with the aim of preparing students for self-employment (Kruger, 2004). However, research in entrepreneurship education linked to the curriculum has been plagued with a number of problems, including the lack of consensus on the appropriateness of entrepreneurial content as well as pedagogical approaches (Garavan & O'Cinneide, 1994; Gibb, 1996; Mentoor & Friedrich, 2007; Solomon, 2007). Even though much understanding and knowledge has been found pertaining to the conceptual and contextual structure of entrepreneurship, the discussion and debate on entrepreneurship education is still ongoing. (Falkang & Alberti, 2000; Raichaudhuri, 2005). This scenario is brought about by the four differing viewpoints offered by various people when developing the entrepreneurship programmes. These viewpoints include those from the educators; the student-entrepreneurs; those who design the programmes and the evaluators (Bécharde & Toulouse, 1998, p. 318).

One of the main challenges facing entrepreneurship in the context of education is the suitability of curriculum content and methods of instructions in developing student's entrepreneurial competencies and skills (Garavan & O'Cinneide, 1994). With reference to the content of the entrepreneurial courses, Brown (1999) advocated that the entrepreneurship course content should be informal with more emphasis on the hands-on teaching approach.

In terms of pedagogical approaches, various approaches were put forward by diverse researchers in transferring entrepreneurial knowledge and skills to students (Fiet, 2000a, 2000b). Thus, a diverse array of teaching methods from conventional ones such as textbooks (Fiet, 2002), examinations (McMullan & Cahoon, 1979), to unconventional ones like business plans (Audet, 2000), life experiences of working entrepreneurs (McKenzie, 2004), guest lectures (Brown, 1999; Klandt & Volkmann, 2006) and field study or visits to business organizations (Cooper, Bottomley, & Gordon, 2004) have been utilised by academics to teach entrepreneurship. Taking in account the differences in curriculum and delivery approach, the final objective of entrepreneurial programmes is to stimulate entrepreneurship awareness among students which, in turn, would spur their interest in entrepreneurship. Therefore:

H2: The entrepreneurship education increases the likelihood of Malaysian community college students to be more entrepreneurially-inclined.

2.3 Role Models

The influence of role models on inclination towards entrepreneurship has been widely discussed in the literature (for example Krueger, Reilly, & Carsrud, 2000; Van Auken, Stephens, Fry, & Silva, 2006). According to Hisrich et. al. (2005), role models are '*individuals influencing an entrepreneur's career choice or styles*' (p. 68). They further accentuate that these role models play an important influence on individuals in deciding for entrepreneurial careers as they furnish useful business-related information and guidance apart from moral support.

Role models, in this respect, are effective as they provide individuals with training for socialisation (Postigo, Iacobucci, & Tamborini, 2006; Rajkonwar, 2006). Further, they provide observational learning experience (Bygrave, 2004; Van Auken et al., 2006). The reasoning is that by directly seeing successful persons in business, an individual will wish to imitate in order to become similarly successful (Caputo & Dolinsky, 1998; Postigo et al., 2006). When discussing education and training, the role of educators is acknowledged as important (Boyle, 2007). Hytti and O’Gorman (2004) posit that educators form an critical element in the development of effective enterprise education initiatives. Educators or teachers play a vital role in the learning process as their teaching styles and attitudes towards entrepreneurship will have significant impact on students. Therefore, whether the entrepreneurship education programme achieves its overall objective mainly depends on the capability of educators (Birdthistle, Hynes, & Fleming, 2007).

Taking in account the above discussion, the following hypothesis is developed:

H3: The availability of role models increases the likelihood of community college students to be more entrepreneurially-inclined.

2.4 Demographic Characteristics

Much research has been suggested the influence of demographic on individual’s inclination towards entrepreneurship (for example Breen, 1998; Dunn, 2004; Kirkwood, 2007; Koh, 1996; Lin, Picot, & Compton, 2000; Reitan, 1997; Smith, 2005; Veciana, Aponte, & Urbano, 2005). The common premise is that a good influence brought by own experiences about entrepreneurship would contribute to higher entrepreneurial inclination (Kirkwood, 2007; Koh, 1996; Mazzarol, Volery, Doss, & Thein, 1999). Demographic characteristics have been included as part of this study to examine their influence on the independent and dependent variables.

