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Prediction of UAE Youth Entrepreneurial Intention (EI); Exploring The Factors That Impact On the Choice of Entrepreneurship (Self-Employment) As A Career Option Based On the Theory of Planned Behavior (TPB)

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PREDICTION OF UAE YOUTH ENTREPRENEURIAL INTENTION (EI); EXPLORING THE FACTORS THAT IMPACT ON THE CHOICE OF ENTREPRENEURSHIP (SELF-EMPLOYMENT) AS A CAREER OPTION BASED ON THE THEORY OF PLANNED BEHAVIOR (TPB)

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Under the Supervision of Dr. James C. Ryan

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Declaration of Original Work

I, Noora Yousif Mohamed Ali Al Saiqal, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this dissertation entitled "*Prediction of UAE Youth Entrepreneurial Intention (EI); Exploring the Factors that Impact on the Choice of Entrepreneurship (Self-Employment) as a Career Option Based On the Theory of Planned Behavior (TPB)*", hereby solemnly declare that this dissertation is my own original research work, which has been done and prepared by me under the supervision of Dr. James C.Ryan in the College of Business and Economics at UAEU. This work has not previously been presented or published, or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my dissertation have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this dissertation.

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Abstract

The United Arab Emirates (UAE) is considered a youthful country where national youth prefer to work in the already saturated government sector and avoid the private sector. In recent times, growing levels of young unemployed people have been observed. This study investigates UAE national youth intentions to become entrepreneurs by examining the factors that affect entrepreneurial career choice. This quantitative research employs the theoretical model of Ajzen's (1991) Theory of Planned Behavior (TPB). The most recent version of the standardized measure of "Entrepreneurial Intention Questionnaire (EIQ)" has been used in the UAE context for the first time. UAE national senior Business and Engineering undergraduate students inside and outside the country were sampled. The survey methodology yielded 544 usable responses. Analysis using Structural Equation Modeling (SEM) confirmed the applicability of TPB in the UAE context. The study results show that attitude and perceived behavioral control positively and directly affect entrepreneurship intention. Subjective norms also indirectly affect the entrepreneurship intention through their direct effect on attitude and perceived behavioral control. The results suggest that more young UAE males than females have the intention to start a new business. In addition, entrepreneurship intention appears to be higher among UAE national youth who are studying outside the country. The relatively small sample of UAE students in other countries (44 cases) may affect the generalizability of some research results. Moreover, the effect of risk on young people's entrepreneurship intention could not be tested due to measurement issues. Other limitations are described in detail in the discussion and conclusion chapter. This study fills the literature gap regarding the UAE found by this research. Second, it tests and validates the most recent version of the EIQ measure for the first time in the present context and compares its results with other previously validated measurement approaches, thus enhancing the methodological rigor and advancing the knowledge of ways to measure entrepreneurship intention and its antecedents. Moreover, this study tries to compare the entrepreneurship intention of the UAE national youth students both inside and outside the country. To our best knowledge, this is a novel approach in conducting this kind of research.

Keywords: Theory of Planned Behavior (TPB), Self-employment, Entrepreneurship, Entrepreneurship intention, Entrepreneurial Intention Questionnaire (EIQ), UAE, Youth, Structural Equation Modeling (SEM).

Title and Abstract (in Arabic)

توجهات ريادة الأعمال لدى الشباب الإماراتي: استقصاء العوامل المؤثرة في اختيار ريادة الأعمال (التوظيف الذاتي) كخيار مهني بناءً على نظرية السلوك المُخطط

الملخص

إن الغالبية العظمى من مواطني دولة الإمارات العربية المتحدة هم من فئة ا ً. ب، ويفضل الشباب الإماراتي العمل في القطاع الحكومي، المتخم بالموظفين، ويتجنبون الالتحاق بوظائف القطاع الخاص. وقد لوحظ مؤخراً تزايد معدلات البطالة في أوساط الشباب الإماراتي، ولذلك فإن هذه الدراسة تبحث في توجهات الشباب الإماراتي نحو ريادة الأعمال، وتعمل على استكشاف العوامل المؤثرة في اختيارات الشباب لريادة الأعما كمسار مهني مستقبلي. يستخدم هذا البحث الكمي نظرية أجزين Ajze) بشأن السلوك المحطط كنموذج نظري، وللمرة الأولى فقد استخدمت أحدث نسخة المقياس المعياري "استبيان توجه ريادة الأعمال" (EIQ) في سياق دولة الإمارات العر المتحدة. وأخذت عينة الاستطلاع من طلاب الجامعات المواطنين الدارسين لدرجة البكالو س في الفصول المتقدمة بكليات الهندسة وإدارة الأعمال داخل الدولة وخارجها، وجمعت هذا المسح الميداني نحو 544 إجابة مفيدة وقابلة للتحليل. أكد التحليل المنهجي الذي استخدم نماذج المعادلات البنيوية (SEM) إمكانية تطبيق نظرية السلوك المخطط في سياق دولة الا ات العربية المتحدة، وأظهرت نتائج الدراسة أن موقف الشباب (Attitude) والسيطرة السلوكية المتصورة (Perceived Behavioral Control) يؤثران بشكل إيجابي ومباشر في توجهات ريادة الأعمال لدى فئة الشباب المواطنين. كما تؤثر المعايير الاجتماعية (Subjective Norm) أيضا بشكل غير مباشر في توجهات ريادة الأعمال عن طريق التأثير المباشر في موقف المواطنين الشباب وسيطرتهم على سلوكهم المتصور. كما أظهرت النتائج أن المواطنين الشباب الذكور لديهم عزم أكبر للدخول في عمل تجاري جديد بالمقارنة مع المواطنات. وبالإضافة إلى ذلك، يبدو أن توجهات ريادة الأعمال أعلى لدى فئة المواطنين الشباب الذين يدرسون خار ولة. إن العينة الصغيرة نسبياً من الطلاب الدارسين بالخارج (44 حالة) قد تؤثر في إمكانيه تعميم بعض نتائج البحث، وعلاوة على ذلك، لم تتمكن الدراسة من اختبار مدى تأثير عنصر المخاطرة في توجهات ريادة الأعمال، كما وُجدت محددات الأخرى تم توضيحها بالتفصيل في الفصل الأخير من الدراسة. ستساهم هذه الدراسة أولاً في ملء الفراغ في أدبيات هذا المجال البحثي في سياق دولة الإمارات العربية المتحدة. ثانياً، لقد اختبرت الدراسة وأكدت

صحة مقاييس استبيان توجهات ريادة الأعمال (EIQ)، وقارنت نتائجه بمناهج المقاييس السابقة التي تم التأكد من صحتها أيضاً. وبالتالي، فإن هذه الدراسة تساهم في تعزيز قوة المنهجية وتدفع الأدبيات المتعلقة بقياس توجهات الأعمال وسابقاتها نحو مزيد من التقدم. وعلاوةً على ذلك، تحاول هذه الدراسة مقارنة توجهات ريادة الأعمال لدى الطلاب الشباب المواطنين الذين يدرسون داخل الدولة وخارجها، ووفق علمنا، تعتبر هذه المنهجية جديدة في إجراء هذا النوع من البحوث.

مفاهيم البحث الرئيسية: نظرية السلوك المخطط (TPB)، التوظيف الذاتي، ريادة الأعمال، توجهات ريادة الأعمال، استبيان توجه ريادة الأعمال (EIQ)، دولة الإمارات العربية المتحدة، الشباب، نماذج المعادلات البنيوية (SEM).

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Dedication

To His Highness Sheikh Mansour Bin Zayed Al Nahyan
To my beloved country young people and Arab youth
To my parent, husband and family

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List of Abbreviations

AVE	Average Variance Extracted
CFA	Conformity Factor Analysis
EEM	Entrepreneurial Event Model
EI	Entrepreneurship Intention
EIOP	Entrepreneurship Intention Option Preferences
EIQ	Entrepreneurial Intention Questionnaire
GEM	Global Entrepreneurship Monitor
GRA	General Risk Aversion
HCT	Higher Collages of Technology
ICM	Integrated Conceptual Model
ILO	International Labor Organization
MOPA	Ministry of Presidential Affairs
PA	Personal Attitude
PBC	Perceived Behavioral Control
PI	Petroleum Institute
PLS	Partial Least-Square
SCO	Scholarships Office
SEM	Structural Equation Modeling
SN	Subjective Norm
TPB	Theory of Planned Behavior
UA	Uncertainty Avoidance
UAE	United Arab Emirates
UAEU	United Arab Emirates University

USA	United State of America
ZU	Zayed University

Chapter 1: Introduction

1.1 Overview

Entrepreneurship is important for achieving economic development, growth and diversification and most importantly job creation thorough self-employment. (Gallant, Majumdar, & Varadarajan, 2010; Romer, 1994; Van Gelderen et al., 2008). Although its definition varies among researchers, this study adopts the general definition of this concept, namely "starting one's own business" and thus becoming self-employed (Engle et al., 2010; Van Gelderen et al., 2008). Some researchers claim that entrepreneurship and self-employment should not be used synonymously since self-employment requires the individual to work for her/himself instead of working for others. However, Kolvereid & Isaken (2006) argue that this approach in defining self-employment is a "simplification" in ignoring the possibility of combining the two work alternatives together. They claim that there are much evidence that many business owners start their businesses part-time while still working for others (Kolvereid & Isaksen, 2006, p. 870). Accordingly, they point to the importance of considering part-time business owners as self-employed and thus entrepreneurs (Kolvereid & Isaksen, 2006). In this study, entrepreneurs/entrepreneurship is used to capture the same meaning of self-employment.

In an employment environment dominated by discussion on public and private sector jobs, entrepreneurship may develop as a "*third stream*" career option available for UAE national youth (Ryan, Tipu, & Zeffane, 2011, p. 154). The estimated unemployment percentage among UAE national youth is nearly 25 percent, which is considered one of the highest percentages in the world (Horne, Huang, & Awad, 2011; Sokari, Horne, Huang, & Awad, 2013).

UAE national youth prefer working in the already saturated government sector, avoiding the high-pressure working environments of the private sector (Al-Waqfi & Forstenlechner, 2014; Salih, 2010). Moreover, private sector employers prefer to pay lower wages to foreigners with higher skills (Al-Waqfi & Forstenlechner, 2014). As a result, many government and "Emiratization" initiatives have achieved only modest outcomes in addressing unemployment levels among UAE national youth (Al-Waqfi & Forstenlechner, 2014; Harry, 2007; Ryan et al., 2011; Salih, 2010). It is argued that the "Emiratization" policy focuses on improving national skills, education and qualifications while neglecting the need to influence and reshape attitudes, beliefs and opinions regarding work in the private sector ("Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.).

The Global Entrepreneurship Monitor (GEM) (2011) reports that although a very high proportion (51.9%) of UAE youth perceive opportunities for entrepreneurial activity, few take the necessary steps to seize these opportunities. Moreover, only a low proportion of youth are involved in early-stage entrepreneurial activities. In addition, research suggests that the intention to start new businesses in the UAE in the future is considered low, at only 2% (Horne, Huang, & Awad, 2011). The reasons for this low rate can be classified as (a) the economic cost of failure, which indicates the loss that would be incurred by business failure in terms of monetary, financial and other tangible resources; (b) the social cost of failure, which is related to loss of reputation, shame to one's family and embarrassment; and (c) the personal cost of failure, which indicates how individual business failure affects motivation levels, perceived personal abilities, capabilities, skills and intelligence. Furtherrnore, a fear of failure may result from the inadequacy of the UAE legislative framework and entrepreneurship ecosystem.

The UAE government recently launched initiatives to prepare the country for the post-oil era, to diversify its economy from reliance on natural resources and hence to support entrepreneurship activities in the country ("The post-oil era in UAE," n.d.). Moreover, the UAE government launched the "Absher" initiative in 2013, with goals of enhancing national participation in the workforce and expanding the career options available, in the hope of building competitive advantage for the national economy and achieving the country's agenda 2021. This national agenda stresses the need to develop and enhance entrepreneurship attitudes, activities and aspirations. In spite of its importance, research on youth intention or "would be" entrepreneurs in the UAE context is insufficient remains lacking (Ryan, Tipu, & Zaffane, 2011). Moreover, enhancing entrepreneurship needs a twofold policy that focuses not only on the current situation, but also on the future prospects of entrepreneurship (Tuder & Selcuk, 2009). Accordingly, this present study focuses on entrepreneurial intention in the UAE thus filling a gap in the literature, by exploring the factors that may affect the choice of entrepreneurship as a career option chiefly among the university students who represent future entrepreneurs. (Turker & Selcuk, 2009; Gallant et al., 2010; Henderson & Robertson, 2000; Matlay et al., 2012; Nishimura & Morales, 2011).

This chapter starts by specifying the research problem, then discusses the nature of the study before presenting the research objectives, questions and contributions. This chapter ends with an overview of the dissertation's overall structure.

1.2 Research Problem

As a youthful population the group of working age group in the UAE is growing and is expected to grow in the future ("Federal Competitiveness and Statistics

Authority - Home," n.d., "The Demographic Profile of the Arab Countries," 2015). There is great need to think about alternative career options for UAE national youth, especially with their tendency to avoid working in the private sector and preference for working in already overstaffed government departments (Al-Waqfi & Forstenlechner, 2014; Salih, 2010). Unemployment among youth in the UAE stands as a major obstacle to the country's development and puts extra pressure on its government to create more jobs. The percentage of unemployed UAE national youth between the ages of 15 and 24 is nearly 25 per cent, which is considered one of the highest percentages in the world (Horne, Huang, & Awad, 2011; Sokari, Horne, Huang, & Awad, 2013). There are also estimates that the unemployment rate is at least 18 percent among youth aged between 20 and 34 (Khalifa Fund, 2014). On the other hand, "Emiratization" initiatives have achieved only modest outcomes in addressing unemployment levels among UAE national youth especially in the private sector (Al-Waqfi & Forstenlechner, 2014; Harry, 2007; Ryan et al., 2011; Salih, 2010). Accordingly, entrepreneurship is suggested in this study as an alternative career option for national youth. However, to promote this career choice it is important to stimulate positive attitudes in them to entrepreneurship, and persuade university students in particular to accept entrepreneurship as a career option (Ghazali, Ibrahim, & Zainol, 2012). Accordingly, a "*paradigm shift*" among graduates to make entrepreneurship their career choice is needed (Ghazali et al., 2012, p. 85). Such a shift could be facilitated by investigating university students' intention to be entrepreneurs and exploring the factors that affect it (Ghazali et al., 2012).

1.3 Nature of the Study

To predict the intention of the UAE's national youth to be entrepreneurs and explore the factors that impact on entrepreneurship as a career option, this study uses the intention model of Ajzen (1991) in his Theory of Planned Behavior (TPB). This model was chosen from several intentional models because it has been validated, supported and advanced by many other researchers especially in understanding, explaining and predicting students' entrepreneurship intention (Almobaireek & Manolova, 2012; Autio, Klofsten, Parker, & Hay, 2001; Engle et al., 2010; Kautonen, Gelderen, & Fink, 2015; Liñán & Chen, 2009a; Nishimura & Morales, 2011; Van Gelderen et al., 2008). This theory has three main constructs: attitude, perceived behavioral control and subjective norm, which are suggested to directly affect behavioral intentions (Ajzen, 1991). It is argued that the more favorable the attitude, the subjective norm and the greater the perceived behavioral control toward the behavior, the stronger will be the intention to perform that behavior (Ajzen, 1991; Autio et al., 2001; Matlay et al., 2012; Nishimura & Tristán, 2011). In this study, other controlled variables are also considered, so as to reflect the UAE's unique context.

In this study, UAE youth entrepreneurship intention was examined based on particular subgroup of national undergraduate students. Indeed, the study investigates the entrepreneurship intentions of the UAE national youth undergraduate students, both inside and beyond the Emirates. The focus is on senior students of both genders who have already selected business or engineering majors and completed sufficient courses in this regard and are close to graduating into the job market. This comprises mainly 3rd and 4th year majors. It is suggested that senior students have a higher tendency to consider entrepreneurship because they have more knowledge and higher

practical exposure to this field (Ahmed et al., 2010). Moreover, it is suggested that business college students are enrolled in many business programs and this orients their career choice towards business-related fields (Pratheeba, 2014a). Additionally, the technical training and programs provided to engineering students increase their potential to start high growth ventures and thus become entrepreneurs (Souitaris, Zerbinati, & Al-Laham, 2007).

In order to operationalize the study variables, this quantitative study developed its survey questionnaire on the basis of he latest version of the previously validated and standardized measuring tool known as the "Entrepreneurial intention Questionnaire (EIQ)", developed by Liñán and Chen (2009). Moreover, additional measurements were considered to measure the UAE's unique variables.

1.4 Study Objectives and Questions

With the above in mind, this study intends is to investigate UAE national youth intentions to start their own entrepreneurial ventures by examining the factors that affect the choice of entrepreneurship as a career option. The most important aim is to provide UAE policy makers with practical implications to enhance UAE national youth entrepreneurial intention and promote entrepreneurship as preferable career choice. This was based on TPB and targeted UAE nationals who were studying business and engineering, both locally and abroad. Accordingly, the main objectives of this study are to:

1. Investigate the intention among the UAE national youth to start new entrepreneurial ventures by examining the factors that impact on undergraduate students' choice of entrepreneurship as a career through applying the "Theory of Planned Behavior" (TPB) framework. By using this

framework, the study aims to help fill the research gap in the general area of entrepreneurship and entrepreneurial intention (EI) in a Middle Eastern context (specifically, the UAE).

2. Test the robustness and validity of TPB to explore EI in the UAE context, thus adding to and comparing the existing knowledge and literature on the topic.
3. Examine the robustness and validity of the Entrepreneurial Intention Questionnaire (EIQ), in the UAE context and thus respond to the research calls to test and further validate this measurement instrument in future studies.
4. Clarify the differences and similarities among the factors affecting the entrepreneurship intentions of undergraduate students specializing in business and engineering majors inside and outside the country.
5. Explore the role that the university can play in fostering entrepreneurial intention among students.
6. Provide UAE policy makers with implications for the enhancement of entrepreneurial intention among the UAE national youth and promoting entrepreneurship as a career choice.

