

An exploratory study of entrepreneurial attributes among Malaysian university students

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Abstract: Entrepreneurial attributes motivate and enable individuals to enter into the challenging process of creating new ventures. A tremendous amount of research has been devoted to identifying these attributes and evaluating the impact of education and training programs on developing such attributes, particularly among university students. However, few researchers have examined a combination of students' entrepreneurial characteristics that can be developed through education and training. This study aims to determine a set of entrepreneurial attributes, including self-regulation, self-efficacy and intention, among Malaysian university students. A total of 722 students were randomly selected as participants. Our results indicated that these students have a moderate level of self-regulation and entrepreneurial self-efficacy but a high intention to become an entrepreneur. Furthermore, students are more prevention than promotion focused. We discuss the implications of these findings for entrepreneurship research, theory development and education.

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1. Introduction

Entrepreneurial attributes are characteristics that motivate and enable individuals to begin the challenging process of creating new ventures (Gürol and Atsan, 2006; Kuratko, 2005; Mueller and Thomas, 2000). These personal traits highly influence entrepreneurs' performance and success at different stages of the entrepreneurship process (Hmieleski and Baron, 2008; Brockner et al., 2004; Markman and Baron, 2003). Particularly, prospective entrepreneurs rely on these motivating attributes to explore new business opportunities; this is the first step in creating a new business (Trevelyan, 2011). A tremendous amount of research has sought to identify entrepreneurial attributes, particularly among university students (Wu and Wu, 2008; Wilson et al., 2007; DePillis and Reardon, 2007; Fayolle et al., 2006; Segal et al., 2005; Zhao et al., 2005; Shane et al., 2003; Chen et al., 1998). While some researchers have focused on specifying inborn entrepreneurial traits, such as "locus of control", "need for achievement" and "tolerance for ambiguity" (Hansemark, 1998; Teoh and Foo, 1997; McClelland, 1961), others examined longer lasting entrepreneurial qualities that have a great impact on entrepreneurial behaviors and can be acquired and developed through education and training (Bryant, 2006; Krueger et al., 2000; Mueller and Thomas, 2000; Chen et al., 1998; Ajzen, 1991).

Currently, the entrepreneurial attributes that can be taught to students, and enable them to successfully establish new ventures is a hotly debated

area (Wilson et al., 2007; Klein and Bullock, 2006; Henry et al., 2005). This affects the preparation of effective entrepreneurship education programs that can develop students' entrepreneurial capabilities and improve their success in creating new ventures, particularly in developing countries such as Malaysia (Cheng et al., 2009; Mastura and Abdul Rashid, 2008). This exploratory study attempts to resolve some of these issues by examining a set of entrepreneurial attributes that can be improved among university students by education and training. We offer one of the first empirical studies that explores and integrates self-regulatory focus, recently used to explain entrepreneurial motivation and behavior (Tumasjan and Braun, in press; Bryant, 2009, 2007; McMullen and Shepherd, 2002), and entrepreneurial self-efficacy and intention that have been used to evaluate the students' desire and ability to become an entrepreneur (e.g., Wilson et al., 2007; DePillis and Reardon, 2007; Fayolle et al., 2006; Segal et al., 2005; Zhao et al., 2005; Shane et al., 2003; Chen et al., 1998). We first describe the theoretical foundations of the constructs under this investigation and their influence on entrepreneurial behavior. Then, after we present our research methods and results, we conclude with a discussion of the findings in light of their implications for entrepreneurship research, theory development and education.

2. Self-regulation and entrepreneurship

The theory of self-regulation (Higgins, 1998) is based on the belief that people tend to seek joy and comfort and avoid distress and conflict. However, this