Reitan (1997) recommends that demographic factors such as gender deserve to be further investigated, as individuals’ perceptions or attitudes towards new venture creation might be influenced by those factors. It has also been suggested by Carolis and Saporito(2006) that the inclusion of demographic characteristics may have moderating influence on individuals’ entrepreneurial behaviour or new venture success. The following summarised the research that have been scholarly conducted on the demographic characteristics on entrepreneurship.

Table 1: Demographic characteristics and family business background

Characteristics	Researched by
Gender	Phan, Wong, & Wang (2002); Dunn (2004); Seet and Seet(2006)
Working experience	Kristiansen and Indarti(2004); Othman, Ghazali, & Sung (2006)

With the different results presented by previous research, this study presented the following hypotheses based on demographic characteristics of the community college students' (experience as control variable and gender as a moderating variable):

- H4: The experience of community college students increases their likelihood to be more entrepreneurially-inclined.
- H5: Gender moderates the positive relationships between entrepreneurship education, role of college, role model and entrepreneurial inclination, such that the relationship is stronger for one group than another.

3. Methodology

In order to test the hypotheses, data were collected from a self-administered questionnaire distributed to community college students in the northern region of Peninsular Malaysia. The population for the study was final year students from identified community colleges. The students were taught entrepreneurship as a core subject as part of their study programmes in various areas of studies such as hospitality, business, automotive, computing and IT and engineering. The scales used in the questionnaire were 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. A number of 750 questionnaires in the Malay language were randomly distributed to the target respondents during lecture hours with the help of the respective lecturers conducting the lectures. The students' participation in this study was on voluntary basis and the respondents were given one week to return the questionnaires. After the screening of the questionnaires returned, 243 of the questionnaires were completed and usable. The SPSS software version 18.0 was used for running descriptive analysis, while AMOS version 22 was employed in testing the hypotheses of the study.

4. Results and Discussion

In terms of gender, the respondents were mainly females (58 per cent compared to males, 42 per cent). With regard to the respondents' place of origin, more than half (56 per cent; N=135) were from urban areas compared to 44 per cent (N=108) who were from rural areas. A majority of the respondents (55 per cent; N=133) had working experience, while the other 45 per cent (N= 110) had no working experience. Table 2 presents the demographic characteristics.

Table 2: Respondents' profiles

Characteristics	Frequency	Percent
<i>Gender</i>		
Men	103	42.4
Female	140	57.6
<i>Place of origin</i>		
Rural areas	108	44.4
urban areas	135	55.6
<i>Working experience</i>		
Yes	133	54.7
No	110	45.3

4.1 Reliability and validity

Internal consistency reliability shows the extent to which a set of items of a construct is consistent in measuring the construct (Hair, Black, Babin, Anderson, & Tatham, 2006). We assessed the internal consistency using the composite reliability, which has reached the satisfied criteria of 0.7 (Fornell & Larcker, 1981). As shown in Table 3, the results of composite reliability for the constructs in this study ranged from .750 to .867, revealing an acceptable level of reliability.

Confirmatory factor analysis in SEM uses the method of maximum likelihood to estimate the measurement model's parameters. The factor loading of indicators as well as the average variance extracted (AVE) is used to assess convergent validity in SEM. The results, as presented in Table 3, show good factor loadings for all the items as all are greater than .6. For the average variance extracted (AVE) which shows how much of a variance in an item is explained by its construct, have all met the minimum requirement of 0.5 (Fornell & Larcker, 1981), the values range from .502 to .546.

Table 3: Factor loadings and internal consistency reliability.

Variables	Items	Factor loading	CR	AVE
Entrepreneurship Education	EDU14	.831	.867	.524
	EDU18	.835		
	EDU10	.651		
	EDU15	.675		
	EDU5	.656		
	EDU13	.670		
Entrepreneurial Intention	B22	.880	.779	.546
	B23	.686		

	B15	.627		
Role of College	D2	.751	.813	.523
	D3	.765		
	D1	.753		
	D9	.612		
Role Model	C5	.764	.750	.502
	C6	.745		
	C8	.607		

Note: CR, Composite reliability; AVE, average variance extracted.