Hence, to achieve the above objectives, the following research questions are addressed:

1. Based on the Theory of Planned Behavior (TBP) and other considered variables, what are the main factors that affect UAE national youth intentions to start their own businesses in the UAE and be entrepreneur?

2. Are there any differences in entrepreneurial intentions and their antecedents between UAE national youth students who are studying locally and those studying abroad?

3. Based on the answers to the previous questions, what recommendations can be made to the government and policy makers of the UAE to promote and enhance the choice of entrepreneurship as a career option?

Based on the literature review and study developed model, a total of twelve principal hypotheses are developed for testing. Those hypotheses are derived from Ajzen's (1991) original model, which test the effects of attitude, subjective norm and perceived behavioral control on the UAE national youth entrepreneurial intention. Moreover, hypotheses to test the effects of subjective norm on both youth attitude and perceived behavioral control were proposed. In addition, other hypotheses are suggested to test the effects of some controlled variables on entrepreneurial intention and based on the UAE's unique context.

1.5 Study Contribution

Despite its importance for the Middle East, previous research which used TPB to predict entrepreneurial intention has been conducted mostly in a "Western" context (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2011). Thus, research on youth intention or their "would be" entrepreneurship is less common and remains somewhat deficient in the Middle East in general and in UAE in particular (Ryan et al., 2011; Saleh & Salhieh, 2014). In addition, according to Tuker and Senem (2009), enhancing entrepreneurship needs a "*twofold*" policy that focuses not only on the current situation, but also on the future prospect of this way of working (Turker & Selcuk, 2009). This can be achieved through examining the entrepreneurship intention among university students, a group that represents future entrepreneurs (Turker & Selcuk, 2009; Gallant et al., 2010; Henderson & Robertson, 2000; Matlay et al., 2012; Nishimura & Morales, 2011). Actually, future studies are encouraged to target would-

be or nascent entrepreneurs, to fill the methodological gaps and shortages in EI research (Liñán & Fayolle, 2015). Providing supportive systems in turn will help to promote entrepreneurship among UAE nationl youth – who represent a high proportion of population in the UAE context – and thus increase the entrepreneurial activity in the country before the potential entrepreneurs get involved with other responsibilities and obligations (Khalifa Fund, 2014). It is suggested that factors such as governments support, lack of funds, laws, infrastructure issues and other institutional factors could represent key barriers for actual entrepreneurs (Chu, Benzing, & McGee, 2007; Kiggundu, 2002; Sandhu, Sidique, & Riaz, 2011). However, psychological factors can also affect potential entrepreneurs (Sandhu et al., 2011; Taormina & Lao, 2007). Accordingly, the focus of this study is on measuring the effects of informal institutional factors (such as behavioral norms) based on TPB, thus focusing on the micro level, rather than the macro level formal institutional factors (such as laws, regulations, and policies) (Adam & Fayolle, 2015; North, 1990). This would do something to fill the gap in the literature on this area (Liñán & Fayolle, 2015; Wennberg, Pathak, & Autio, 2013).

The most recent version of the "Entrepreneurial Intention Questionnaire (EIQ)" as a standardized measure is used in the UAE context for the first time. To our knowledge, this is the first time such research has been conducted with such a research sample and framework in the UAE context. Other implications and contributions of this study are discussed in the discussion and conclusion chapter.

1.6 Structure of the Dissertation

This dissertation is structured in five chapters as follows:

- **Chapter 1 – Introduction:** represents this current chapter. It discusses the research problem, the nature of the study's research objectives, its questions and contributions.
- **Chapter 2 - Literature Review**: summarizes the findings of previous studies in this field and discusses the importance of entrepreneurship activity as a career option (self-employment) in general and in the UAE context in specific. Moreover, this chapter discusses and presents information related to intention definition and importance of entrepreneurship, its models, antecedents, and the previous measurement approaches developed to measure its different antecedents.
- **Chapter 3- Methodology:** discusses the research methodology in terms of research paradigm, method and data collection tools and techniques.
- **Chapter 4- Result and Analysis**: reports in details the statistical procedures followed to analyze the data collected for this study.
- **Chapter 5- Discussion and Conclusion:** discusses and interprets the findings of the study results and analyses. It starts by revisiting the study objectives and questions and then discusses the applicability of the study model and measurement approach in the UAE context. The study hypothesis and analysis results are then interpreted before presenting the study limitations. Finally, the study conclusion is discussed, highlighting the theoretical and practical implications of the study and identifying areas for future research.

Chapter 2: Literature Review

This chapter mainly summarizes the previous studies conducted in this field. Reviewing related scholarly journals, the author discusses the importance of entrepreneurship activity (self-employment) as a career option in general and in the UAE context in specific. Some definitions of entrepreneurship are also discussed and the one adopted in this study is presented. Moreover, this chapter discusses and presents information related to the definition of the intention and importance of entrepreneurship, its models, antecedents, and some previous measurement approaches adopted to measure its various antecedents. In addition, the author present the UAE entrepreneurship ecosystem and discuss the best model and measurement approach adopted to study and understand entrepreneurship intention in the UAE context. Finally, the research hypotheses are presented, which are proposed on the basis of the literature reviewed.

2.1 Importance and Definition of Entrepreneurship

Entrepreneurship is an issue of significant research importance due to its recognized and essential role in achieving economic development, growth and diversification, technological advancement, competitiveness and most importantly job creation thorough self-employment (Gallant et al., 2010; Romer, 1994; Van Gelderen et al., 2008). Moreover, it is considered a means of moving away from traditional resources and a government-based economy to a more dynamic and sustainable economy built on creativity and innovation (Krueger JR, Reilly, & Carsrud, 2000).

The concept of entrepreneurship is defined differently by different researchers, reflecting the variety of approaches used to study it (Kargwell, 2012; Sikalieh & Kobia, 2010; Van Gelderen et al., 2008). For example; Richard Cantillon, a pioneer in

this field, defines the entrepreneur as "*a person who pays a certain price for a product to resell it at a certain price, thereby making decisions about obtaining and using the resources while consequently admitting the risk of enterprise*" (Khalifa Fund, 2014, p.13; Hébert & Link, 1989). Accordingly, taking risks may distinguish the entrepreneur from others. Alternatively, Schumpeter (1965) in defining entrepreneurship emphasizes the importance of "*creative destruction*" for capturing opportunities and replacing old products with new ones (Hébert & Link, 1989, p. 44). This definition emphasizes the creative skill of the entrepreneur. Some researchers combine these elements and define the concept through risk taking and innovation (Eroğlu & Piçak, 2011). Several researchers define entrepreneurship generally as "*starting one's own business*" and being "*self-employed*" (Krueger & Carsrud, 1993; Li, 2007; Van Gelderen et al., 2008, p. 1). In accordance with its purpose and scope, the present study applies the above definition of entrepreneurship, which is starting one's own business and being self-employed.

Other researchers claim that entrepreneurship and self-employment are not synonymous, for self-employment requires the individual to work for her/himself instead of working for others. However, Kolvereid & Isaken (2006) argue that this approach in defining self-employment is a "simplification" and ignores the choice of combing the two work alternatives together. They point to much evidence indicating that large proportions of business owners start their businesses on a part-time basis while still working for others (Kolvereid & Isaksen, 2006, p. 870). Accordingly, they recommend considering part-time business owners as self-employed and thus entrepreneurs (Lars Kolvereid & Isaksen, 2006). Furthermore, Kolvereid (2016) suggests that the intention to start a business means the same as the intention to become self-employed; the researchers can ask respondents about either of these in measuring

entrepreneurial intention (Kolvereid, 2016). In this study, entrepreneurs/entrepreneurship is used to capture the same meaning of self-employment.

2.2 Importance of Entrepreneurship in the UAE Context

In the UAE, entrepreneurship is expected to play a great role in overcoming the obstacles to UAE national youth employment, meeting the country's national agenda 2021 for building a competitive knowledge economy ("Competitive Knowledge Economy: UAE Vision 2021," n.d.; Ghazali et al., 2012) and supporting the UAE's recent strategic orientation to the post-oil era ("The post-oil era in UAE," n.d.). This study focuses on the role of entrepreneurship in helping to surmounting the obstacles to employment for UAE national youth, through which the government also would be able to meet its agenda and post-oil era strategies.

According to the Federal Competitiveness and Statistics Authority, the UAE's total population in the midyear estimates for 2010 reached 8,264,070, of whom UAE nationals represent only 11 per cent, while non-nationals represent nearly 89 per cent ("Federal Competitiveness and Statistics Authority - Home," n.d.). As is the case in the Arab world and GCC countries, the UAE is labelled as youthful country (having a predominantly young population) ("GEM Global Entrepreneurship Monitor," n.d.; Marchon & Toledo, 2014; Shah, 2012) where the working-age group of 15-64 year olds is considered to outnumber all other age groups ("Federal Competitiveness and Statistics Authority - Home," n.d.). According to the ESCWA report entitled "The Demographic Profile of the Arab Countries" (2009), the percentage of this age group in the UAE has been increasing since 1990 and is expected to reach 80.1 per cent by 2025 ("The Demographic Profile of the Arab Countries," 2015). According to the

Federal Competitiveness and Statistics Authority, among UAE national youth the percentage of those in the 15-24 year age-group has increased since 1975 and was estimated to reach 26 per cent of all age groups of nationals (or 43 per cent of the working-age group (15-64)) in 2010 ("Federal Competitiveness and Statistics Authority - Home," n.d.).

The increase in size of these groups is an important asset contributing to the country's development; however, it is also a major obstacle especially in the jobs market as it adds to the pressure to create jobs. With an increasing number of UAE national youth graduates seeking posts in the public sector and avoiding the perceived high pressure of the work in private firms, a serious issue of unemployment among UAE national youth has emerged (Al-Waqfi & Forstenlechner, 2014; Salih, 2010). According to the UAE Labor Force Survey 2009, the percentage of unemployment among university graduates is around 11 per cent. Moreover, the unemployed percentage among UAE nationals between the ages of 15 and 24 is nearly 25 per cent, which is considered one of the highest percentages in the world (Horne, Huang, & Awad, 2011; Sokari, Horne, Huang, & Awad, 2013). Unemployment is also estimated to be 18 per cent among youth aged between 20 and 34 (Khalifa Fund, 2014).

To surmount this obstacle, the UAE government has adopted many initiatives in support of the "Emiratization" policy, which aims to enhance UAE national participation in the whole labor market (more specifically in the private sector) through establishing labor laws and other notable initiatives, yet which has borne little fruit (Al-Waqfi & Forstenlechner, 2014; Harry, 2007; Ryan et al., 2011; Salih, 2010; Sherif, 2013). It is argued that the Emiratization policy focused on improving national skills, education and qualifications while neglecting the chance to influence and reshape national attitudes, beliefs and opinions regarding work in the private sector

("Emiratization | Private Sector | Al Qasimi," n.d.) A common theme in research is that the private sector's perceived lower wages, longer working hours, fewer holidays, work pressure and job insecurity may act as major barriers for nationals looking for work (Farrell, 2008; Al-Ali, 2008; Ryan, 2016; Salih, 2010). Moreover, private sector employers prefer lower waged, higher skilled expatriate workers ("Emiratization | Private Sector | Al Qasimi," n.d.; Marchon & Toledo, 2014)

According to the UAE Labor Force Survey 2009, the UAE public sector (federal government, local government and joint) had UAE nationals in nearly 91 per cent of its posts , whereas the private sector had 7.4 per cent of its posts occupied by nationals and only 0.5 per cent being self-employed nationals ("Federal Competitiveness and Statistics Authority - Home," n.d.).

The "Absher" initiative was launched in 2013 with the purpose of supporting "Emiratization" and thus enhancing UAE nationals' participation in the labor market. It seeks to support the employment of nationals in accordance with the UAE's Vision 2021. The initiative aims to diversify the career options available for UAE nationals and thus help to build competitive advantage for a national economy ("Absher Initiative | أبشر," n.d.).

According to the UAE national agenda for 2021, the government wants to double the current share of UAE nationals in the workforce across all sectors in the next four years; moreover, it seeks to enhance the contribution of Small and Medium-sized Enterprises (SME) to non-oil GDP to 70%. Furthermore, it is trying to put the UAE among the top 10 countries in the Global Entrepreneurship and Development Index (GEDI). The index measure 3 sub-indices, namely the entrepreneurial attitude (the general disposition of a country's population toward entrepreneurs, entrepreneurship and business start-ups), entrepreneurial activity (the startup activity

in the medium-or-high-technology sector initiated by educated entrepreneurs in response to business opportunities in a somewhat competitive environment) and entrepreneurship aspiration (the desire of the early stage entrepreneur to introduce new products and services, develop new production processes, penetrate foreign markets, substantially increase the number of firm employees and finance the business with either formal or informal venture capital or both). Achieving this in turn will help to achieve one of the UAE's agenda priorities for 2021, which is to build a competitive knowledge economy ("Competitive Knowledge Economy | UAE Vision 2021," n.d.)

Accordingly, entrepreneurship may emerge as a "*third stream*" career option available to UAE nationals beside careers in the government and private sectors. Hence, greater attention and effort should go to this option in order to help address the employment issue on the one hand, and participate in achieving the national agenda priorities, on the other (Ghazali et al., 2012; Ryan et al., 2011, p. 154). Despite its importance, research on youth intention or their "would be" entrepreneurship is less common and remains somewhat deficient in the Middle East in general and in UAE in particular (Ryan et al., 2011; Saleh & Salhieh, 2014). Indeed, previous research, which used TPB to predict entrepreneurial intention, has been conducted mostly in a "Western" context (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2011). In addition, according to Tuker and Senem (2009), enhancing entrepreneurship needs a "*twofold*" policy that focuses not only on the current situation, but also on the future prospect of this way of working (Turker & Selcuk, 2009). In pursuing this course, it is important to foster a positive attitude among youth, especially university graduates, to the changes in the job market and thus encourage the acceptance of entrepreneurship as a career option (Ghazali et al., 2012). Accordingly a "*paradigm shift*" is needed among graduates to adopt entrepreneurship as a job (Ghazali et al., 2012, p. 85); this

could be done through investigating university students' intention to be entrepreneurs and exploring the factors that affect this intention (Ghazali et al., 2012).

2.3 Entrepreneurship Intention Definition and Importance

Entrepreneurship is intentionally planned behavior, and any planned behavior is better predicted by observing its intention (Turker & Selcuk, 2009; Krueger, Jr et al., 2000; Van Gelderen et al., 2008). According to the Global Entrepreneurship Monitor (GEM), intention is considered an early stage of the entrepreneurial process the way which helps to indicate the future entrepreneurship activity as a whole ("GEM Global Entrepreneurship Monitor," n.d.). Entrepreneurial intention is defined as the "*intention of setting up one's business in the future*" and it involves a process of prior planning and thinking (Schlaegel & Koenig, 2014; Van Gelderen et al., 2008 p. 5).

Recently, a high tendency has been observed to study entrepreneurship behavior in terms of motivation and cognitive approaches. Viewing entrepreneurship as based on mental processes (thoughts) and interactions with the external environment allows researchers to better understand this behavior (García, González, & García, 2011; Krueger, Jr, 2003; McStay, 2008; Sikdar & Vel, 2011). It is argued that the extent to which we try to investigate and understand the reasons behind entrepreneurial intentions may improve our understanding of the way in which entrepreneurs are developed and emerge (Engle et al., 2010).

Some researchers argue that "intention" studies may have limitations related to doubts about the actual realization of the intended behavior and ambiguity regarding the time it may take to convert the intended behavior to specific action. Thus, they call for more research that links intention with behavior by deploying "implementation intention theory" and/or other means (Turker & Selcuk, 2009; Fayolle & Liñán, 2014;

Kautonen et al., 2015; Nishimura & Morales, 2011). However, the present study, given its context and scope, will adopt the intention-based model. There are many reasons behind this choice. The Middle East in general and the UAE in specific have attracted significantly little entrepreneurship intention research (Almobaireek & Manolova, 2012; Ryan et al., 2011), although it should be considered a fundamental research need as a precursor to more intention-behavior related research (Autio et al., 2001).

In addition, many researchers suggest that the information gained from entrepreneurship intention studies is reliable. Many scholars, moreover, still consider entrepreneurial intention an essential antecedent of entrepreneurial action (Autio et al., 2001; Krueger, Jr et al., 2000; Lee, Wong, Der Foo, & Leung, 2011). In investigating causality, it is suggested, the individual should be studied before the entrepreneurial event (Autio et al., 2001; Bae et al., 2014; Turker & Selcuk, 2009). Intentional behavior helps to explain why some individuals may decide later to start new ventures even if the opportunity to do so has not yet been recognized (Krueger JR et al., 2000). Moreover, it is argued that entrepreneurship intention represents the "*likelihood of venture creation as individuals [tend] to stick to their intention when it comes to actual behavior*" (Ajzen, 2005; Heuer & Kolvereid, 2014, p. 508). Thus, investigating the intention could help educators and policy makers to know which factors affect the intention and accordingly adopt interventions which would align it with their agendas and priorities (Krueger JR et al., 2000).

Intention is considered a significant, valid, and unbiased predictor of career choice and intention-based models can provide a deep and more practical insight into any planned behavior, as indicated by several metal-analytic studies (Almobaireek & Manolova, 2012; Franke & Lüthje, 2004; Krueger, Jr et al., 2000; Van Gelderen et al., 2008). Moreover, Kautonen, Gelderen, & Fink, (2013) were able to show that self-

reported intention is a valid and good indicator (or predictor) of actual behavior. Their research found that 80 per cent of those who engaged in real activities aimed at starting a business, had reported a previous positive intention to do so (Kautonen et al., 2015).