can also be modified by one's self-regulatory focus; which is the ability to set and achieve goals despite the presence of personal and environmental obstacles (Higgins et al., 2001). Promotion and prevention focuses are two driving forces that can direct people's motivation towards the accomplishment of their goals. When promotion-focused, people consider the pleasant and gainful outcomes of achieving their goals. When prevention-focused, however, they emphasize their security and avoid potential failures and losses (Bryant, 2007; Brockner et al., 2004; McMullen and Shepherd, 2002). An individual's sense of self-regulation is shaped by a combination of their past successes and failures as well as present environmental factors (Higgins et al., 2001). Since everyone's experiences are unique, their self-regulatory orientation will differ in terms of their motivation and ability to set personal goals. Further, their cognitive ability to determine the outcomes of these goals, as well as the means and strategies to achieve them, will also be subject to their sense of self-regulation (Trevelyan, 2011; Bryant, 2009, 2007; Brockner et al., 2004; McMullen and Shepherd, 2002). The theory of self-regulation has recently been applied in entrepreneurship research to explain the levels and patterns of individuals' entrepreneurial attributes (Brockner et al., 2004). When faced with highly complex and risky situations, such as those found in entrepreneurial activities, self-regulatory focus can help define the manner by which individuals approach these situations and direct themselves to fulfill required tasks. Self-regulation, therefore, plays a critical role in one's selection as an entrepreneur (Bryant, 2006). It also affects the amount of effort entrepreneurs put into establishing new ventures as well as their entrepreneurial success (Brockner et al., 2004). Promotion focus motivates entrepreneurs to explore various creative and innovative entrepreneurial opportunities (Tumasjan and Braun, in press; Trevelyan, 2011; Brockner et al., 2004), decide which entrepreneurial opportunities to exploit (Bryant, 2007) and improve the performance of their new venture (Hmieleski and Baron, 2008). In contrast, prevention focus directs entrepreneurs away from risky and uncertain tasks such as entering a new industry or market (Trevelyan, 2011). Brockner et al. (2004) have emphasized that entrepreneurs need to be competent in shifting from one focus to the other in order to successfully perform their tasks in and across different stages of the entrepreneurship process. Scholars strongly believe that systematic and purposeful interventions, such as education and training, can improve self-regulation and thereby the students' desire and competence to become an entrepreneur (Tumasjan and Braun, in press; Bryant, 2006, 2007; Brockner et al., 2004). However, there is

little empirical research published related to students' self-regulation focus and their intention to become an entrepreneur (McMullen and Shepherd, 2002).

3. Self-efficacy and entrepreneurship

While self-regulatory focus has recently emerged as a theoretical framework in entrepreneurship research and education, (Tumasjan and Braun, in press; Bryant, 2006, 2007; Brockner et al., 2004; McMullen and Shepherd, 2002), self-efficacy has traditionally been used to explain entrepreneurs' motivation and performance as well as students' entrepreneurial intention and behavior (Tyszka et al., 2011; DePillis and Reardon, 2007; Segal et al., 2005; DeNoble et al., 1999; Chen et al., 1998). Grounded in social cognitive theory (Bandura, 1997), self-efficacy is the personal cognitive evaluation of one's ability to successfully perform a specific task. This personal assessment of task performance success is affected by various personal, behavioral and environmental factors. These environmental factors highly influence one's perceived capabilities when acquiring a new sense of self-efficacy or changing acquired skills to successfully complete a novel task (Bandura, 2012). Entrepreneurial self-efficacy, therefore, is "the belief in one's efficacy in performing entrepreneurial tasks" (Bryant, 2007:735). Entrepreneurial self-efficacy has been highlighted as one of the key personal traits that motivates entrepreneurial behaviors (Tyszka et al., 2011; McGee et al., 2009; DePillis and Reardon, 2007; Chen et al., 1998) and enhances individual's motivation and competence when beginning new ventures (Boyd and Vozikis, 1994). It also enables entrepreneurs to cope with uncertainties and challenges during the entrepreneurship process from opportunity recognition to mobilizing resources and improving performance and success of the new business (Tumasjan and Braun, in press; McGee et al., 2009; Barbosa et al., 2007; Bryant, 2006; Markman and Baron, 2003).

The fundamental role that entrepreneurial self-efficacy plays in the process of entrepreneurship has led educators to provide opportunities for students to improve their self-efficacy in different tasks and roles as an entrepreneur (Baum and Locke, 2004; Rae and Carswell, 2000). Students' involvement in various learning experiences such as business plan writing, running a small business and working with an entrepreneur, help them evaluate their capabilities to perform these tasks and decide on whether to pursue an entrepreneurial career path (Wilson et al., 2007; Fayolle et al., 2006; Zhao et al., 2005; Erikson, 2003).