The descriptive statistics of the study variables showing their mean and standard deviation is presented in Table 4. The discriminant validity result is also exhibited in Table 4, in which the values on the diagonal are the square roots of the AVE for each variable, while the other values are the latent variables correlations between each pair. For good and acceptable discriminant validity the square roots of the AVE for each variable should be higher than the correlation coefficients for the other variables. Hence, for this study the model has good discriminant validity. Furthermore, multicollinearity was examined among the independent variables employing the variance inflation factor (VIF) analysis, and the results shows that the VIF values are all far less than the threshold of 10 (Hair et al., 2006), and hence there is no issue of multicollinearity among the independent variables.

Table 4: Descriptive statistics and discriminant validity

Construct	Mean	Std. Deviation	ROLEUNI	ENTRPED	ROLEMOD	ENTRPINT	VIF
ROLECOLL	3.580	.531	.723				1.059
ENTRPED	4.040	.453	.275	.724			2.157
ROLEMOD	3.690	.671	.631	.199	.709		1.108
ENTRPINT	3.800	.635	.501	.156	.422	.739	

4.2 Model of fitness

To assess the overall goodness of fit of the measurement model, this study considered seven fit indices: Goodness-of-Fit Index (GFI), Adjusted GFI (AGFI), Root Mean Square Error of Approximation (RMSEA), Normalised Fit Index (NFI), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and the ratio of chi-square with the degrees of freedom (χ^2/df). We present the goodness of fit of our model as well as the recommended threshold with references in table 5. Amos 22 was utilized to estimate the values of the fit indices (see Table 5). From the table, all the results met the required standards. Thus, the validity of the measurement model is proven.

Table 5: Assessment of model fit

Fit indicators	Results	Recommended value	References
GFI	.996	≥0.80	Doll, Xia, and Torkzadeh (1994)
AGFI	.980	≥0.80	Doll et al. (1994)
χ^2/df	.824	≤5.00	(Doll et al., 1994)
RMSEA	.000	≤0.08	(Hooper, Coughlan, & Mullen, 2008)
NFI	.992	≥0.90	Hair et al. (2006)
CFI	1.000	≥0.90	Hair et al. (2006)
TLI	1.006	≥0.90	(Hair et al., 2006)

4.3 Hypotheses testing

Table 6 shows the result of the test of hypothesis, indicating the path coefficients and the p-values. Out of the four direct hypotheses including the control variable in this study, two hypotheses were supported as explained below.

Among the factors influencing entrepreneurial intention of students to venture into entrepreneurship, the role of college ($\beta = .448$, $p < .001$) and role model ($\beta = .172$, $p < .05$), had direct positive effects, hence, hypotheses H1 and H3 were supported. Nonetheless, the relationship between entrepreneurship education did not reach the level of significance ($\beta = -.002$). In addition, the influence of the control variable of experience was also not significant ($\beta = .066$). Thus, hypotheses H1 and H4 were not supported. However, the structural model explains 35% of the variance in entrepreneurial intention. Figure 1, shows the structural model with the path coefficients.

Table 6: Hypothesis Testing

Relationship	Estimate	S.E.	C.R.	P	Decision
ROLECOLL ---> ENTRPINT	.448	.093	5.748	***	Supported
ENTRPED ---> ENTRPINT	-.002	.077	-.042	.966	Not supported
ROLEMOD ---> ENTRPINT	.172	.072	2.259	.024**	Supported
experience ---> ENTRPINT	.066	.066	1.272	.203	Not supported