2.4 Entrepreneurship Ecosystem in the UAE

2.4.1 Entrepreneurship Ecosystem Definition and Elements

The entrepreneurship ecosystem plays a key role in encouraging or inhibiting entrepreneurship as a career choice and hence in fostering or limiting the entrepreneurship activities in any economy (Sokari, Van Horne, Huang, & Awad, 2013). Higher numbers of entrepreneurs in a country indicate a healthy ecosystem and supportive entrepreneurship environment (Suresh & Ramraj, 2012; Zahra & Nambisan, 2012). The entrepreneurship ecosystem is considered a new concept among academics and policy makers; it is defined as follows (Mason & Brown, 2014, p. 5):

"*A set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell-out mentality in firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance in the local entrepreneurial environment*".

Sokari, Van Horne, Huang, & Awad, (2013) used an almost similar but shorter definition of the entrepreneurship ecosystem in their report "Entrepreneurship; An Emirati Perspective". In this, the entrepreneurship ecosystem is defined by three main elements, namely individuals, organizations and institutions, which may encourage or

discourage the choice of being an entrepreneur, or affects the probability of success after starting a business (Sokari, Van Horne, Huang, & Awad, 2013, p. 109).

Based on Isenberg's model of an entrepreneurship ecosystem, a supportive entrepreneurship ecosystem should consist of six key elements: a "*conducive culture, enabling policies and leadership, availability of appropriate finance, quality human capital, venture-friendly markets for products, and a range of institutional and infrastructural supports*" (Sokari, Van Horne, Huang, & Awad, 2013, p. 109; Isenberg, 2011).

According to the International Labor Organization's Framework for Youth Entrepreneurship Strategy, three levels of support can be used to map and classify the programs and initiatives that identify the entrepreneurship ecosystem. These three levels and the elements in each are illustrated in Figure (3) (Khalifa Fund, 2014):

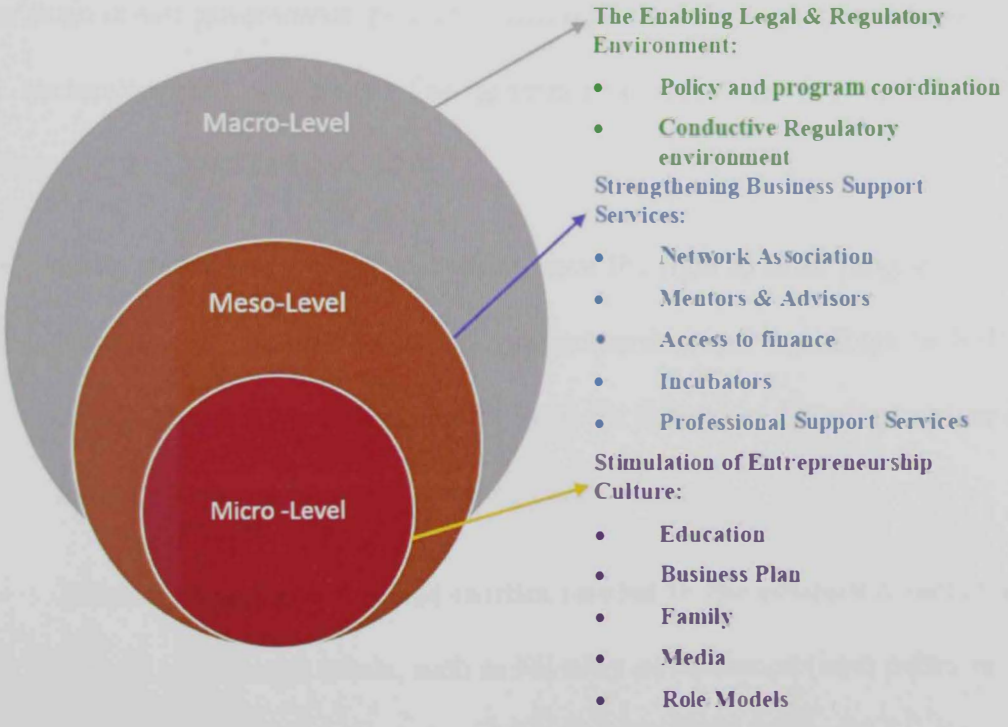


Figure 1: Key Elements of a Youth Entrepreneurship Strategy

Source: Khalifa Fund, 2014, p. 66, taken from the International Labor Organization

As we can see, these three levels, Micro, Meso and Macro, comprise the six main elements suggested by Isenberg. It is worth noting that Isenberg's model represents only one of nine well-known approaches and frameworks for identifying an entrepreneurship ecosystem. Some of these frameworks were developed for international use, thus allowing for cross-country comparisons; some can be used only locally, while others – like Isenberg's model – allow use at national and sub national level ("Entrepreneurial Ecosystem Diagnostic Toolkit," 2014; S. Kargwell, 2012).

2.4.2 UAE Entrepreneurship Ecosystem Elements and Gaps

In the UAE, there are many initiatives and programs established to support and promote youth entrepreneurship, which reflect the UAE entrepreneurship ecosystem. Those initiatives are offered by approximately 40 entities, which can be categorized into four main areas: government, private, education-related entities and entities for specific sectors/targeted segments. The government sector entities include the following examples (Khalifa Fund, 2014):

- **SME development entities**, which have the right to offer programs and introduce policies to promote entrepreneurship and contribute to SME development, such as the Khalifa Fund for Enterprise Development, and Dubai's SME and Ruwad's establishment bodies.
- **Ministries and government entities related to the education sector** at federal and emirate levels, such as Ministry of Education (both public and higher education affairs) and Abu Dhabi Council.
- **Other government/public sector entities**, which include entities that initiate specific programs in collaboration with other entities as part of

their corporate social responsibility. One such example is "Mubadala", which provides support to Zayed University's entrepreneurship initiatives.

The second category, "education entities", represents government universities (such as Zayed University, the Higher Colleges of Technology and UAE University), and private universities (such as the American University of Dubai, American University of Sharjah, University of Sharjah, Al Ghuriar University and Ajman University of Science and Technology, and others). Examples of the initiatives taken by the universities to support youth entrepreneurship include "introducing courses in entrepreneurship", "formulating entrepreneurship clubs", "establishing incubation centers" and "promoting and supporting the execution of government-led initiatives in their respective university" (Khalifa Fund, 2014, p. 65).

The third category, the private sector, includes profit-seeking entities (such as Envestors, Abraaj Capital) and non-profit-seeking ones (such as the Kauffman foundation and Tamakkan). The profit-seeking entities focus on providing funding or linking entrepreneurs to angel investors in return for a stake or dividends. Non-profit entities, contrariwise, support entrepreneurship through various activities such as providing training programs, spreading awareness and running competitions for business plan (Khalifa Fund, 2014).

The last category of entities for specific sectors/target segments includes organizations such as twofour54, the AbuDhabi Business Council, and others (Khalifa Fund, 2014).

Based on International Labor Organization's (ILO) Framework for Youth Entrepreneurship Strategy, UAE government policies and programs have been

initiated at the Micro, Meso and Macro levels to promote entrepreneurship in general and youth in specific (see Table 1, below). The table presents also key gaps in each element of the suggested level and its effect on youth entrepreneurship intention (EI).

Table 1: Main Elements and Gaps in the UAE Entrepreneurship Ecosystem

Micro-Level Support			
This level relates to initiatives, which aim to influence youth minds, inspire, and motivate them toward entrepreneurship (Khalifa Fund, 2014, p. 66)			
Element	**Main UAE Initiatives**	**Key Gaps**	**Effect on EI**
Education	• At higher education level, there are three key federal government universities; Zayed University (ZU), the Higher Colleges of Technology (HCT) and UAE University (UAEU), which account for 57% of student enrolments. In addition, there are many private emirate- specific universities but they account for only 25% of the total student enrolment. • In both the above types of university (government and private), entrepreneurship is primarily embedded in Business Administration programs. Only ZU and HCT embed entrepreneurship under Communication and Media courses. These two education institutions also conduct effective short-term activities to engage students in entrepreneurship activities (bazaars, international trips/tours, and others). • UAE also offers scholarships to students to study abroad through many entities such as the Scholarship Coordination Office, EDAAD Scholarship Program, Abu Dhabi Education Council Scholarships and the Scholarship & Foreign Cultural Relations	• Entrepreneurship education is limited in most cases to Business major students, thus high percentages of non-business students are not exposed to entrepreneurial education. • Lack of a common platform to support experimental and short-term activities. • Significant variance in initiatives across universities.	• Promoting positive attitude and adequate skills for young people through education is essential to generate more employment through enterprise creation. • Involving entrepreneurship in the academic curriculum has a key role in instilling an entrepreneurial mindset among young people. • Studying abroad especially in Western countries facilitates youth exposure to international markets, different working cultures and lifestyles, thus helping to build wider perspectives and lend flexibility of thinking and mindset. Thus, they positively affect youth entrepreneurial intention.

	Department/Ministry of Education. • University students are also targeted by many entities to enhance their awareness of entrepreneurship. These entities include the Khalifa Fund, Dubai SME Ruwad Establishment and others. Many awareness session/ campaigns and competitions have been launched by these entities for that purpose. • Other initiatives taken under other educational levels such as schools have also been lunched.		
Family	• Families are involved in some universities' entrepreneurship initiatives, thus attracting their support for entrepreneurship activities.	• Very limited initiatives aimed to promote youth entrepreneurship that involve families. Most of the initiatives target youth directly while neglecting family engagement and its effects on youth entrepreneurship intention.	• Family, society and overall culture play a key role in shaping and affecting the individual's entrepreneurship intention. • In the UAE, young people give high importance to family opinion regarding their career choices. • Business oriented families are more likely to encourage a child to start a business. Thus, they positively affect their child's intentions to do so.
Media	• A number of TV shows have been launched to promote entrepreneurship, such as "The Entrepreneur", and 'Lel-NagahEnwan', which screens stories of successful projects funded by the Khalifa Fund. • The social media are used as a tool to promote entrepreneurship as well. Social media provides a platform to interact with others. Thus, enhance the awareness about this activity and help to link potential and established entrepreneurs.	• Limited use of social media to promote entrepreneurship.	• Media play a critical role in increasing the desirability of entrepreneurship. • Although media coverage may not have an immediate effect on entrepreneurship activity, it has the ability to generate an entrepreneurship-friendly culture in the long term.
Role Model/ Success Stories	• In the UAE, role models are promoted through the following initiatives:	• Initiatives to promote role models are not	• Successful entrepreneurs play an important role in

	1. Interactions with existing entrepreneurs through entrepreneurship-related awareness sessions and events. 2. TV programs. 3. Awards to promote and reward role models.	sustainable and they lack one-to-one interactions.	encouraging youth towards entrepreneurship. • The more young people know successful entrepreneurs, the higher their intention to become an entrepreneur. This relationship could be enhanced by the effect of media campaigns. • Because entrepreneurship amongst UAE nationals is not driven by necessity or financial motivation, role models play a significant part in promoting entrepreneurship in the UAE context. • Successful role models may reduce the fear of pursuing entrepreneurship as a career choice.

Meso-Level Support

This level "encompasses stakeholders with a mandate to facilitate or physically deliver business support services to improve physical and business infrastructures that result in improved performance of a business" (Khalifa Fund, 2014, p. 90)

Element	Main UAE Initiatives	Key Gaps	Effect on EI
Network Association	• Abu Dhabi Business Women's Council, Dubai Business Women's Council and Sharjah Business Women's Council well represent a network, which has targeted the support of women entrepreneurs. • The Indus Entrepreneurs (TiE) is another example of entrepreneurial networks that aim to promote entrepreneurship. This network is a local chapter of a US-based non-profit organization. • Some physical entrepreneur-networking centers are also available. They include the MAKE business hub, Shelter	• Initiatives regarding network associations are not generalized to include all UAE emirates. • Awareness of the existing networks is low, especially among youth.	• Network associations enable the entrepreneur to communicate with other entrepreneurs, experienced business people and consultants. Thus, they can share their experiences and challenges and discuss how to cope with the latter. • The network could be linked to potential entrepreneurs such as university students, or unemployed young people, thus

	and Pavillion. These cafés are "co-working hubs", which organize entrepreneurship-related events and activities.		enhancing EI among them.
Mentors and Advisors	• Advisory services are offered by most of the UAE SME development entities.	• Limited formalized mentoring support. • Failure to set up one-to-one mentoring for young people	• Mentors are entrepreneurs who are willing to share knowledge and experience with potential and existing entrepreneurs. • Through their role, they can help to overcome the initial fear of failure among young people who do not have enough experience. • Countries which suffer from lack of formal training and supportive entrepreneurship programs can rely heavily on monitors to generate potential and new entrepreneurs. • The intent to start a new business is three times higher among adults who have access to a mentor.
Access to Finance	• In the UAE there are many government entities providing funds through different programs. They include the Khalifa Fund for Enterprise Development, Ruwad Establishment, Dubai SME, Fujairah Chamber of Commerce, and others. • Examples of angel investor and venture capital firms include Envestor, Abraaj Capital and Mawarid.	• "*lack of funding support for transforming R&D and technology-oriented ideas into product prototypes*".(Khalifa Fund, 2014, p. 111)	• Youth enterprises could be enhanced by providing various types of funding and financing.
Professional services	• This kind of service is provided in the UAE context through the key SME development entities noted above.	• Specialized advisory business support services (strategy consulting, legal consulting and auditing firms) are lacking. • Access to market research data and updated statistics is limited.	• Finance services, providing professional help, e.g. in marketing, consulting and accounting, could enhance youth enterprises.

Incubators	• There are several government and university incubators in the UAE such as 1. Business Incubation Center- Dubai SME 2. Studio9 (for young women)-Dubai SME and Dubai Ladies Club. 3. Kitchen Incubator-Khalifa Fund and UAEU. 4. AbuDhabi University Enterprise 5. Emirates Center for Innovation and Entrepreneurship-UAEU	• University incubators' support needs to be enhanced.	• Business incubation focuses on nurturing business ideas and supporting programs that help existing companies to grow. • Pre-incubators focus on training and coaching potential entrepreneurs such as students and graduates, thus allowing future entrepreneurs to explore the potential of their business ideas.

Macro-Level Support

This level "relates to the stakeholders (ministries, government departments, etc.) who have a mandate for defining a policy and regulatory ecosystem that is conducive to doing business" (Khalifa Fund, 2014, p. 106)

Element	Main UAE Initiatives	Key Gaps	Effect on EI
Policy and Program Coordination	• Some programs have been launched in the UAE with the coordination of two or more entities. For example, Akoun initiative (business plan competition) was launched by the Abu Dhabi Council of Economic Development and run in cooperation with the Khalifa Fund, Western Region Development Council and twofour54.	• No centralized strategic plan to promote entrepreneurship amongst youth.	• Not knowing "how to start a business" affects entrepreneurial intention negatively.
Conducive Regulatory Environment	• According to the Doing Business Report (2016), the UAE ranked high in terms of registering property, trading across borders and getting electricity and construction permits (Wam, 400AD). • UAE President Issues Federal Law No. 2 of 2014 for Small and Medium Enterprises, which aims to regulate the relationship between government institutions and entrepreneurs and encourage youth to engage in the business world and thus enhance the country's competitiveness in this sector regionally and globally.	• Lack of a bankruptcy law. • However, a comprehensive federal bankruptcy law was finalized and approved by the UAE Cabined in September 2016. It is expected to come into effect in the first quarter of 2017 ("Ministry Of Finance," n.d.).	

	• In accordance with the above mention law, a council of small and medium enterprises was stablished in 2015. The council responsible for suggesting strategic policies and plans for the development of SMEs in the UAE. Moreover, it would be responsible for setting the rules and guidelines necessary to coordinate between all concerned programs and entities.		

Sources: 1) Youth and Entrepreneurship in the UAE, Khalifa Fund for Enterprise Development, AbuDhabi, 2014[1], 2) The Cabinet, United Arab Emirates: http://uaecabinet.ae/en/MOCANews/Pages/MediaDetails.aspx?ItemId=365#.VSYpK_mUeDs. 3) https://www.wam.ae/en/news/emirates/1395283268796.html. 4) United Arab Emirates Ministry of Finance: https://www.mof.gov.ae/en/pages/default.aspx. 5) http://www.emirates247.com/news/emirates/ease-of-doing-business-in-2016-world-bank-ranks-uae-first-in-arab-world-2015-10-28-1.608362

Although the UAE government has tried to develop an attractive legislative environment to promote and support entrepreneurs (Kargwell, 2012), some researchers note a lack of effective institutional support for entrepreneurship in the UAE (Sikdar & Vel, 2011). In addition, according to the Khalifa Fund report findings mentioned in Table (1) above, there are major gaps at each of the three levels considered above. These are mainly related to education, the social media, promotion and interaction with role models, funding, mentoring and professional support services and the fragmented approaches to fostering entrepreneurship amongst youth (Khalifa Fund, 2014; Sikdar & Vel, 2011). These gaps in turn affect the attempts to develop a supportive

[1] According to this report, youth is defined as individuals aged between 15 and 35 years. The report focused on drawing qualitative insights and inferences from the literature, and holding consultations with stakeholders as well as focus group discussions involving students, public sector employees and / or currently unemployed youth.

environment and mindset towards entrepreneurship amongst UAE national youth and thus affect the country's entrepreneurship intention and activity (Khalifa Fund, 2014).

2.4.3 The Effect of UAE Unique Context in Shaping National Youth Entrepreneurship Intention

According to the Global Entrepreneurship Monitor (GEM) report and survey on entrepreneurship in the UAE (2011), although UAE youth perceive opportunities for entrepreneurial activities at a very high rate (51.9%), few take the necessary steps to seize the opportunities they perceive. Moreover, a low proportion of youth involved in early-stage entrepreneurial activities. In addition, the entrepreneurial intention to start a new business in the future is considered low (Van Horne, Huang, & Awad, 2011; Almobaireek & Manolova, 2012). Fear of failure could be the main reason; this may inhibit UAE national youth considering entrepreneurship as a career option and is argued to be linked to many socio-cultural and institutional factors (Van Horne, Huang, & Awad, 2011). Such reasons could be listed as follows:

1. Economic cost of failure, which indicates the loss that would be incurred in terms of monetary, financial and other tangible resources if a business failed (Khalifa Fund, 2014, p. 61). Thus, UAE national youth tend to avoid taking the risks associated with entrepreneurship and prefer to be employed in a more stable, higher paid and lower risk job such as the public sector offers (Khalifa Fund, 2014; Horne, Huang, & Awad, 2011). Moreover, entrepreneurship is considered a second career option; accordingly, most UAE nationals would prefer to start a new business only after first being employed in the public sector (Khalifa Fund, 2014).