However, few researchers have measured the different dimensions of entrepreneurial self-efficacy (McGee et al., 2009; Barbosa et al., 2007), particularly in relation to other entrepreneurial attributes such as self-regulatory focus (Tumasjan and Braun, in press;

Tyszka et al., 2011; Bryant, 2007, 2006). Most studies in educational settings have examined the relationship between students' entrepreneurial self-efficacy and intention to become an entrepreneur (Kickul et al., 2009; Wilson et al., 2007; Fayolle et al., 2006; Zhao et al., 2005). While researchers such as Bandura (1997) have emphasized that self-efficacy affects one's behavior through self-regulatory processes such as motivation, perseverance and confidence in accomplishing a task. Therefore, self-efficacy can influence an individual's behavior both directly and indirectly through self-regulatory mechanisms (Bandura, 2012). Bryant (2007, 2006) highlights the urgent need to integrate these constructs to better understand entrepreneurial behavior. Tumasjan and Braun (in press) have provided empirical evidence for the complementary impact of entrepreneurial self-efficacy and self-regulatory focus on entrepreneurial behaviors such as opportunity recognition. However, few studies have used both of these constructs in educational settings to examine students' entrepreneurial intention and behavior (McMullen and Shepherd, 2002). This limited understanding affects the provision of effective educational programs and pedagogical methods based on students' entrepreneurial strengths and weaknesses, which is important in the development of their entrepreneurial intention and competence (Chen et al., 1998). To this end, this study aims to measure the dimensions of entrepreneurial self-efficacy and self-regulatory focus among university students.

Entrepreneurial intention, self-regulation and self-efficacy

The decision to choose entrepreneurship as a career path has been one of the main focuses of entrepreneurship researchers and educators. Researchers have predominantly used the theory of planned behavior (Ajzen, 1991) to explain one's career choice as an entrepreneur based on the assumption that this choice is a conscious and deliberate behavior that can most accurately be predicted by intention (Guerrero et al., 2008; Souitaris et al., 2007; Segal et al., 2005; Ajzen, 2002; Krueger et al., 2000; Boyd and Vozikis, 1994). This theory considers human decision to adopt a behavior, such as creating a new venture, as a function of the interactions between three motivational and enabling factors. These factors include control over behavior (individual perceptions of their abilities to perform entrepreneurial tasks), attitude towards a behavior (individual awareness of the importance and value of entrepreneurship) and subjective and social norms (individual perception of the significance of how others value and support the establishment of a new business). Meek et al. (2010) further conclude that social norms, defined as the widely accepted rules by

groups of people, influence the intention to establish a new venture.

Education and training programs can improve entrepreneurial intentions. Several studies have demonstrated that entrepreneurial education significantly influences students' intention to start their own businesses (Wu and Wu, 2008; Fayolle et al., 2006; Peterman and Kennedy, 2003). These programs nurture students' intention to become entrepreneurs through developing their entrepreneurial skills, highlighting the merits and benefits of entrepreneurship for personal and social developments and giving them experience of managing a small simulated business (Souitaris et al., 2007; Fayolle et al., 2006; Segal et al., 2005; Ajzen, 2002; Krueger et al., 2000).

Furthermore, entrepreneurship education improves students' entrepreneurial intentions by enhancing their self-efficacy (Souitaris et al., 2007; Fayolle et al., 2006; Zhao et al., 2005). Although the association between students' entrepreneurial intention and self-efficacy has been well established (Tumasjan and Braun, in press; Culbertson et al., 2011; Kickul et al., 2009; Souitaris et al., 2007; Fayolle et al., 2006; Zhao et al., 2005; Krueger et al., 2000; Chen et al., 1998), little is known about the impact of students' self-regulatory focus on their intention to launch a new venture (McMullen and Shepherd, 2002). Although previous research has shown the influential role of self-regulation in a student's decision to become an entrepreneur (Bryant, 2007), the role that self-regulatory focus plays in this decision making process has been largely overlooked. This study aims to address this issue by measuring university students' self-regulatory focus, entrepreneurial self-efficacy and intention.