***p,<.001; **p<.05

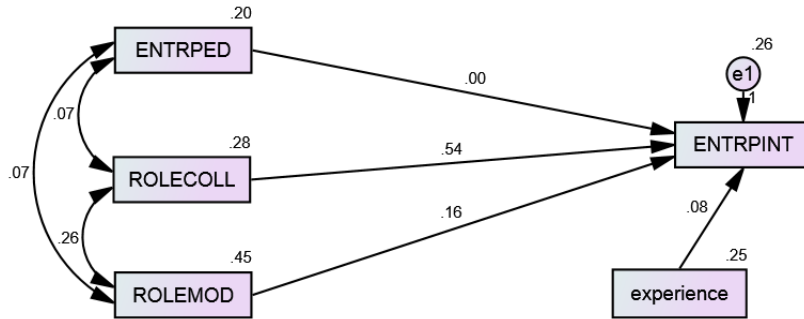


Figure 1: Structural model showing the coefficients

4.4 Multi-group Moderation

In order to test the categorical moderation hypotheses of gender, the critical ratios for the differences in regression weights between groups were produced. From these critical ratios, p-values were calculated to determine the significance of the difference. The results are summarised in Table 7. From the results there is a significant difference in terms of gender in the relationship between role model and entrepreneurship intention (male, $p < .01$), such that the influence is stronger for male than female. For the relationship between role of college and entrepreneurship intention there is significant difference between male and female (Female, $p < .01$), with the effect stronger for female than male.

Table 7: Result of multi-group test

	Male		Female		z-score
	Estimate	P	Estimate	P	
ENTRPED ---> ENTRPINT	.030	.775	-.051	.633	-.541
ROLEMOD ---> ENTRPINT	.357	.000	.063	.505	-2.04**
ROLECOLL ---> ENTRPINT	.257	.041	.746	.000	2.641***
EXPERIENCE ---> ENTRPINT	.227	.031	-.065	.429	-2.185**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5. Conclusion

The purpose of the study was to investigate the moderating effect of gender on the relationship between entrepreneurship education, role of college, role model and inclination towards entrepreneurship among Malaysian community college students. In general, the results of the analysis provide empirical supports for the position played by the community colleges in promoting entrepreneurship (Edwards & Muir, 2005; Nurmi & Paasio, 2007; Postigo et al., 2006). This relationship may be attributed to the increasing students'

demands for quality education from educational institutions that could equip them with the entrepreneurial competencies which are useful for their future careers.

In addition, there is a statistically significant relationship between role models (parents or career counsellors) and community college students' inclination towards entrepreneurship. The previous findings showed that students stated that parents, career counsellors, teachers/lectures and relatives were most influential and encouraged them to start up a business. The results are consistent with earlier studies by Edwards and Muir (2005) and Birdthistle. al., (2007), who pointed out that lecturers play an important supportive role in influencing and encouraging students in their inclination towards entrepreneurship.

Furthermore, the study also found a significant difference in terms of gender in the relationship between role model, college role and entrepreneurial intention. The relationship was found to be stronger for male than female in the role model and entrepreneurial intention relationship, while for the relationship between college role and entrepreneurial intention the effect is stronger for female than male. Thus, we have confirmed the assertion that the inclusion of demographic characteristics (i.e. gender) may have moderating influence on individuals' entrepreneurial behaviour or new venture success (Carolis & Saporito, 2006). This result might suggest that female students participate more in the college entrepreneurial activities more than their male counterpart, and therefore recognises better the role of these colleges in supporting and building entrepreneurial inclination. Moreover, for the male recognition of role model as increasing their inclination towards entrepreneurship, might also be as a result of the number of successful male entrepreneurs in Malaysia. Hence, they seems to exhibit the character of claiming similar gender role, in other words if my male counterpart 'can reach that level, I can also be there'. However, for the female folk they might feel that such level of achievement belongs only to the male folk and therefore 'a no go area for them'.

The results of this study seem to have important implications to both community colleges and students alike. The recent changes in the roles played by community colleges are much needed in order to create an entrepreneurial environment conducive to fostering entrepreneurship among students. Community colleges must be able to design specific and practical entrepreneurial short courses, for example, courses which run for four to six months, to all interested students. The courses should emphasise the pre-start and start-up stages of business creation as these are always the most challenging stages when someone embarks on a business venture. On the other hand, students must be ready to be able to switch their current learning approach to a more practical and hands-on way which is required in the entrepreneurial learning process. In addition, the colleges should encourage full participation of entrepreneurial activities by all students. The entrepreneurship educators in colleges should also emphasise that gender difference has no limit to individual success as entrepreneurs, given the number of, especially, successful women entrepreneurs in the world.

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