2. Social cost of failure, which is related to loss of reputation, shame to family and embarrassment (Khalifa Fund, 2014). It is suggested that fear of failure could be higher in Muslim countries in general and Middle Eastern countries specifically, where people seek higher levels of "*social conformity*", thus avoiding any kind of social disapproval by respecting regulations, parents and elderly people, and the views of government and authorities (Almobaireek & Manolova, 2012, p. 4038). In the UAE, family approval and agreement on one's career choice and overall life decisions are given high importance by national youth ("Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.; Khalifa Fund, 2014). UAE national youth are encouraged by their families to study hard to get good government jobs to secure their future, while entrepreneurship remains a "*nascent concept*" among them and their families (Khalifa Fund, 2014, p. 43). It is argued that little can be done by the educational institutions or policy makers to influence people's career choices and the preference if their families actively encourages them toward working only in the public sector ("Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.). Indeed, Daleure, Albon, Hinkston, Ajaif, & McKeown (2015) find that there are generational gaps in experience and education between Emirati students and their families, which affect the academic and educational efforts with regard to young people's preparation for a career (Daleure, Albon, Hinkston, Ajaif, & McKeown, 2015). However, it is worth mentioning that if the students come from a background of family business this may enhance their preference for and intention towards entrepreneurship (Basu & Virick, 2008). Family businesses could act as an

"*incubator*" for future startups as they play an essential role in training and equipping family members with the necessary skills and experience to be entrepreneurs (Carr & Sequeira, 2007, p. 1096) and may encourage UAE national youth to become entrepreneurs (Khalifa Fund, 2014). It is suggested that a family business affects the entrepreneurship intention both directly and indirectly, through the mediating effects of attitude, subjective norms and perceived behavior control (Carr & Sequeira, 2007). The other social factor, which may result in high fear of failure and thus lower the EI among UAE national youth, is their lifestyle. Their society considers financial security and luxury possessions very highly. This lifestyle could be threatened by the risks associated with starting a new business.

3. Personal cost of failure, which indicates how individual business failure could affect people's motivation level, perceived personal abilities, capabilities, skills and intelligence.

Furthermore, fear of failure may result from the inadequacy of the legislative framework and entrepreneurship ecosystem (Horne, Huang, & Awad, 2011; Sokari, Horne, Huang, & Awad, 2013). Inadequate socio-cultural and institutional factors, it is suggested, affect the entrepreneurship intention through influencing the subjective norm antecedent, according to the Theory of Planned Behavior (TPB) (Moriano et al., 2011).

The UAE ranks high in the Uncertainty Avoidance (UA) dimension in Hofstede's study, reflecting the fact that risk-taking preferences in the society are undeveloped. Moreover, according to Hofstede's study, the UAE is considered a collectivist culture, where individuals emphasize the well-being of the entire society instead of themselves only. In this type of culture "*contributing to the society and*

country" is considered an important motivational factor in any career choice; this needs to be considered when developing training and awareness programs for encouraging entrepreneurship (Khalifa Fund, 2014, p. 58). Moreover, individuals from collectivist cultures are more likely to comply with the expectations of immediate groups (families, colleagues, and friends). Accordingly, considering the expectations of these immediate groups, the motivation to comply with these expectations is likely to have an effect on EI (Moriano et al., 2011). In addition, the UAE also scores high in the Power Distance dimension, indicating that people are more accepting of a hierarchical order. These cultural characteristics may play important roles in shaping UAE national youth attitudes and their approaches to achieving their goals, including entrepreneurship. Some researchers argue that entrepreneurial activities would be higher in the cultures characterized by high Power-Distance, low Uncertainty Avoidance, high Individualism and high Masculinity (UAE is ranked neither Masculine nor Feminine) (Busenitz & Lau, 1996a; Hofstede, 2010). As the UAE scores high in uncertainty avoidance and collectivism, this in turn may affect UAE national youth EI levels and thus entrepreneurial activities (Khalifa Fund, 2014; Liñán & Chen, 2009a).

It is also worth noting that although the motivation and intention to start new businesses among UAE national youth is currently not necessity-driven, growing unemployment could become a major necessity factor that could push them towards entrepreneurship (Horne, Huang, & Awad, 2011; Khalifa Fund, 2014). As the number of available career options goes down and government vacancies are filled, the risk and fear of failure in starting a new business could diminish. Other non-financial factors that could push youth toward entrepreneurship are the prospect of greater independence (Horne, Huang, & Awad, 2011); pursuing a passion, following role

models and in family footsteps, having a partner from a similar background to start new business with and getting exposed to international cultures and lifestyles (Khalifa Fund, 2014).

In the UAE, studying abroad is considered one important way for youth to be exposed to valuable international practices (Khalifa Fund, 2014). In turn, international exposure may increase the EI among youth. There are many examples of existing entrepreneurs who have studied or worked in Western countries before starting their own businesses. Those countries (mainly the US and the countries of Europe) in turn are mostly described as individualistic countries with high scores in masculinity and lower scores in power distance and uncertainty avoidance (risk taking), according to Hofstede (Hofstede, 2010). International exposure could provide openness to a more competitive market and different lifestyles and cultures, thus, influencing individual mindsets and facilitating more flexibility in the way individuals think, helping to build networks with people from different countries and being introduced to best practices, products, technologies and management approaches (Khalifa Fund, 2014). Indeed, people can be influenced by entrepreneurial cultural values and these values can be transferred (Jaén & Liñán, 2013). Furthering this view, Liñán, Moriano, & Jaén, (2015) suggest that even if the individuals come from the same country, their intention to start a new business would depend in their personal values. This in turn would depend on many factors such as their acquired entrepreneurship knowledge and qualifications and their experiences. (Liñán, Moriano, & Jaén, 2015). Accordingly, it could be expected that UAE nationals with considerable international exposure may display a stronger entrepreneurial intention than their counterparts without.

Education in general represents an important means of developing human resources and it is argued that universities can foster entrepreneurship activity in any

country by enhancing the EI among students through influencing their preferences regarding career choice and increasing their entrepreneurial awareness. Entrepreneurship education is positively related to entrepreneurial intention especially in collectivist cultures, (Bae et al., 2014). If the university provides proper knowledge and inspiration for entrepreneurship, it would raise the tendency among youth to become entrepreneurs (Almobaireek & Manolova, 2012; Duygu Turker & Senem Sonmez Selcuk, 2009; Franke & Lüthje, 2004; Liñán & Chen, 2009a; Matlay et al., 2012). In their meta-analysis of entrepreneurship education outcomes, Martin, McNally, & Kay (2013) confirm that entrepreneurship education is associated with higher levels of intention to become an entrepreneur (Martin, McNally, & Kay, 2013). Moreover, based on the survey conducted on fifty entrepreneurs from diverse backgrounds in selected universities across the UAE, Kargwell & Inguva (2012) find that 50 per cent of entrepreneurs believe that education is a critical success factor in their business (Kargwell & Inguva, 2012). It is argued that although both educational support and structural support (economic, political, technological factors, etc.) may be key predictors for EI, educational support is perceived to be more important than structural (Duygu Turker & Senem Sonmez Selcuk, 2009). However, the role of the university as a means to encourage entrepreneurship intention can vary between different types of university and different contexts. This can depend on such factors as "*university quality*", "*organizational norms*" and "*entrepreneurship education*" (Franke & Lüthje, 2004; Walter, Parboteeah, & Walter, 2013, p. 176). Accordingly, providing proper and adequate education may enhance the level of EI (Saleh & Salhieh, 2014). Thus, education is an important variable for careful consideration in this study.

Other important variables that are measured in the present study include age, gender and entrepreneurship experience, and knowing an entrepreneur (role model), since these variables are suggested to have effect on EI through direct influence on the antecedents of intention (Almobaireek & Manolova, 2012; Yang, 2013; Kolvereid & Isaksen, 2006; Liñán & Chen, 2009b). In the UAE context, investigating the relationship between gender and EI is especially important. There is a general belief that male Emiratis are more likely than females to be involved in entrepreneurial activities due to additional social, cultural and environmental factors that may stand in the way of women who wish to pursue these activities, and thus their choice of entrepreneurship as a career (Kargwell, 2012; Kargwell & Inguva, 2012; Khalifa Fund, 2014). According to the report "Entrepreneurship and Emirati Perspectives" (2013), the percentage of Emirati females who expect to start a business is only 6.5%, while for Emirati males it is 12.1% (Sokari, Horne, Huang, & Awad, 2013).

2.5 Entrepreneurship Intention Models and Antecedents

Three domain behavioral intention models serve as frameworks to study and understand entrepreneurial intention (EI). These are Bird's (1988) model for implementing entrepreneurial ideas, Shapero and Sokol's (1982) entrepreneurial event model and finally Ajzen's (1991) theory of planned behavior (Fayolle & Liñán, 2014). However, the Entrepreneurial Event Model (EEM) and Theory of Planned Behavior (TPB) appear to be the most complete and extensively and empirically tested models from which to learn about EI (Fayolle & Liñán, 2014; Kautonen et al., 2015; Krueger Jr. et al., 2000; Schlaegel & Koenig, 2014).

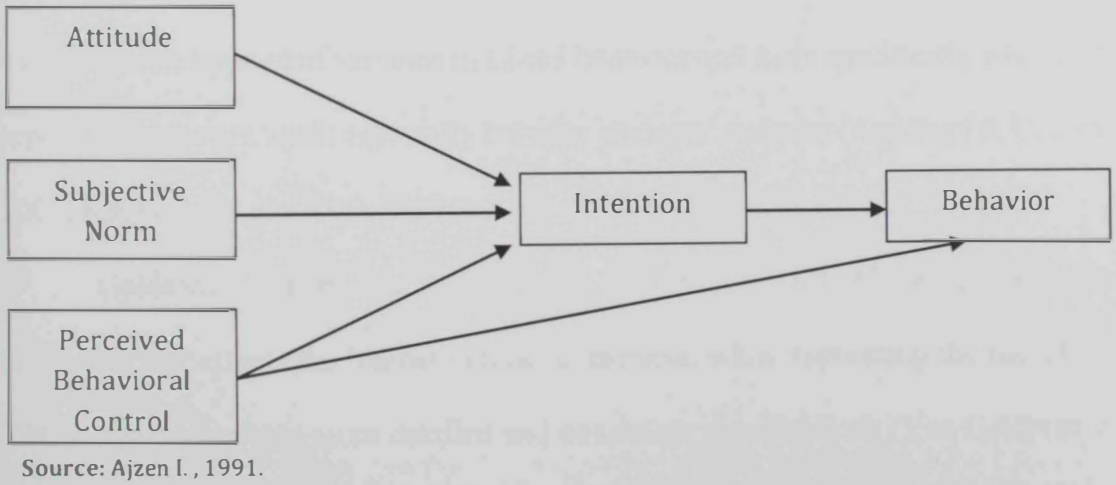
The Theory of Planned Behavior (TPB), which is built upon reasoned action theory (Ajzen & Fishbein, 1980) takes account of both personal and social factors

(Rueda, Moriano, & Liñán, 2015). The theory has three main intention specifications, namely attitude (referring to the degree to which individuals perceive the attractiveness of the behavior in question), subjective norm (referring to the perceived social pressure to perform the behavior from significant others; such as family, friends, role models, and others) and perceived behavioral control (referring to the self-evaluation of one's own competence with regard to the task or behavior) (Ajzen, 1991). The last specification was suggested to be comparable with Bandura's (1977,1982) "*self-efficacy*" concept, although recent studies have indicated that they are related but distinct constructs (Conner & Armitage, 1998; Engle et al., 2010; Schlaegel & Koenig, 2014, p. 42). Ajzen (2002) suggests that perceived behavioral control (PBC) is a wider concept than self-efficacy, since it also includes the extent of controllability of a person's behavior (Liñán & Chen, 2009a). In TPB, the three main specifications represent individuals' experiences and observations, which in turn act as a foundation on which to develop three different "*salient*" beliefs –behavioral beliefs, normative beliefs and beliefs drawn from experience- (Engle et al., 2010). It is argued that the more favorable the attitude and subjective norm and the greater the perceived behavioral control of the behavior, the stronger is the intention to perform that behavior (Ajzen, 1991; Autio et al., 2001; Matlay et al., 2012; Nishimura & Morales, 2011). Moreover, according to the theory, PBC can be used along with intention, to directly predict behavior (Ajzen, 1991).

The Entrepreneurial Event Model (EEM), another model to consider in this regard, has three differently defined specifications: perceived desirability (referring to the degree to which an individual feels attracted to becoming an entrepreneur and reflecting individual preferences for this behavior); perceived feasibility (referring to the degree to which individuals are confident they are personally able to start their own

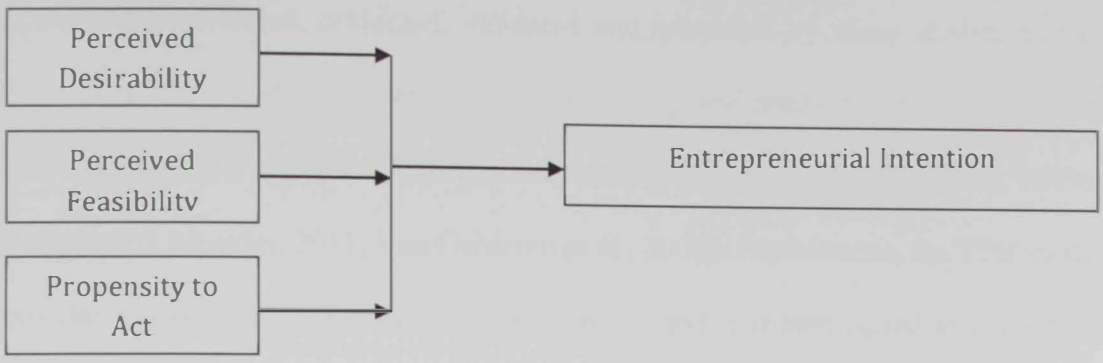
business) and propensity to act upon opportunity (refers to an individual's disposition to act on a decision). This depends on individuals' perceptions of control as well as a preference for acquiring control by taking appropriate action) (Schlaegel & Koenig, 2014; Shapero & Sokol, 1982). It is argued that the higher the perceived feasibility and perceived desirability, the higher the tendency to engage in entrepreneurial events (Krueger JR et al., 2000; Matlay et al., 2012).

Some researchers argue that there is an overlap between the specification definitions of the two models. EEM's perceived desirability appears to resemble TPB's attitude and subjective norm factors, while EEM's perceived feasibility seems like TPB's perceived behavior control factor (Kautonen et al., 2015; Krueger JR et al., 2000; Matlay et al., 2012). However, other researchers emphasize that the two models represent distinct specifications, with different effects on EI, and they should not be used interchangeably (Schlaegel & Koenig, 2014). Figures 2 and 3 represent the two models' specifications.



Source: Ajzen I., 1991.

Figure 2: Ajzen's Theory of Planned Behavior



Source: Ngugi, Gakure, Waithaka, & Kiwara, 2012

Figure 3: Shapero's Model of Entrepreneurial Event

Krueger, Reilly and Carsrud (2000) argue that although both the TPB and EEM intention-based models are equally useful frameworks in which to study EI and understand the process of creating new ventures, the latter could be superior in assessing and predicting entrepreneurial intentions. In their study, the writers found support for all EEM constructs, while the subjective norm in TPB was not significant (Krueger JR et al., 2000). Moreover, other researchers refer to weaknesses in the effect of the social norm factor on the intention; placing higher emphasis on the role of perceived behavior control in this term (it has a double role in TPB and it accounts for a considerable amount of variance in EI and behavior and more specifically when self-report measures are used) especially between students' samples (Armitage & Conner, 2001; Kautonen et al., 2015; Matlay et al., 2012; Schlaegel & Koenig, 2014).

Gelderen, Maryse Brand, Bodewes, Poutsma, & Gils, (2008) describe the confusion that affects the Shapero model constructs, while supporting the use of the TPB model to provide more detailed and consistent specifications (Van Gelderen et al., 2008). Schlaegel & Koenig (2014) in their meta-analytic study to define the determinants of EI found that subjective norm is a strong predictive factor and has shown a positive relationship with EI, especially in recent studies. In addition, the TPB

model had been tested, criticized, validated and advanced by many studies and in different fields, mainly in understanding, explaining and predicting human behavior (Autio et al., 2001; Engle et al., 2010; Kautonen et al., 2015; Liñán & Chen, 2009a; Nishimura & Morales, 2011; Van Gelderen et al., 2008). Furthermore, the TPB model provides a compressive framework to analyze EI and it is best suited to explaining entrepreneurship which is opportunity driven as opposed to necessity driven -as is mostly the case with entrepreneurship among UAE nationals- ("Entrepreneurship: An Emirati Perspective," n.d.). Additionally many researchers refer to its applicability to different institutional contexts and cultures (Turker & Selcuk, 2009; Kautonen et al., 2015; Nishimura & Morales, 2011). Although Schlaegel & Koenig (2014) confirm that both EEM and TPB determinants have a positive effect on EI, they argue that EEM determinants have a greater effect than TPB, while the TPB determinants explain more variance in EI. Moreover, they find that the propensity to act determinant of EEM poorly predicts EI.

Thus, it could be noticed that different studies reach different conclusions regarding the effects on EI of the two models' specifications. However, the effects may be related – as specified by other researchers – to the research context, type of culture, targeted study sample and measurement used (Turker & Selcuk, 2009; Krueger Jr. et al., 2000; Liñán & Chen, 2009a; Matlay et al., 2012; Schlaegel & Koenig, 2014).