Methods

We used a descriptive research design to determine the level and pattern of self-regulatory focus, entrepreneurial self-efficacy and intention among university students. Data were collected via a questionnaire consisting of 25 items having four subsections. The first section included the students' demographic information such as age, gender, level and field of study and nationality. The second section of the questionnaire measured both dimensions of the students' self-regulation, promotion and prevention focus (11 items), based on the Regulatory Focus questionnaire developed by Grant and Higgins (2003). Students' entrepreneurial self-efficacy was measured by 5 items using the Self-efficacy Skills questionnaire (Scherer et al., 1989). Finally, we assessed students' entrepreneurial intention, by asking if they would like to become an entrepreneur and their desire to learn entrepreneurship by asking if they need to learn entrepreneurship. The participants were also asked to

respond on a 5 point Likert scale, ranging from 1 “strongly disagree” to 5 “strongly agree”. A total of 722 students were randomly selected from both public and private universities in Malaysia based on the rationale that situational factors highly affect individuals’ sense of self-regulation and self-efficacy (Higgins et al., 2001; Bandura, 1997). The majority of the students were between 16 to 25 (76.9%) years old. Of the 722 participants, 377 (52.2%) were male and 342 (47.4%) were female. Most of the students were pursuing their Bachelor degrees (541, 74.9%). The students had different educational backgrounds: agricultural science (104, 14.4%), information technology (82, 11.4%), accounting and finance (41,

5.7%), and others (495, 68.5%). Majority of the students had no business experiences (491, 68%) and had never taken an entrepreneurship course (363, 50.3%). Of the students, 391 (54.2%) were from private universities and 331 (45.8%) were from public universities.

4. Findings

Data analysis revealed that most students intended to become an entrepreneur ($n=510$, 70.6%). The majority of the students also wanted to learn entrepreneurship ($n=622$, 86.1%). Furthermore, they scored moderate in both dimensions of self-regulatory focus as illustrated in Table 1 and 2. However, they are more prevention focused than promotion focused.

Table 1: Students’ promotion focus

	Items on promotion focus	Mean	SD	Level
1.	Compared to most people, are you typically unable to get what you want out of life?	2.84	1.10	Moderate
2.	Do you often do well at different things you try?	3.50	.82	Moderate
3.	Growing up, would you ever “cross the line” by doing things that your parents would not tolerate?	3.17	1.09	Moderate
4.	How often did you obey the rules and regulations that were established by your parents?	3.37	.94	Moderate
5.	Growing up, did you ever act in ways that your parents thought were objectionable?	3.25	.93	Moderate
6.	Not being careful enough has gotten me into trouble at times.	3.32	1.02	Moderate

Note: interpretation of mean scores (1-2.33) low, (2.34-3.67) moderate, (3.68-5) high.

Table 2: Students’ prevention focus

	Items on prevention focus	Mean	SD	Level
1.	How often have you accomplished things that got you “psyched” to work even harder?	3.41	.81	Moderate
2.	When it comes to achieving things that are important to me, I find that I don’t perform as well I ideally would like to do.	3.07	.97	Moderate
3.	I feel that I have made progress toward being successful in my life.	3.54	.90	Moderate
4.	I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.	3.45	1.07	Moderate
5.	Did you ever get on your parents’ nerves often when you were growing up?	3.29	1.02	Moderate

Note: interpretation of mean scores (1-2.33) low, (2.34-3.67) moderate, (3.68-5) high.

Additionally, the students had a moderate self-efficacy in all entrepreneurial tasks including marketing, accounting, organizing, human resource management and production management (Table 3).

Table 3: Students’ entrepreneurial self-efficacy

	Items on entrepreneurial self-efficacy	Mean	SD	Level
1.	I can successfully complete the necessary marketing tasks related to owning a business (consider selling, selecting and customer service).	3.37	.94	Moderate
2.	I can successfully complete the necessary accounting tasks related to owning a business (consider obtaining financial resources, book keeping, monitoring accounts and budgeting).	3.16	.97	Moderate
3.	I can successfully complete the necessary personnel tasks related to owning a business (consider employee selection, discipline, motivation and job analysis).	3.47	.88	Moderate
4.	I can successfully complete the necessary production tasks related to owning a business (consider inventory, quality control, manufacturing and layout of facilities).	3.32	.89	Moderate
5.	I can successfully complete the necessary organizational tasks related to owning a business (consider planning, coordinating projects and assessing performance of the business).	3.41	.91	Moderate

Note: interpretation of mean scores (1-2.33) low, (2.34-3.67) moderate, (3.68-5) high.