2.6 Understanding Entrepreneurial Intention in the UAE Context

To enhance the explanatory power, clarity and robustness of EI models, integration of the competing models (TPB and EEM) is recommended by some researchers (Matlay et al., 2012; Schlaegel & Koenig, 2014). This integration is

suggested to help understand the interrelationships between the two models and advance EI-related theories (Schlaegel & Koenig, 2014). In their study, Solesvik, Westhead, Kolvereid, & Matlay (2012) were able to enhance the explanation of variance in the entrepreneurial intention dependent variable to 60% when using an integrated conceptual model (ICM) of both EEM and TPB, instead of 40% when using the EEM model and 55% when using the TPB model independently (Matlay et al., 2012). The same finding was reached by Schlaegel & Koenig (2014), who discovered that the integrated model of both EEM and TPB explained more variance in EI. Thus, when choosing between the two models it is important to consider the cost of not gaining a full and complete understanding of the factors affecting EI and their interrelationship (Schlaegel & Koenig, 2014). According to their meta-analytic test and the integration of competing models to find the determinants of EI using findings from 98 studies (123 samples, n=114,007), Schlaegel & Koenig (2014) find that the combination of TPB and the perceived desirability factor of EEM is the most powerful in explaining EI, thus encouraging future studies to focus on them. However, they mention also that the relationship between perceived desirability and EI is stronger for nonstudent samples and the relationship between perceived desirability and EI is stronger in a Western context (Schlaegel & Koenig, 2014). At the same time, Solesvik, Westhead, Kolvereid, & Matlay, (2012) identify a relationship between higher levels of perceived desirability, perceived feasibility, attitude toward the behavior and perceived behavioral control in EI formation among student samples (Matlay et al., 2012). However, they mention that their results can be generalized only to the study context (Ukraine) and comparable transition economy contexts (Matlay et al., 2012). Thus, to decide which theory to adopt, it is better to benefit from results reached by

meta-analytic studies, which take into consideration different study contexts and consequently facilitate some generalization of the outcomes.

Because this study examines the UAE context (a non-Western country), and focuses on a student sample, where perceived desirability has a lower effect on EI, as suggested by Schlaegel & Koenig (2014), TPB will be adopted. Engle, Dimitriadi, Gavidia, Schlaegel, Delanoe, Alvarado, He, Baume, and Wolff (2010) conducted a study to test the ability of Ajzen's TPB to predict student EI in 12 countries representing all ten global regional clusters as identified by House et al. (2004) in the GLOBE project. The research finding showed strong support for the theory's ability to predict EI among 1,748 university business students in each of the study countries. Social norms in this study are suggested as a strong predictor for EI in all the study countries (Engle et al., 2010).

Much research that attempts to study entrepreneurship intention examines university students as a research sample (Almobaireek & Manolova, 2012; Franke & Lüthje, 2004; Schlaegel & Koenig, 2014). According to Turker and Selcuk (2008), since it is more likely that an individual may start a new venture between the ages of 25 and 44, it is logical to focus on individuals younger than 25 to capture the factors that may affect their intention to start a new business in the future (Turker & Selcuk, 2009). Youth represent the individuality and creativity of the future workforce (Henderson & Robertson, 2000). Although some research cannot pinpoint a clear pattern of influences on EI in a given student sample (Schlaegel & Koenig, 2014), targeting university students is a wise, appropriate and preferable decision when studying EI (Engle et al., 2010; Liñán & Chen, 2009b). During the period spent at university, students' intentions and decisions regarding an ideal type of career can be formulated and influenced. Thus, future entrepreneurs are more likely to be captured

amongst a population of students, particularly business and engineering college students (Pratheeba, 2014b; Shinnar, Pruett, & Toney, 2009) rather than those already established in business (Souitaris et al., 2007). Moreover, the validity of student samples for entrepreneurial enquiries has been justified in previous research and more recent research in entrepreneurial intention is able to draw useful conclusions from targeting this sample (Autio et al., 2001; Gallant et al., 2010; Matlay et al., 2012; Nishimura & Morales, 2011; Tkachev & Kolvereid, 1999; Van Gelderen et al., 2008).

2.7 Previous Measurements of Entrepreneurship Intention (EI) and Theory of Planned Behavior (TPB) Constructs

2.7.1 Entrepreneurship Intention (EI) measurement

To measure the dependent variable of EI and independent TPB constructs, different studies use different measurement items and scales, while simultaneously considering the development of existing measurements or benefiting from previously validated ones (Almobaireek & Manolova, 2012; Autio et al., 2001; Engle et al., 2010; Jianfeng Yang, 2013; Lars Kolvereid & Isaksen, 2006; Matlay et al., 2012). In some studies, EI was measured by a single binary variable, whether or not individuals wants to start their own business in the future (Yes/No) (Almobaireek & Manolova, 2012; Krueger & Carsrud, 1993). However, other studies consider this way to measure EI as a "*loose operationalization*", thus, they add other measures, which indicate the time frame (short or long term) of the future intention to start a business (Autio et al., 2001, p. 151; Davidsson, 1995). Autio, Keeley, Klofsten, Parker, & Hay, (2001) based statements to measure the perceived likelihood of the participants to start their own business in the future either part-time or full-time both in the short term (one year from now) and the long term (five years from now) using four items categorized into two

groups (full-time occupation in own firm & part-time occupation in own firm). The data for this came from responses on a five-point Likert scale ranging from (1= Not at all likely, to 5= Already started a firm). The Cronbach Alpha for their construct was .82 which is above .7 and thus, considered reliable according to Nunnally (1978). In addition to the likelihood of starting one's own venture in the future, Engle, et al., (2010) included other questions to measure the extent to which the participants were prepared to or considered starting their own business (Autio et al., 2001; Engle et al., 2010).

According to Gelderen, Brand, Bodewes, Poutsma, & Gils, (2008) the literature on social psychology proposes EI measurements to represent the "*desire*" to start a new business, the "*preference*" for being entrepreneur rather than being employed by someone else and "*behavioral expectancies*", which represent the expectation or the probability of starting one's own business in the future. It is argued that "*behavioral expectancies*" represent the most proper measurement because they take into consideration the possible choice of entrepreneurship among other available choices (Armitage & Conner, 2001; Van Gelderen et al., 2008; Warshaw & Davis, 1985).

2.7.2 Attitude measurement

Personal Attitude (PA) or attitude toward a certain behavior, which indicates the attractiveness of the targeted behavior (being entrepreneur), can be measured with different individuals' beliefs regarding different variables in mind, such as autonomy and challenge, income and personal wealth, achievement motivation and community benefit (Engle et al., 2010; Yang, 2013; Krueger Jr et al., 2000; Van Gelderen et al., 2008). Some studies focus on measuring attitude by concentrating on measuring the

attractiveness of an entrepreneurial career compared with other career options, such as a corporate career, the civil service and research/teaching. However, concern regarding the reliability of this measurement approach was discussed (Autio et al., 2001). Kolvereid and Isaksen (2006) argue that this approach is a "*simplification*" in that it neglects the possibility that individuals may choose to combine two career options at the same time (employee and running their own business) (Kolvereid & Isaksen, 2006, p. 870). Indeed, Kolvereid (1996) suggests eleven reasons why a person may choose to be self-employed or organizationally employed. Security, the social environment, workload, avoiding responsibility and career opportunity represent five reasons which may make someone favor organizational employment. But economic opportunity, challenge, autonomy, authority, self-realization and participation in the whole process comprise six reasons for preferring self-employment. A total of 33 items for employment status preferences were formulated, 2 to 5 items representing each of the 11 reasons. Using a 7-point Likert scale, the respondents were asked how far they agreed that considering certain items was important in their future work/career. The reliability coefficients varied from .68 to .90 (Kolvereid, 1996a). More recently a "Mini-Kolvereivd Scale" was developed (McNally, Martin, Honig, Bergmann, & Piperopoulos, 2014) which includes only three career-choice factors taken from the original eleven factors suggested by Kolvereid (1996). Those factors are workload, autonomy and creativity. This improved scale is suggested to more accurately predict and measure the relationship between entrepreneurship attitudes and intention. Moreover, because of its length, the shortened scale offers a hope of generating higher response rates (McNally et al., 2014).

Comparably, Almobaireek and Manolova (2012) use entrepreneurial motivations as proxies for measuring the attractiveness and expected benefit of starting

one's own business (in their research, they consider attitude towards the behavior to be similar to Shapero's construct of perceived desirability). In doing so, they combine prior research on entrepreneurial motivations with research on opportunity and necessity-based entrepreneurship, thus measuring entrepreneurial motivation by 11 binary items, specifically, financial gains, necessity, independence, providing jobs, higher social position, flexibility, and creativity, gaining experience, achievement, higher control and achieving a personal vision (Almobaireek & Manolova, 2012).

Other studies emphasize the need to measure attitude with a value-based and not an attractiveness-based measurement. They claim that the evaluation of attitude is related to the expected value of starting a business rather than a general assessment of its attractiveness. Moreover, they claim that the suggested measurement could help to avoid the failure caused by a general evaluation (Zhang, Owen, & Wang, 2015). Although the former suggested measurement method gained the high Cronbach Alpha of .871, the study results failed to find a relationship between this construct and EI, claiming that this resulted from the limited entrepreneurship experience of the study sample (university business students). Accordingly, value-based measurement may not be appropriate for measuring the attitude of university students with little entrepreneurship experience, as in the present study sample.

2.7.3 Subjective Norm (SN) measurement

The Subjective Norm (SN) can be measured by different items such as the role of the family, friends, colleagues and partners, mentors or people who are important to the participants (Busenitz & Lau, 1996b;Turker & Selcuk, 2009; Engle et al., 2010; Kolvereid, 1996b). This construct is believed to have a strong role in explaining intention in a collectivist culture (Begley & Tan, 2001; Liñán & Chen, 2009b).

Kolvereid (1996) measured the SN in three steps: first, how the respondents perceived the opinions of their closest family members, closest friends and people who were important in the respondents' pursuit of a career as an entrepreneur. Second, the respondents were asked to indicate how much they cared about these people, ranging from 1=do not care to 7=care very much, thus, assessing the motivation to comply. Finally, the items which referred to the perceived opinions of others were then multiplied by the motivation to comply items and the scores thus obtained were averaged to measure the subjective norm (SN). The Cronbach Alpha was .77; many studies since have adopted this approach to measure the subjective norm (Yang, 2013 Kolvereid & Isaksen, 2006; Matlay et al., 2012). Multiple-item scales to measure SN are considered more reliable than other approaches to SN measurements, such as single items, social support, normative belief and unspecified measurements (Armitage & Conner, 2001). Norris and Krueger's (2000) approach to measuring the subjective norm is also used by many studies (Almobaireek & Manolova, 2012; Engle et al., 2010). Norris and Krueger focused on measuring the degree of encouragement to start a new venture, asking "*to what degree did your family/friends/mentor and significant others encourage you to start your own business*?" and the importance of their opinions: "*how important would your family/friends'/mentors' and significant others' opinions be regarding starting your own business*" (Engle et al., 2010, p. 45) . This measure "*sums the strength of the perceived reactions weighted by perceived importance*".(Krueger Jr et al., 2000, p. 422).

2.7.4 Perceived Behavioral Control (PBC) measurement

Perceived Behavioral Control (PBC) indicates the ease or difficulty of performing entrepreneurship activity and is based on individuals' perception and

confidence about their skills and abilities (Almobaireek & Manolova, 2012; Wilson, Kickul, & Marlino, 2007). This construct is often measured by different variables such as perseverance, creativity, entrepreneurial alertness, self-efficacy, previous experience and knowledge (Gelderen, Maryse Brand, Bodewes, Poutsma, & Gils, 2008; Nishimura & Tristán, 2011). In his study to investigate entrepreneurial intention among Chinese undergraduates, Yank (2013) adopted the 6-item self-assessment scale of Wilson et al. (2007), where PBC is considered comparable to Bandura's (1977,1982) concept of self-efficiency. For each item the participants were asked to rate themselves against their peers in specific skills and abilities, such as problem solving, money management, creativity, getting people to agree with you, leadership and decision making skills. Using a 5-point Likert scale, the respondents rated themselves from much worse to much better. The Cronbach Alpha was .79 (Yang, 2013; Wilson et al., 2007). Although Yang (2013) was able to confirm the PBC measurement validity, he mentions that the context where the measurement and its items are developed plays a major role in affecting the study results. Thus, using the items chosen by Wilson et al. (2007), which were developed in a Western culture (the US), to measure PBC in an Eastern culture (China) may ignore some important variables specifically suited to Chinese culture (Yang, 2013). Hence, this limitation should be considered in future studies.

Moreover, in their study to investigate entrepreneurial intentions among Saudi university students, Almobaireek and Manolova (2012) used reverse scoring to assess the degree of PBC over the intended behavior (entrepreneurship). Thus, they used three items in their survey to capture the expected start-up problems emerging from "*fear of failure*", "*fear of commitment*" and "*fear of administrative burden of running new business*". The results emphasize the role of "*fear of failure*" in affecting PBC and

consequently entrepreneurial intention, especially in Muslim and Middle Eastern societies. However, the lower value of Cronbach's Alpha (.693) may raise some concerns regarding the reliability and validity of this form of measurement (Almobaireek & Manolova, 2012, p. 4034). Another PBC measurement approach was developed by Davisson (1995). By means of a 5-point Likert-Scale, PBC was measured to assess how far the participants agreed or disagreed about four questions related to their confidence of success. The questions are as follows: would they start their own business; if they were to, how easy would it be; would starting their own business be the best way to benefit from education; and what skills and capabilities are required to succeed as an entrepreneur. This approach received an acceptable Cronbach's Alpha (.75) (Autio et al., 2001; Davidsson, 1995).

It is generally apparent that many studies also adopt/develop different measurement approaches and variables, which take account of each study's context-specific requirements (Almobaireek & Manolova, 2012; Autio et al., 2001; Matlay et al., 2012; Van Gelderen et al., 2008). This may be considered an important step since applied measuring tools are "*rarely perfect*" especially in the social sciences (Heuer & Kolvereid, 2014).

Liñán & Chen (2009) argue that although culture plays an important role when developing and choosing the proper measurement approach to study entrepreneurial intention, there is a need to find a standardized measurement instrument that could apply to all cultures in all countries. This in turn will facilitate comparison of the research outcomes in this area conducted in different cultures and contexts, and may serve in explaining the conflicts among the findings in previous studies' regarding the factors which affect entrepreneurial intention. As a result, Liñán & Chen (2009) developed a valid and reliable measurement instrument to analyze entrepreneurial

perceptions and intentions, based on the Theory of Planned Behavior, called the "Entrepreneurial Intention Questionnaire (EIQ)". This instrument was developed from data on 519 individuals from two culturally distinct countries, namely Spain (an individualist culture) and Taiwan (a collectivist culture). The model consists of 10 sections and all the constructs use Likert-type scales, which are suggested to be more reliable than single-item scales (Nunnally, 1978). Moreover, EIQ is proposed as a way to overcome the limitations and shortcomings of previous measurement approaches (Liñán & Chen, 2009a). In addition, EIQ does not consider entrepreneurship as the opposite of being an organizational employee (Liñán & Chen, 2009a), which is in line with the current scope and definition of self-employment/entrepreneurship.

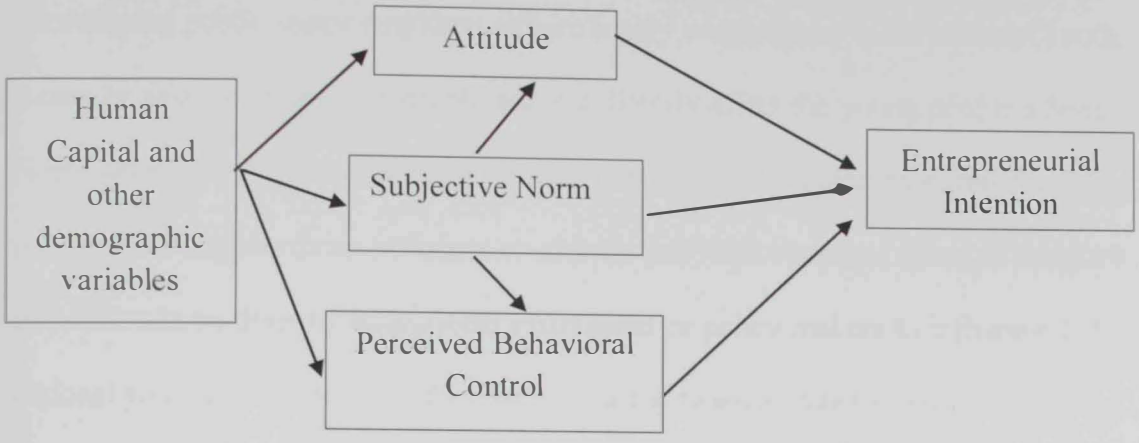
Accordingly, EIQ appears to be the most appropriate instrument that can be used in this study to measure EI and the TPB constructs after considering the modifications suggested by authors and other researchers who have applied this instrument in their research.

2.8 The Study Model

To analyze the relationship between EI and its antecedents using EIQ, Liñán and Chen (2009) developed their model, as presented in Figure 4. The developed model is based on Ajzan's (1991) Theory of Planned Behavior model; however, the developed model considers also the effects of human capital and other demographic variables (age, gender, role model, entrepreneurship experience and work experience), on EI (Liñán & Chen, 2009a).

In accordance with Ajzan's (1991) model in Figure 2, Liñán and Chen's (2009) model proposed that PA, SN and PBC directly affect EI. However, the model also suggests that SN directly affects and influences both PA and PBC. In addition, human

capital and other demographic variables are assumed to indirectly affect EI through the direct effect on the TPB's three main variables (Liñán & Chen, 2009a).



Source: Liñán & Chen, 2009

Figure 4: Entrepreneurial Intention Model

Although Liñán and Chen (2009) were able to support the above model, they could not find a direct relationship between SN and EI, claiming that this could be due to the measurement limitations of the construct.

However, according to UAE unique context and based on the literature reviewed, it may be the case that SN has a powerful effect on EI in the UAE context. This antecedent may be highly influenced by the role of families in UAE culture; they play an important role in shaping youth career preferences (Khalifa Fund, 2014; "Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.).

In Carr and Sequeira's (2007) study, the Subjective Norm is referred to as the Perceived Family Support to emphasize the role that the family plays in shaping the family members' entrepreneurship preferences and intentions (Carr & Sequeira, 2007). It seems clear also that education may have a direct effect on young people's attitude

and PBC, but not on SN. Because families are not fully involved in the universities' programs and other awareness initiatives which aim to promote entrepreneurship among young people, and because families' opinions regarding career choice (which encouraging public sector employment) are highly respected by UAE national youth, it may be assumed that this variable will not directly affect the young people's Social Norm antecedent. Accordingly, this factor may affect the entrepreneurial intention indirectly through its direct influence on attitude and PBC. As noted above, it is argued that little can be done by educational institutions or policy makers to influence UAE national youth career choices if their families actively encourage them toward working only in the public sector ("Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.). As assumed and supported by Liñán and Chen (2009), it seems to follow that SN may influence individuals' attitudes and PBC in the UAE context. Accordingly, the proposed model modified for the present study is as follows:

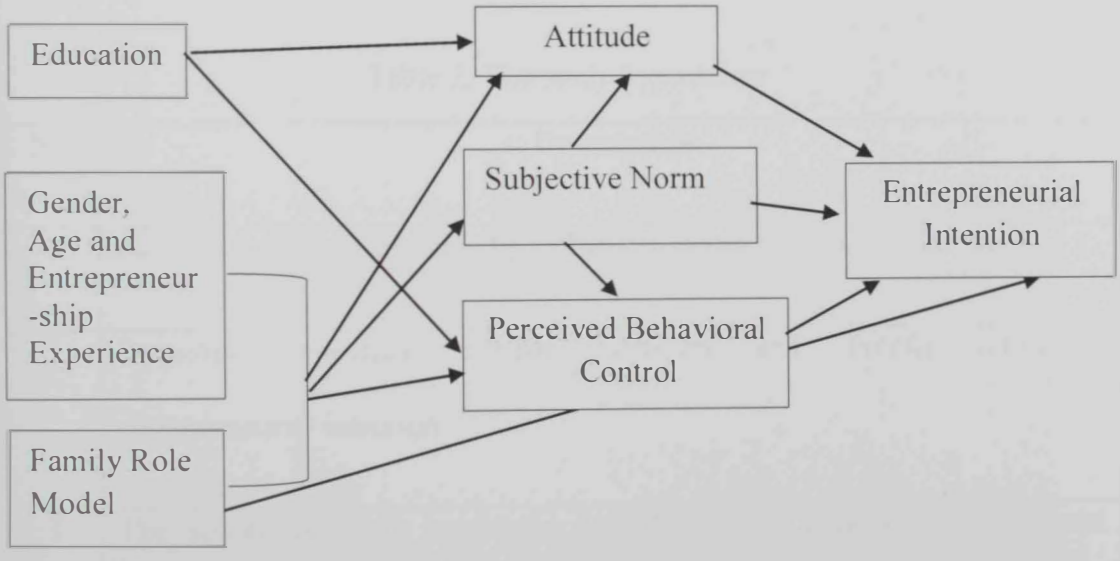


Figure 5: The Study Model

As can be seen from the above figure, the study model assumes the same relationships between the EI and TPB constructs and other controlled variables as suggested by Liñán and Chen (2009). However, some modifications were considered to reflect the UAE's unique culture. This is mainly, as noted above, related to SN's influence and the role of education on EI. Moreover, it may also be suggested that family role models will affect the EI directly. This is supported by the importance of family influence on youth in the UAE context; this relationship was supported by some research in the past as well (Carr & Sequeira, 2007).

2.9 Research Hypotheses

Based on the literature review and the study model presented in Figure 5, the research hypotheses are summarized in Table 2 below. The hypotheses from 1 to 3 are derived from Ajzen's (1991) original model, while the hypotheses from 4 to 9 represent the hypotheses suggested by Liñán and Chen (2009). The hypotheses from 9 to 12 are derived from the literature review and are based on the UAE's unique context and its effects on entrepreneurial intention.

Table 2: The study hypotheses

No.	Description
1	Attitude positively and directly influences entrepreneurial intention
2	Perceived behavioral control positively and directly influences entrepreneurial intention
3	The subjective norm positively and directly influences entrepreneurial intention

4	The subjective norm positively influences attitude
5	The subjective norm positively influences perceived behavioral control
6	Gender indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control.
7	Age indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control
8	Entrepreneurship experience indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control
9	Family role models directly and indirectly influence the entrepreneurial intention, indirectly through the direct effect on attitude, subjective norm and perceived behavioral control
10	Education indirectly influences the entrepreneurial intention through the direct effect on attitude and perceived behavioral control but not on the subjective norm
11	Entrepreneurial intention is higher among UAE national students who are studying outside the country than students who are studying locally.
12	Attitude toward risk (risk aversion) is higher among UAE national students who are studying locally than students who are studying abroad.

Summary

This chapter has discussed the importance of entrepreneurship in general and as a career option in specific for UAE national youth. After reviewing the findings of many related articles and journals, the Theory of Planned Behavior (TPB) was chosen as the model to investigate the entrepreneurship intention of UAE national youth. The model is based on the three main antecedents of subjective norm, attitude and perceived behavioral control. However, additional variables were considered to reflect the UAE's unique context and culture. Accordingly, the study model was developed and the hypotheses were proposed.

Chapter 3: Methodology

The previous chapter discussed in detail the relevant literature, presented the model and framework developed to examine the entrepreneurial intentions (EI) of the UAE national youth, based on Ajzen (1991) Theory of Planned Behavior (TPB) and defined the research problem set by the gaps found in the literature. This chapter discusses the research methodology in terms of research paradigm, method, and finally the tools and techniques for the data collection.

3.1 Research Paradigm

A research paradigm is defined as" *the basic belief system or worldview that guides the investigator, not only in choices of method but in ontological and epistemologically fundamental ways*" (Guba, Lincoln, & others, 1994, p. 105).

Positivism and constructivism are the two most used research paradigms in the field of entrepreneurship (Bruyat & Julien, 2001; Guba et al., 1994). In the positivist paradigm, the object of the study is studied independently from the researcher and knowledge is acquired through structured measurement of the phenomena in the study, thus helping to replicate and quantify the collected observations. This paradigm provides a basis for quantitative analysis (Guba et al., 1994; Krauss, 2005). According to this epistemology, science can be used as a way to understand the world and thus help to predict and control it. Deductive reasoning is used here to help test and validate existing theories through the development of hypotheses (Krauss, 2005; Wilson, 2010).

The constructivist paradigm requires interaction with the phenomena to acquire the knowledge (Krauss, 2005). The main purpose here is to understand and reconstruct the phenomena (Guba et al., 1994). Rather than using fixed measurements, this

approach allows the questions to change and emerge in pursuit of in-depth understanding of the phenomena. Constructivism perceives reality to be subjective. It believes that reality reflects human interaction with experiences in the real world (Krauss, 2005). As opposed to the deductive approach, this paradigm uses inductive reasoning as a way to develop a model or theory after collecting the observations and recognize the patterns (Thomas, 2006). This paradigm provides a basis for qualitative analysis (Guba et al., 1994; Krauss, 2005; McStay, 2008).

In this study, Ajzen's (1991) Theory of Planned Behaviour (TPB) is used as a framework to predict entrepreneurial intention (EI) among UAE national youth. Intention research is applied to predict the behavior of interest in the study (McStay, 2008). By applying the model, EI can be predicted by measuring three main constructs, namely attitude, subjective norm and perceived behavioral control. Moreover, to support and achieve the study aims and objectives, additional variables are added and tested (Figure 5) to reflect the unique context of the UAE. Based on the adopted theory, hypotheses are proposed to rigorously test and analyze the causal relationships between the study variables (deductive approach). As a result, the author can define the current research as adopting a positivist research paradigm.

The following sections present the research methodology.

3.2 Questionnaire Development and Pre-testing

3.2.1 Scaling

In order to operationalize the variables, a survey questionnaire was designed and developed on the basis of the most recent version of the previously validated standardized measure of the "Entrepreneurial Intention Questionnaire (EIQ)", which was initially developed by Liñán and Chen (2009). Moreover, additional

measurements were considered to measure additional variables of specific interest to the UAE context; these are discussed in a later section. Professor Francisco Liñán was contacted and he kindly provided the EIQ questionnaire.

EIQ was developed following Ajzen's methodological recommendations for building a TPB questionnaire (Jaén & Liñán, 2013). It has been revised by many authors and it is capable of improvement by other researchers in future studies, thus becoming more applicable to different cultures and contexts. Its rigor in prior construction and validation helped to minimize measurement and statistical problems (Liñán, Urbano, & Guerrero, 2011).

The survey devised for the present study (see Appendix 1) consists of seven main sections, devoted to demographic data, education and experience, entrepreneurial intention, entrepreneurial attitude, subjective norm, perceived behavioral control and professional attraction.

To obtain information about the main theoretical items, the study used predominantly Likert-type questions. In addition, a few open-ended, closed-ended and binary questions were used to measure other items. The five-point Likert scale was used for certain items because it is held to be adequate for most measures (Hinkin, 1995). The wording of the questions was carefully reviewed to make them understandable by the respondents while accurately measuring the intended variables. For example, the scaling procedure for some items ranged from 1= strongly disagree to 5= strongly agree. For other items, the Likert scale ranged from 1= totally unlikely to 5=totally likely. Moreover, other scales were used to offer adequate measurements of the study items. In some questions, the researcher added a "Not Applicable" column to help the respondents to know where to fit themselves even when the question did not apply to them, thus avoiding the temptation to answer erroneously or not at all.

In order to complete the questioning in one survey, a detailed construct table was developed (see Appendix 2). This comprehensive table contains information regarding the variables considered in this study, their definitions, and the measurement approaches taken to measure the study items after considering and revising key alternative measurements suggested by other researchers in the area.

The following sections contain detailed information about the measurement items for each study construct.

3.2.1.1 Entrepreneurship Intention (EI)

To measure this dependent variable, the author used two measurement approaches. The first measurement was adopted from Jaén & Liñán's (2013) EIQ questionnaire, where five items are used to assess the perceived likelihood of the respondents to choose an entrepreneurial career. The second measurement come from Autio, Keeley, Klofsten, Parker, & Hay (2001), where four items are used to measure the time needed to start each new venture some time in the future, and whether the envisaged work would be ***full time*** or ***part time***. This additional measurement was considered to reflect the UAE's unique context, because this study examines entrepreneurship as an alternative career option for UAE national youth after graduation, and because the evidence suggests that a high percentage of UAE nationals are employed besides being entrepreneurs (Sokari, Horne, Huang, & Awad, 2013). Moreover, the use of this additional measurement enables the study to compare the result of the suggested standardized measurement of "Entrepreneurial Intention Questionnaire (EIQ) with the measurement of EI by Autio, Keeley, Klofsten, Parker, & Hay, (2001), thus helping to examine the robustness and validity of the Entrepreneurial Intention Questionnaire (EIQ) in the UAE context, one of the study's

objectives. It also responds to the (EIQ) authors' call for testing and further validating the EIQ measurement instrument in different contexts. The reported Cronbach Alpha of the EI measurement by Autio, Keeley, Klofsten, Parker, & Hay, (2001) is .82. A set of questions answered on a five-point scale was used to measure the responses for each of the EI items, as follows:

First measurement: please state your level of agreement with respect to the following statements (1=strongly disagree, 5= strongly agree)

1. It is very likely that I will start a venture some day.
2. I am willing to make any effort to become an entrepreneur
3. I have serious doubts whether I will ever start a venture.
4. I am determined to start a business in the future.
5. My professional goal is to be an entrepreneur.

Item three above was reversed to prevent acquiescence bias (Jaén & Liñán, 2013).

Second measurement: how likely is that you will start a new firm of your own? Please assess the option of starting different types of firm (1= totally unlikely. 5=totally likely). An 'N/A' option was provided here also to indicate whether the respondents had already launched a firm. Moreover, the author added "after graduation" at the end of each item to indicate more appropriately the intended start-up time for entrepreneurial activity by UAE students.

Full-time occupation in own firm

1. Start a firm on a full-time basis in one year after graduation
2. Start a firm on a full-time basis in five years after graduation

Part- time occupation in own firm

3. Start a firm on a part-time basis in one year after graduation
4. Start a firm on a part-time basis in five years after graduation

3.2.1.2 Attitude

Based on the improved EIQ instrument version suggested by Jaén & Liñán (2013), and in the same lines as Ajzen's (2002) work, the independent variable of attitude to entrepreneurship was measured through two sets of six items. The first set assessed the expected outcomes of an entrepreneurial career and the second set assessed the desirability of those outcomes. The two sets were then suggested to be multiplied and divided by the total of items used to obtain scale average scores (Jaén & Liñán, 2013). This approach was also supported by Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, (2011), with Cronbach's Alpha of .77 (Moriano et al., 2011). To reflect the UAE context in measuring this construct, three additional items were considered. These items concerned contributing to society and country, pursuing one's passion and creating a job for oneself. Thus, nine items were asked about attitude, as follows:

First set: for you, starting a new business (being an entrepreneur) would involve... (1= totally unlikely, 5=totally likely)

1. Facing new challenges
2. Taking calculated risks
3. Contributing to society and the country
4. Achieving greater independence
5. Pursuing a passion
6. Creating jobs for others
7. Creating a job for oneself
8. Having more income
9. Being creative and innovative

Second set: now, please state to what extent these statements are desirable for you generally … (1= totally not desirable, 5= totally desirable)

1. Facing new challenges
2. Taking calculated risks
3. Contributing to society and the country
4. Achieving greater independence
5. Pursuing a passion
6. Creating jobs for others
7. Creating a job for oneself
8. Having more income
9. Being creative and innovative

Moreover, the "Mini-Kolvereid Scales" suggested by McNally et al. (2014) was used as an additional measurement for attitude. Several issues encouraged us to include this scale in our measurement of this construct. First, the well-known Kolvereid scale was initially developed to distinguish between organizational employment and self-employment. This is considered an important approach to measure career preferences especially in the UAE context where there is high tendency among UAE national youth to prefer work in the public sector or to combine two work options: self-employment and organizational employment.

Second, mini-Kolvereid scales were developed on the basis of a study aimed to test and validate the original Kolvereid scales (1996); it is suggested that the mini scales produce more accurate conclusions regarding the relationship between attitude and EI (McNally et al., 2014). It is alleged that previous studies overestimated the relationship between attitude and intention because they used untested attitude and

intention scales. As a result, using the two different measurement approaches of Jaén & Liñán (2013) and mini-Kolvereid to measure attitude allows us to compare the results of the two approaches and thus recognize and judge if the tested and validated mini-Kolvereid attitude scales can more accurately identify the relationship between the tested variables. This approach enhances the methodological rigor, advances the literature in this field (McNally et al., 2014) and assists the study to reach more accurate conclusions and recommendations for better understanding of the influence of attitudes on the intention to be entrepreneur. It is also worth mentioning that additional focus is given here to the attitude measurement because research claims that the TPB constructs of subjective norm and perceived behavior control scales are better tested and validated, with more adequate reliability and validity, than more commonly used attitude scales (McNally et al., 2014).

The mini-Kolvereid scale includes three validated mini-attitude factors which may be related to career intention: workload, autonomy and creativity. The respondents were asked to indicate on a five-point Likert scale how important each of the following factors was for their decision about future career plans (1=not at all important, 5= very important):

Component 1: Workload

1. Not having long working hours
2. To have fixed working hours
3. Not to have a stressful job

Component 2: Autonomy

1. Independence
2. To be my own boss

3. To be able to choose my own work tasks

Component 3: Creativity

1. To create something
2. To fulfill my creative needs

In addition, risk aversion or attitude toward risk was further investigated because the literature suggests that it plays a key role in affecting the entrepreneurship intention of UAE national youth. It is defined as an "*individual degree of negative attitude toward risk arising from outcome uncertainty*" (Mandrik & Bao, 2005, p. 533). To measure this variable, the study adopted the General Risk Aversion (GRA) scale suggested by Mandrik and Bao (2005). This scale is the most preferred of all domain-specific measurements of risk-taking, for many reasons. A domain specific risk taking measurement approach – using for example a self-reported scale to measure a specific action such as buying a new car or making an investment decision, etc. - appears to entail many problems relating to its reliability and applicability in other research contexts (Mandrik & Bao, 2005). However, GRA provides a more standardized and valid measure, which can be used in a wider context to measure risk aversion through a simple and short self-reported scale (Mandrik & Bao, 2005). The reported Cronbach Alpha of this measurement is .72. The respondents were asked to indicate how far they agreed with the following six statements (items) about taking risk (1= strongly disagree, 5= strongly agree) as follows:

1. I do not feel comfortable about taking chances or opportunities.
2. I prefer situations that have foreseeable outcomes.
3. Before I make a decision, I like to be absolutely sure how things will tum out.
4. I avoid situations that have uncertain outcomes.

5. I feel comfortable improvising in new situations.
6. I feel nervous when I have to make decisions in uncertain situations.

3.2.1.3 Subjective Norm

Based on the improved EIQ instrument version suggested by Jaén & Liñán (2013), and in line with Ajzen's (2002) recommendations in measuring this construct, the independent variable of the subjective norm was measured through two sets of six items each. These measures indicate how the respondents believe that their significant others (e.g. parents) would view their entrepreneurial career choice, as well as their motivation to comply with such people. These two sets are suggested to be multiplied together and then divided by three to obtain scale average scores (Jaén & Liñán, 2013).

The original measurement items suggested by Jaén & Liñán (2013) were three in number: immediate family (parents and siblings), close friends and colleague and mates. However, guided by the literature and bearing in mind the UAE context the author added some items and split the effect of parents and of sibling to measure their effects accurately and individually.