7. Discussion

The present study has aimed to determine how different entrepreneurial attributes, such as self-regulatory focus, entrepreneurial self-efficacy and intention, influence the decision of university students to become entrepreneurs. Our results indicated that students had moderate scores in both promotion and prevention focus, which are dimensions of self-regulation. Regulatory focus is a function of personal successes and failures as well as situational factors (Higgins et al., 2001), so these moderate scores may reflect the students' past experiences in goal achievement. The majority of the students who participated in this research had no business experience and had never taken a course in entrepreneurship. Therefore, the environmental factors that have influenced their self-regulatory focus have been predominantly shaped by their family and education, which may have failed to create a strong sense of self-regulation in these students. Brockner et al. (2004) argue that the complex and challenging decision to become an entrepreneur and subsequent intention to explore new business ideas requires a high sense of regulatory focus. With a moderate level of self-regulation, students are less likely to explore new business ideas and enter into the challenging process of establishing new ventures.

Our findings also demonstrated that students are more prevention than promotion focused. This is in contrast with previous research indicating that entrepreneurs are more promotion focused (Tumasjan and Braun, in press; Trevelyan, 2011; Hmieleski and Baron; 2008; Bryant, 2007, 2006). This shifted balance towards prevention focus suggests a lower probability of success in these students' entrepreneurial activities (Bryant, 2007; Brockner et al., 2004). Our findings highlight an urgent need to improve students' promotion focus to motivate them to choose entrepreneurship as their future career path and improve the probability of their success in managing new ventures. To do so, educators may need to improve students' awareness of their regulatory orientation and provide them with opportunities to experience real entrepreneurial tasks (Trevelyan, 2011; Bryant, 2009, 2007). Involvement in these tasks not only helps students explore their capabilities in managing a new business, but also improves their ability to see the benefits and rewards of entrepreneurial activities (Trevelyan, 2011). For students who are prevention focused, highlighting these beneficial opportunities that they may not have otherwise explored may improve their motivation to pursue entrepreneurship as a future career (McMuller and Sheperd, 2002). Tumasjan and Braun (in press) emphasize the critical role that educators can play in helping students reflect on their entrepreneurial skills

to further enhance their promotion focus by adopting a promotion focused orientation. Educators can also improve students' ability to see the benefits of entrepreneurial activities, rather than the costs and losses, to also improve their promotion focus (McMuller and Sheperd, 2002). Therefore, entrepreneurship educators need to be well trained and equipped with the skills to design and implement various pedagogical methods to improve regulatory focus of their students.

Interestingly, the findings of this study have revealed that students also perceived themselves as moderately successful in performing different tasks and roles of an entrepreneur. This confirms the association between self-regulation and self-efficacy in entrepreneurial contexts (Tumasjan and Barun, in press; Trevelyan, 2011; Bryant, 2007). Bandura (2012) argues that self-efficacy is the strongest predictor of behavior. Being moderately efficacious in successfully fulfilling entrepreneurial tasks, students may not have sufficient motivation and ability to enter the challenging process of entrepreneurship (Zhao et al., 2005). As emphasized by Chen et al. (1998), only students who are highly confident in their entrepreneurial skills have a strong intention and ability to become an entrepreneur. Furthermore, once becoming an entrepreneur, various behavioral and environmental factors reduce the sense of self-efficacy and hinder their success (Bandura, 2012). Therefore, students need high entrepreneurial self-efficacy to be able to face not only the challenges of entering entrepreneurship, but also the environmental difficulties that may interfere with their new business.