In the literature, families play a key role in influencing the EI and career choice of UAE national youth (Khalifa Fund, 2014; "Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.). 'Families' means in effect parents, siblings and spouse (Khalifa Fund, 2014). Moreover, in a collectivist culture such as that of the UAE one's closest (or immediate) family and one's extended family are suggested to have great influence (Moriano et al., 2011). In addition, relevant groups (close friends and colleagues) represent significant others in

measuring subjective norms in the UAE context (Jaén & Liñán, 2013; Khalifa Fund, 2014).

Accordingly, the respondents were asked to think about their relatives and closer friends (parents, siblings, husband/wife, close friends and colleagues or mates) individually and indicate on a five-point Likert scale to what extent these people would agree with the respondent's decision to become an entrepreneur (1= strongly disagree, 5= strongly agree). Then they were asked to indicate how much they valued the opinion of these people (1= not at all important, 5=very important). An additional column, headed "Not Applicable" had been added to give the respondents the chance to indicate that they did not have one or more of the relationships listed.

3.2.1.4 Perceived Behavioral Control

To measure the third TPB independent variable, that of perceived behavioral control, the study adopted the revised EIQ measurement approach suggested by Jaén & Liñán (2013). This measurement combines elements of self-efficacy and controllability "*the extent to which successfully performing the behavior is up to the person*" (Liñán & Chen, 2009b, p. 602), in accordance with Ajzen's (2002) theory and previous research suggestions (Jaén & Liñán, 2013). Through the suggested measurement items, the respondents were asked to indicate the extent that they would be able to effectively perform specific tasks. The original items suggested by Jaén & Liñán (2013) numbered six; however, an additional item was added related to writing business plans. This item is suggested to have a greater effect in generating a high level of interest in UAE national youth and enhancing their desire to be involved in entrepreneurship activities in the UAE context (Khalifa Fund, 2014). Moreover, it is argued that business planning is taught on many entrepreneurship courses and

programs offered by leading universities (Honig, 2004). In addition, recent research emphasizes the need to investigate the effect on EI of drawing up business plans (Fayolle & Liñán, 2014) . Accordingly, the respondents were asked to indicate on a five-point Likert scale how far they would be able to effectively perform the following tasks (1= totally ineffectively, 5= totally effectively):

1. Defining my business idea and new business strategy.
2. Keeping under control the new-venture creation process.
3. Negotiating and maintaining favorable relationships with potential investors and banks.
4. Writing a business plan.
5. Recognizing opportunities in the market for new products and/or services
6. Interacting with key people to raise capital to create a new venture.
7. Creating and putting into operation a new venture.

3.2.1.5 Professional Attraction

To meet the study purposes and to facilitate data interpretation the measuring of professional attractiveness to different career types was considered. Items suggested by Liñán and Chen (2009) formed the basis of ideas for modifying or augmenting existing items to accurately reflect the UAE's unique cultural context. Using a five-point Likert scale, the respondents were asked to value the following options of things to do immediately after finishing their degree. (1=totally not desirable, 5=totally desirable). The first three items were supported by the literature, and the two other items were suggested as a result of a pre-testing procedure which is described below in this chapter.

1. Starting up a firm.

2. Working in the public sector.
3. Working in the private sector.
4. Pursuing further study (e.g. for a Master's or PhD qualification).
5. Not willing to work/Stay at home.

3.2.1.6 Education and Experience

This section discusses items to measure the effects of the controlled variables of entrepreneurship experiences, the family role model, and education on entrepreneurial intention.

Following Jaén & Liñán's (2013) measurement using simple binary questions (Yes/No) to measure **entrepreneurship experience**, the respondents were asked to indicate if they had ever been an entrepreneur/started their own business venture.

The **family role model** was measurement based on Jaén & Liñán's (2013) measurement with some minor modifications in question wording to make it more understandable without changing the meaning. Using the suggested simple binary questions (Yes/No) the respondents were asked to indicate if any of their close family members were currently entrepreneurs, or had ever been entrepreneurs in the past. Moreover, those respondents who answered "Yes" to the previous question were then asked in closed-ended questions to indicate their relationship with this entrepreneur, choosing from the following options:

- Parent
- Sibling
- Grandparent
- Uncle/Aunt

- Cousin
- Other (please identify the relationship) .....

On the basis of Liñán and Chen (2009) and Liñán, Urbano, & Guerrero (2011), the controlled variable of **education** could be measured by asking the respondents to identify the major that they were then studying and when they expected to complete the degree. An additional question was added before that, asking the respondents to indicate the college where they were studying. It was hoped that this would reveal the number of students who were studying in a Business and Engineering college, because the literature suggests that future entrepreneurs are most likely to be captured amongst students of those two fields of study (Pratheeba, 2014b; Shinnar et al., 2009). Multiple options were given to the respondents to answer these closed-ended questions. Moreover, the respondents answered a simple binary question (Yes/No) to indicate if they had taken any courses or modules that could constitute entrepreneurship education. If they answered "Yes", they were asked in an open-ended question to indicate the courses or modules in question.

Moreover, in line with this study's purpose and objectives, an additional question was asked to reveal which country the students were studying in. The Khalifa Fund report on youth and entrepreneurship in the UAE (2014) suggested that there are many current examples of entrepreneurs who studied or worked in a Western country before starting their own businesses. International exposure, it is suggested, encourages an openness to international markets and different lifestyles and cultures. It influences the individual mindset and facilitates more flexibility in ways of thinking, helping to build networks with people from different countries and introducing people to best practices, products, technologies and management approaches (Khalifa Fund,

2014; Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002). Accordingly, the study investigates this claim through comparing the results of the UAE national youth students who are studying inside the country with those studying outside it by asking closed-ended questions about the country and the university where they are studying.

3.2.1.7 Demographic Data

This section checked the following variables:

- **Age**: was measured using a closed-ended question to identify the respondent's age in years.
- **Gender**: was measured using a closed-ended question to indicate the respondent's gender (female/male).
- **The Residential Emirate**: this is an extra variable considered for measurement in this study, although it was not included on the study model; it indicates the emirate that the respondent comes from. The respondents were asked a closed-ended question to give the name of the emirate where they lived, choosing from the seven UAE emirates that were offered.
- **Nationality:** this variable was not included in the study model; however, it was intended to elicit the respondents' nationality. Respondents were asked a closed-ended question to identify their nationality, whether Emirati or not.

The research hypotheses listed in Table 2 in the previous chapter were updated according to the additional measurements used to measure EI and attitude. Thus, in Table 3, below, **H1** "attitude positively and directly influences entrepreneurial intention" has been reformulated three times: in **H9** (to emphasize autonomy), **H12**, (creativity) and **H15** (workload) to reflect the "Mini-Kolvereid Scale" measures of

attitude. Similarly, **H11**, **H14** and **H17** have also been added and **H2**, **H4**, **H7**, **H10**, **H13**, **H16** have been added to reflect the use of the second EI measurement suggested by Autio, Keeley, Klofsten, Parker, & Hay, (2001). This will help also to present the result clearly and more accurately. Table 3 below presents the final study hypotheses.

Table 3: Research Final Hypothesizes

#	**Hypotheses**
H1	Attitude positively and directly influences entrepreneurial intention
H2	Attitude positively and directly influences entrepreneurship intention option preferences
H3	Perceived behavioral control positively and directly influences entrepreneurial intention
H4	Perceived behavioral control positively and directly influences entrepreneurship intention option preferences
H5	The subjective norm positively influences attitude
H6	The subjective norm positively and directly influences entrepreneurial intention
H7	The subjective norm positively and directly influences entrepreneurship intention option preferences
H8	The subjective norm positively influences perceived behavioral control
H9	Autonomy positively and directly influences the entrepreneurial intention

H10	Autonomy positively and directly influences entrepreneurship intention option preferences
H11	The subjective norm positively influences autonomy
H12	Creativity positively and directly influences entrepreneurial intention
H13	Creativity positively and directly influences entrepreneurship intention option preferences
H14	The subjective norm positively influences creativity
H15	Workload negatively and directly influences entrepreneurial intention
H16	Workload negatively and directly influences entrepreneurship intention option preferences
H17	The subjective norm positively influences workload
H18	Gender indirectly influences the entrepreneurial intention through the direct effect on attitude, the subjective norm and perceived behavioral control
H19	Age indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control
H20	Entrepreneurship experience indirectly influence the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control

H21	Family role models directly and indirectly influence the entrepreneurial intention. Indirectly through the direct effect on attitude, subjective norm and perceived behavioral control.
H22	Education indirectly influences the entrepreneurial intention through the direct effect on attitude and perceived behavioral control but not on the subjective norm
H23	Entrepreneurial intention is higher among UAE national students who are studying outside the country than students who are studying locally
H24	Attitude toward risk (risk aversion) is higher among UAE national students who are studying locally than those who are studying abroad

In order to facilitate the analyses later, Table 4 below presents the study constructs and specifies the abbreviations for each item used.

Table 4: Abbreviations of the Study Construct Items

The Construct	**Abbreviation of the Items**	**Measurement**
Entrepreneurship Intention	EI1	It is very likely that I will start a venture someday.
	EI2	I am willing to make any effort to become an entrepreneur

	EI3	I have serious doubts whether I will ever start a venture
	EI4	I am determined to start a business in the future
	EI5	My professional goal is to be an entrepreneur.
	EIOP1	Start a firm on full-time basis within one year after graduation.
	EIOP2	Start a firm on full-time basis within five years after graduation.
	EIOP3	Start a firm on part-time basis within one year after graduation.
	EIOP4	Start a firm on part-time basis within five years after graduation
Attitude	EP1	Facing new challenges
	EP2	Taking calculated risks
	EP3	Contributing to the society and country
	EP4	Achieving higher independence
	EP5	Pursuing a passion
	EP6	Creating jobs for others
	EP7	Creating a job for myself

	EP8	Having more income
	EP9	Being creative and innovative
	EA1	Facing new challenges
	EA2	Taking calculated risks
	EA3	Contributing to the society and country
	EA4	Achieving higher independence
	EA5	Pursuing a passion
	EA6	Creating jobs for others
	EA7	Creating a job for myself
	EA8	Having more income
	EA9	Being creative and innovative
	RSKAT1	I do not feel comfortable about taking chances or opportunities.
	RSKAT2	I prefer situations that have foreseeable outcomes.
	RSKAT3	Before I make a decision, I like to be absolutely sure how things will tum out.
	RSKAT4	I avoid situations that have uncertain outcomes.

	RSKAT5	I feel comfortable improvising in new situations.
	RSKAT6	I feel nervous when I have to make decisions in uncertain situations.
	CARATT1	Not having long working hours
	CARATT2	To have fixed working hours
	CARATT3	Not having a stressful job
	CARATT4	Independence
	CARATT5	To be my own boss
	CARATT6	To be able to choose my own work tasks
	CARATT7	To create something
	CARATT8	To fulfill my creative needs
Subjective Norm	SN1	My parents.
	SN2	My siblings.
	SN3	My spouse.
	SN4	My close friends.
	SN5	My colleagues or mates.
	SNVA1	The opinion of my parents.

	SNVA2	The opinion of my siblings
	SNVA3	The opinion of my husband/wife
	SNVA4	The opinion of my close friends.
	SNVA5	The opinion of my colleagues or mates.
Perceived Behavioral Control	PBC1	Defining my business ideas and new business strategy.
	PBC2	Keeping under control the new-venture creation process.
	PBC3	Negotiating and maintaining favorable relationships with potential investors and banks.
	PBC4	Writing a business plan
	PBC5	Recognizing opportunities in the market for new products and/or services
	PBC6	Interacting with key people to raise capital to create a new venture.
	PBC7	Creating and putting into operation a new venture
	PA1	Starting up a firm

Professional Attraction	PA2	Working in the public sector
	PA3	Working in the private sector
	PA4	Pursuing further study (e.g. for a Master's/, PhD degree)
	PA5	Not willing to work/stay at home
Entrepreneurship Experience	ENT_EXP	Have you ever been an entrepreneur/started your own business venture?
Family Role Model	FAMROLE1	Are any of your close family members currently entrepreneurs, or have they been, entrepreneurs in the past?
	FAMROLE2_ Parent	If any of your close family members is or has been an entrepreneur, is s/he your parent?
	FAMROLE2_ Sibling	If any of your close family members is or has been an entrepreneur, is s/he your sibling?
	FAMROLE2_ Grandparent	If any of your close family members is or has been an entrepreneur, is s/he your grandparent?
	FAMROLE2_ UncleAunt	If any of your close family members is or has been an entrepreneur, is s/he your uncle/aunt?

	FAMROLE2_ Cousin	If any of your close family members is or has been an entrepreneur, is s/he your cousin?
Education	EDU1	Please indicate the college that you are studying at
	EDU2	What major are you studying?
	EDU3	When do you expect to complete your degree?
	EDU4	Have you taken any course or module that could be considered as entrepreneurship education during your studying?
	a_EDU4	What are the courses or modules you have taken that could be considered as entrepreneurship education during your studying?
	EDU5	Please indicate the country that you are studying in
	EDU6	Please indicate the university name that you are studying at
Demographic data	DD1	Age
	DD2	Gender
	DD3	The residential emirate

	DD4	National or non-national?
	a_DD4a	Nationality

3.2.2 Pre-Test

Pre-testing is suggested as a way to help the researcher to identify and overcome the survey's problems before sending it to the targeted group. It has been used as a way to enhance the survey instruments and thus ensure content validity (Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002).

Expert review is suggested as one way to conduct pre-testing, where experts in the topic or in questionnaire design, or both, are asked to evaluate the survey, identify any questions/problems, suggest additional questions and identify any potential measurement errors. It is considered a quick and inexpensive way to evaluate the survey (Olson, 2010). Accordingly, this method was used to conduct the pre-test in this study. It is suggested that a group of three to four experts is adequate for the purpose of evaluating the survey (Olson, 2010). In this study, three academics in the research field reviewed the questionnaire and provided valuable comments regarding its content and wording to make it more applicable to the UAE context and more understandable for the targeted group. Moreover, two statisticians were asked to give comments regarding the questionnaires structure. Accordingly, adjustments in the sequence of questions, the wording of possible answers and additional options to the answers (e.g. 'N/A') were considered. In addition, an expert in the UAE education field reviewed the questionnaire and provided feedback regarding its applicability.

As a result of pre-testing, modifications and additional items in the scaling section above were considered. The questionnaire was also extensively reviewed and many survey versions were developed before it was fully finalized.

In this study, an online survey was used as a method to collect the data. This internet-based methodology is suggested to be more accessible, more cost and time efficient, accessible to a larger targeted group and faster in its replies (Alessi & Martin, 2010; Schmidt, 1997). Moreover, it is suggested that it facilitates data analysis more than the traditional paper and pen method (Alessi & Martin, 2010). In addition, it is suggested to be methodologically and financially appealing to researchers dealing with college student populations (Sax, Gilmartin, & Bryant, 2003).

Moreover, to make sure that the survey would be understandable to the targeted group and to decide if it should be translated into Arabic, the native language of the respondents, a pilot study was conducted. Pilot studies are suggested also to test the adequacy of the study instruments (Van Teijlingen & Hundley, 2002). Accordingly, a total of 21 UAE national youth undergraduates of UAEU who were business majors in their final year agreed to participate in a pilot scheme. In their normal class time, they were presented with a survey by email. Below are the main comments received:

1. Some words were not familiar.
2. Some questions were not clear.
3. Some students were not familiar with the term "entrepreneurship".

The feedback above led to the following modifications:

1. Some words and questions were slightly rephrased without affecting their original meaning. The intention was to make the items clearer, more concise and more specific.
2. The term "entrepreneurship" was defined at the opening of the survey.
3. The whole questionnaire was translated into Arabic.

The translation was supported by input from a specialist professional. To make sure that the translation was rigorously accurate, the questionnaire was translated into Arabic using the translation-back-translation method.

3.3 Sampling

As noted above in the second chapter, much research on EI examines undergraduates as a research sample (Manolova, 2012; Franke & Lüthje, 2004; Schlaegel & Koenig, 2014), with a justifiable focus on business and engineering majors (Pratheeba, 2014b; Shinnar et al., 2009). It is suggested that business college students enroll on many business programs and thus inevitably direct their career choice towards business-related areas (Pratheeba, 2014a). Similarly, the technical training and programs provided for engineering students increase their potential to start high growth ventures and thus become entrepreneurs (Souitaris et al., 2007).

According to Turker and Selcuk (2008), since it is more likely that people will start new ventures between the ages of 25 and 44, it is logical to focus on those who are below the age of 25 to capture the factors that may affect their intention to start a new business in the future (Turker & Selcuk, 2009). Moreover, the United Nations defines "Youth" as people between the ages of 15 and 24 years ("Youth - Definition | United Nations Educational, Scientific and Cultural Organization," n.d.). Accordingly, the focus was on youth undergraduate students of business and engineering colleges

and our unit of analysis was the undergraduate student. It should be noted that the United Nations adopts the above definition of youth for statistical purposes. However, it also refers to the definition of youth in the African Youth Charter where the issues relate to activities at the national level, including the implementation of youth programs. The African Youth Charter defines youth as those between 15 and 35 ("Youth - Definition | United Nations Educational, Scientific and Cultural Organization," n.d.).

The present study looks at the entrepreneurship intentions of UAE national youth students who are studying both inside and outside the UAE, focusing on female and male senior students who had already selected a major and completed sufficient business and engineering courses and were close to graduation and engagement with the job market. They were mainly 3rd and 4th year students. It is suggested that senior students have a higher tendency than younger ones to select entrepreneurship because they have more knowledge and greater practical exposure to this kind of work (Ahmed et al., 2010). Moreover, it is suggested that the intention is formed at least a year in advance of creating a new venture (Pratheeba, 2014a). Accordingly, focusing on senior students would indicate whether such university students (who represent future/potential entrepreneurs) are intent on a entrepreneurship after graduation.