Entrepreneurship education can improve students' sense of entrepreneurial self-efficacy by engaging them in various learning opportunities such as business plan writing, role modeling and case studies (Wilson et al., 2007; Fayolle et al., 2006; Chen et al., 1998). Importantly, entrepreneurship education can provide an encouraging and supporting environment for students to manage a real new venture with low risk to develop their entrepreneurial self-efficacy rather than focusing only on theoretical aspects of entrepreneurship (Trevelyan, 2011; Fayolle and Gailly, 2008; Fuchs et al., 2008; Pittaway and Cope, 2007; Zhao et al., 2005). This is an issue that has been almost neglected by Malaysian entrepreneurship education (Cheng et al., 2009). Entrepreneurship education can also benefit from the associative and complementary relationship between entrepreneurial self-efficacy and regulatory focus (Tumasjan and Barun, in press; Bryant, 2007). To do so, entrepreneurship educators should utilize the previously established pedagogical methods for improving self-efficacy to also improve students' self-regulatory focus by emphasizing on more challenging

and experimental learning methods and stressing successful goal achievement (Tumasjan and Barun, in press; Heinonen, 2007; Wilson et al., 2007).

We also found that while university students have high intentions to learn entrepreneurship and to start their own businesses, the majority of them had no business experience and had never enrolled in an entrepreneurship course. This high entrepreneurial intention and desire to learn entrepreneurship should be exploited by educators, who should then provide university students with opportunities to engage in entrepreneurship education and practical training (Fuchs et al., 2008). It also confirms the need to integrate entrepreneurship education into the Malaysian university curriculum and to offer entrepreneurship courses to students in all fields through a coherent and comprehensive framework and structure (The World Bank Report, March 2007).

8. Conclusion

This study provides a better understanding of the level and pattern of entrepreneurial attributes among university students in Malaysia. In addition to investigating students' entrepreneurial self-efficacy, as has been done previously (Wilson et al., 2007; Fayolle et al., 2006; Zhao et al., 2005; Chen et al., 1998), we have also measured students' self-regulation and its dimensions. Furthermore, we have explored the impact of self-regulation and self-efficacy on entrepreneurial behavior in educational settings. Previously, researchers have studied this impact on entrepreneurial behavior based on samples only from entrepreneurs and then attempted to relate those results to entrepreneurship education (Tumasjan and Braun, in press; Bryant, 2009, 2006). Since previous research findings on personal traits of entrepreneurs have been contradictory (Bryant, 2006; Krueger et al., 2000; Mueller and Thomas, 2000; Ajzen, 1991), self-regulation, entrepreneurial self-efficacy and intention may provide a more helpful framework for investigating entrepreneurial capabilities among students (Trevelyan, 2011; Bryant, 2007; Wilson et al., 2007; Bryant, 2006; Zhao et al., 2005; Chen et al., 1998). While our study provides an overall look at these attributes in both private and public university students, further research may seek to compare the entrepreneurial attributes between these types of universities as well; thus allowing educators to more specifically tailor their programs for their students.

A combination of related constructs explaining entrepreneurial attributes (self-regulation, self-efficacy and intention) may contribute to the development of new theories in entrepreneurial behavior, including for university students. Assessing the entrepreneurial attributes may also help educators in three ways. First, educators can determine the

different dimensions of these attributes in their students and provide them with more purposive and effective entrepreneurship education and training. Second, based on these strengths and weaknesses, educators can provide appropriate learning opportunities and an encouraging environment to strengthen students' regulatory focus and self-efficacy (Brockner et al., 2004). Third, educators can use the synergistic and complementary nature of these constructs to provide students with more effective entrepreneurship education.

Our findings raise critical questions for further investigations. Which aspects of self-regulatory focus (promotion and/or prevention) have a greater effect on students' entrepreneurial intention? Which aspects of students' self-regulatory focus lead to actual new business creation? How do students' self-regulation and entrepreneurial self-efficacy interact to regulate their entrepreneurial intention? How can different aspects of the entrepreneurial attributes emerging from this study, particularly promotion focus, be utilized to improve entrepreneurship education? Which aspects of entrepreneurial self-efficacy education can be applied to improve students' self-regulatory orientation? Finally, which skills and training do educators need to be able to improve students' entrepreneurial self-regulatory focus, self-efficacy and intention? Answers to these questions will undoubtedly give educators the knowledge to create better and more efficient entrepreneurship education programs, and so help increase the propensity and success of their students as entrepreneurs.

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