The study limits its population inside the UAE to students in the four main government universities/institutions, namely, Zayed University (ZU), United Arab Emirates University (UAEU), the Higher Colleges of Technology (HCT) and the Petroleum Institute (PI). There were three reasons for choosing government educational bodies. First, ZU, HCT and UAEU represent key federal government institutions which together account for 57% of all enrollments by UAE nationals

(Khalifa Fund, 2014). Thus, concentrating on them would save the time, effort and resources needed for distributing the questionnaire and collecting the data. Second, those institutions mainly accept UAE national youth, thus, facilitate our access to our targeted population. Third, those educational bodies, except for ZU and PI, provide both engineering and business education. ZU does not offer engineering but does provide business courses, whereas PI provides mainly engineering programs ("Welcome to The Petroleum Institute Abu Dhabi, UAE," n.d.)

To reach students who are studying outside the UAE, the UAE Scholarships Office (SCO) was approached. This office was first set up established with the purpose of sponsoring outstanding candidates who were studying in prestigious international universities. The office is directly supervised by MOPA ("SCO - The Scholarship Co-ordination Office - Abu Dhabi, Unites Arab Emirates," n.d.). Recently the office launched a new plan and strategy to encourage the employment of their graduates in various ways, including entrepreneurship. Hence, by targeting students who were sponsored by this office, the author hoped to be able to access the intended study sample, encourage students to participate in the survey and thus generate a higher response rate. Moreover, by targeting such students, the author hoped to support their employment strategy especially with regard to self-employment, thus indirectly supporting MOPA's objectives as well. Although the author enjoyed the firm support of the SCO in conducting the study and the online survey was distributed to all the targeted students, we received fewer responses than expected. As a result, to achieve the study objectives, the author targeted also students who had been sponsored to study abroad by the Ministry of Education (Higher Education Affairs). The Scholarship and Cultural Foreign Relations Department in the Ministry of Education is responsible for managing scholarship programs for studies abroad. They support specific programs

including engineering, business, and economics and management ("Ministry of Education | UAE Embassy in Washington, DC," n.d.).

In order to facilitate data collection, initial meetings were first conducted with the officials at the Ministry of Education (Higher Education Affairs) who were responsible for our targeted sample. The meeting facilitated data collection and communication with top management in the targeted educational institutions. Both the Ministry and the targeted educational institutions gave us positive support in conducting the survey. Soft copies of the questionnaire were sent by email to the targeted institutions, along with permission letters to conduct the research from UAEU. The email also provided general information regarding the title of the study, who should receive copies of the survey and how the survey would be conducted.

After receiving approval for conducting the survey, an online URL link was set up, along with a brief introduction to students to encourage them to participate. More information regarding the study aims, objectives and benefits was provided on the first page of the survey in both Arabic and English. Moreover, the respondents were assured that the data and information that they provided would be confidential and used only for the purposes of this study. The respondents were promised that no individual participant would be identified in the study and the data would be analyzed only in the aggregate.

One week after the survey was distributed, follow-up calls were made and emails were set to the targeted institutions to encourage participation. Sending frequent reminders is suggested as a way to increase the rate of response to an online survey (Nulty, 2008). Moreover, in each institution, a key person and some faculty members were involved as facilitators between the researcher and the targeted institutions to aid

data collection and in turn enhance the response rate. After reaching the desired total of responses, the author deactivated the online survey and started to analyze the data.

In this study, non-probability sampling, specifically, "purposive/judgment" sampling method was used. The participants were selected on the basis of the researcher's knowledge of the target population.

The total sample of 600 students was intended to provide the desired sample size of 300 students within the UAE and 300 students elsewhere. However, the total of responses collected from the online survey was 719, of which only 552 were fully completed. A total of (544) cases was ultimately found eligible for the next step, statistical data analysis after data screening, as described below. It is recommended that 5 to 10 respondents should be surveyed for each study variable up to 300 (Kass & Tinsley, 1979). In addition, Roscoe (1975) suggests that most research requires a sample greater than 30 and below 500 (Sekaran & Bougie, 2016). Moreover, Comrey and Lee (1992) suggest that for many studies (100) is considered an inadequate sample, while 300 is a good total and 1000 is considered excellent (Comrey & Lee, 2013). Although the study questionnaire was distributed to the targeted group through the intermediates (or facilitator as mentioned above), accordingly, the author didn't know the exact response rate, however, our sample size is considered sufficient to reach valid research conclusions as supported by previous mentioned literature. Indeed, Harzing et al (2005) refers to such research intermediaries as 'confederates'. Her research recognizes the significant importance of such confederates in gaining access to research participants in an international business and management context that often presents considerable challenges above and beyond the norms of research process in a Western context (Harzing, 2005).

Summary

In this chapter, the steps taken to develop the research methods of the study were presented. The following chapter analyses the research data and discuss the results.

Chapter 4: Results and Analysis

This chapter reports in detail the statistical procedures followed for analyzing the data collected for the present study. This study's main objective – as noted above – is to investigate the factors that affect and influence UAE nationl youth intentions to become entrepreneurs and consequently provide UAE policy makers with practical implications to promote entrepreneurship as preferable career choice among them. Accordingly, this chapter first discusses the steps taken to prepare the collected data for analysis, called "*data screening*". It involves treating cases of missing data and outliers. This is followed by descriptive statistics, including those on the respondents' demographics, to provide some qualitative insights when investigating, describing and discussing the data obtained in terms of value and contribution to the aims of the research. Third, this chapter focuses on the purification and computation processes of measuring the variables. In this process, the reliability of the research measures is analysed. Cronbach's Alpha is used as an initial indicator of reliability of the scale measurement. Finally, further analysis is conducted using the PLS method to test the hypotheses developed during the course of the research.

It should be remembered that the aim of this chapter is specifically to give the statistical results from the analysis of data. The next chapter interprets and discusses the implications and findings of the present chapter in relation to the literature discussed in Chapter 2. In other words, this chapter is restricted to a presentation and analysis of the collected data, without drawing general conclusions or comparing our results to those of other researchers. The conclusions and recommendations of these results are discussed below in the final chapter of this dissertation.

4.1 Data Screening

Cleaning the data once they have been collected is an important step to take before starting the analysis. Screening the data to check for missing information and outliers is essential if the analysis of the data is to be of use (Tabachnick, Fidell, & Osterlind, 2001). The first step in preparing our data for analysis was the process of data editing, coding and data entry to SPSS. First, the data were screened for any errors and omissions, to ensure that it reached the applicable quality standards. Next, the study variables were coded into a format suitable for the Statistical Package for the Social Sciences (SPSS), version 22. Each variable was given a unique label, as noted above in the methodology chapter. This step helped in setting up the computer software to analyze the data. Then SPSS was used to enter the data automatically as it was exported from the Excel sheet that the online survey platform, Monkey Survey, provided.

4.1.1 Missing Data

Missing data is a common problem in data analysis. The effect of the missing data depends in their pattern, size (the amount that is missing) and the underlying reason why they may be missing (Tabachnick et al., 2001). There are many options for handling the missing data. The data may not be modified but left alone, especially if the missing values are small and non-random, or the missing values may be replaced. The third option is to delete the cases or variables affected. This is the recommended option if the sample size is large and/or when the respondents have not answered all the questions in the survey. The deletion of variables with missing data is also recommended if these variables are not critical to the study (Tabachnick et al., 2001).

In the present study, 719 collected responses from Survey Monkey were checked and cleaned. There were 164 cases with many incomplete scale answers, while 3 cases had complete scale answers but incomplete demographic responses. The fully answered question sheets with complete sets of demographic and scale answers numbered 552. The total of cases that proceeded to analysis was 555, after adding 3 survey with complete scale answers as will explain later. The steps performed in the data cleaning and preparation for statistical analysis were as follows:

1. As the questionnaire originally posted on Survey Monkey was bilingual, the Arabic text was first removed from all the questions and answers in the initial data from Survey Monkey.
2. Because the study depends on analyzing the respondents' answers to the scale questions which constituted most of the questionnaire, the 164 questionnaires with incomplete scale answers were removed from the study data.
3. The importance of the demographic data from the respondents stems from the fact that the study involves some comparisons that are based on demographic details. Even though 3 questionnaires lacked data on nationality, they were included in the analysis.
4. The 552 questionnaires left after removing all those with missing scale answers were considered the main ones with data eligible to receive statistical analysis for the study's purposes. This makes a total of 555 questionnaires eligible for reading into SPSS data analysis software. It is also worth mentioning that three of these genuine cases were filled by sons of national

ladies [2], as they indicate this on their survey, and they were considered as nationals.

5. To make the worksheet data more user friendly for SPSS, all the variables with text entries were automatically recoded. After this, study construct item abbreviations were assigned as new names for the resulting variables.
6. Automatic recoding converts the text entries into numerical values and at the same time assigns the former text entries as value labels, in alphabetical order. Hence, all of the resulting automatically recoded variables were given a value label recoding, so that both their values and value labels would match those in the original study questionnaire. An SPSS syntax file was prepared for the large number of variables and their value labels.
7. To simplify the analysis and improve the output some grouping variables were created, such as the new nationality grouping variable with 'National' and 'Non-national' labels, and a multiple response set for Question 11 of family role was created.
8. Once the value label recoding was performed, the resulting refined data were used in the data analysis following the methodology suggested for the study.
9. To meet the assumptions of some statistical tests, specifically the reliability test, the value labels of the items that were phrased opposite to their other scale items were reversed and recoded. These items were Q12_EI3, Q15_RSKAT5 and Q20_PA5.

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[2] Sons of national ladies are sons of Emirati women who married foreigners. Previously, citizenship could only be passed on through the father. However, currently sons of Emiratei women are given the opportunity to apply for citizenship when they reach the age of 18 and they are givne the same rights as the children of Emirate couples.

4.1.2 Outliers

Outliners are extreme values compared to the rest of the study data. Outliers affect data normality and because normality is considered to be an important assumption of many statistical tests, outliers should be detected and resolved (Tabachnick et al., 2001). There are two types of outlier, "univariate" and "multivariate". Univariate outliers represent cases with an extreme value in one variable, while multivariate outliers are cases with strange combinations of scores on two or more variables (Tabachnick et al., 2001). Once the outliers are identified, there are many possible ways of dealing with them. One option is deletion. If there are few outliers, those values may simply be deleted. Moreover, the variable could be deleted if the question is not well constructed or many outliers are found in this variable. As well as deletion, we may transform or change the value to the next highest/lowest non-outlier number. Transformation of the entire variable is also available as another way of dealing with outliers (Tabachnick et al., 2001).

Although this study does not aim for complete normality in the entire data set it is still concerned with extreme outliers since multivariate normality is an important precondition for the effective use of some analytical techniques such as structural equation modeling (SEM). Statistical methods used to identify multivariate outliers are generally used to indicate observations located far from the center of data distribution (Ben-Gal, 2005). The "Mahalanobis" distance is one of these methods (Ben-Gal, 2005). The "Mahalanobis distance test-using SPSS" was used here to identify and remove responses which were extreme outliers. A high Mahalanobis distance indicates the observation of extreme outliers (Ben-Gal, 2005). It is suggested

that a threshold for considering data to be multivariate normal is a multivariate critical ratio of less than 1.96 (Gao, Mokhtarian, & Johnston, 2007).

The Mahalanobis distance was analyzed using SPSS to identify the multivariate outliers in the data. The Mahalanobis distance test identified eleven cases of extreme outliers. These eleven cases were removed from further analysis.

4.1.3 Normality

Normality is a symmetric "bell-shape" curve defined by mean (average) and variance (variability). Some researchers claim that checking for normality is essential in most multivariate analysis (Tabachnick et al., 2001). However, other researchers suggest that true normality is uncommon or unreal, since much authentic data is not normal (Blanca, Arnau, López-Montiel, Bono, & Bendayan, 2013; Micceri, 1989). Moreover, Reinartz, Haenlein, & Henseler (2009) suggest that the maximum likelihood estimators used in structural equation modeling (SEM) are relatively robust to violations of normality assumptions (Reinartz, Haenlein, & Henseler, 2009). Since this study was going to use SEM to analyze the study data through the Partial Least-Square (PLS) technique, normality concerns were more relaxed. In any case, PLS does not depend on or assume data normality (Chin, 1998) and it is suggested as a powerful SEM-based analysis technique (Chin, 1998).

4.1.4 Common Method Bias

Common method bias is a variance that occurs because of the measurement method used, not because of the construct of interest. It is considered one source of the systematic measurement error which yielding conclusions from empirical results that

are misleading about the relationship between measures of different constructs (Campbell & Fiske, 1959; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method bias can be attributed to many factors such as "*having a common rater* (i.e. obtaining the independent and dependent variables from the same rater or collecting them all according to the same method), *a common measurement context, a common item context, or from the characteristics of the items themselves*" (Podsakoff et al., 2003, p. 885).

Cote and Buckley (1987) suggest that the amount of common method variance varies according to the discipline of the study and the type of construct under investigation. They find that it is highest in the field of education (30.5%) and in attitude measures which contain an average variance of 40.7% (Cote & Buckley, 1987). Accordingly, this issue in the present study had to be investigated before analysis began. Moreover, it is suggested that this bias is higher when online surveys such as "Survey Monkey" are used (Eichhorn, 2014).

One of the widely used techniques in investigating this issue is "Harman's single-factor test". The basic assumption of this test is that if a single factor emerges or one general factor accounts for most of the covariance between the measures, then one can conclude that a substantial amount of common method variance is involved. Some researchers claim that this technique has limitations, doing nothing to control the effects of common methods bias. However, it is considered an important diagnostic technique to assess the extent of common method bias in a data set (Podsakoff et al., 2003). It is suggested that the data have significant problems with common method bias if one factor accounts for more than 50% of the total variance (Eichhorn, 2014). As can be seen from the table below, the data have no significant problem with common method bias; no one factor accounts for more than 50% of the total variance.

Table 5: Common Method Bias Test (Total Variance Explained)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.718	20.187	20.187	12.718	20.187	20.187
2	4.437	7.043	27.231	4.437	7.043	27.231
3	3.378	5.361	32.592	3.378	5.361	32.592
4	3.221	5.113	37.705	3.221	5.113	37.705
5	2.828	4.489	42.194	2.828	4.489	42.194

Extraction Method: Principal Component Analysis.

The following sections discuss descriptive analysis and reliability and validity tests. There are two main objectives of this process:

1. To examine the profile of respondents and the distribution of responses on the question items.
2. To examine the validity of the measurement model, using reliability and convergent and discriminant validity before proceeding to test the research hypotheses.

4.2 Descriptive Analysis

This section provides general information about respondents. The aim is to provide a brief account of the profile of the study sample. Frequency analysis is used to distribute the participants according to the following characteristics:

- Age
- Gender
- The residential emirate
- Nationality
- Country of Study

- University of Study
- College of Study
- Graduation Date
- Entrepreneurship Education
- Entrepreneurship Experience
- Family Entrepreneurship experience

4.2.1 Age

The first part of the descriptive analysis begins with the age of the respondents. In terms of age, most of the respondents (72.1%) were between 21 and 23 years old [392 respondents]; 11.5% of the respondents were aged between 18 and 20 years old [62 respondents]; 15.8% were between 24 and 28 years old [86 respondents]; and a few respondents (approximately 0.8 %) were between 29 and 32 years old [4 respondents]. The average age of the respondent was 22.24 years old. Tables 6 & 7 summarize the distribution of sample by age and the average respondent age respectively.

Table 6: Distribution of Respondents by Age

		Frequency	Percent	Cumulative Percent
Valid	18	2	.4	.4
	19	3	.6	.9
	20	57	10.5	11.4
	21	120	22.1	33.5
	22	159	29.2	62.7
	23	113	20.8	83.5
	24	53	9.7	93.2
	25	18	3.3	96.5
	26	6	1.1	97.6
	27	6	1.1	98.7
	28	3	.6	99.3
	29	1	.2	99.4
	30	1	.2	99.6
	31	1	.2	99.8
	32	1	.2	100.0
	Total	544	100.0	

Table 7: Average Respondent Age

	N	Minimum	Maximum	Mean	Std. Deviation
Age	544	18	32	22.24	1.669
Valid N (listwise)	544				

4.2.2 Gender

Table 8 below shows that nearly two thirds (70.2%) of the respondents were female and (29.8%) were male. This aligns with the fact there is higher proportion of

females than males in higher education in the UAE (Madsen & Cook, 2010). Indeed, in this country females account for more than 70% of all university graduates (Madsen & Cook, 2010).

Table 8: Distribution of Sample by Gender

		Frequency	Percent	Cumulative Percent
Valid	Male	162	29.8	29.8
	Female	382	70.2	100.0
	Total	544	100.0	

4.2.3 The residential emirate

Table 9 indicates that most of the participants resided in Abu Dhabi (79.2%) with the remainder either in Umm Al Quwain (0.9 %) or in Ajman (1.5%). Moreover, 6.1% of the participants lived in Dubai, while 5% lived in the emirate of Ras Al Khaimah, 3.7% in Sharjah and 3.1% in Fujairah. This distribution could be due to the fact that Abu Dhabi is the capital of the UAE, with the highest population of all the UAE emirates ("Federal Competitiveness and Statistics Authority - Home," n.d.). It is results from the fact that two of the three higher education institutions from which participants were drawn lie in Abu Dhabi.

Table 9: Distribution of the Sample by Emirate

		Frequency	Percent	Cumulative Percent
Valid	Abu Dhabi	431	79.2	79.2
	Ajman	8	1.5	80.7
	Dubai	33	6.1	86.8
	Fujairah	17	3.1	89.9
	Not Specified	3	.6	90.4
	Ras Al Khaimah	27	5.0	95.4
	Sharjah	20	3.7	99.1
	Umm Al Quwain	5	.9	100.0
	Total	544	100.0	

4.2.4 Nationality

Table 10 reveals that most of the respondents (88.4%) in this survey were Emirati nationals. Only 11% of them were not. Three respondents did not mention their nationalities. However, as mentioned previously, those three cases were filled by sons of national ladies. While those three respondents did not state their nationality, however, they did indicate on their survey that they were the children of UAE national mothers. Accodinagly, they could be considered as national. It is noteworthy that although the study targeted only the nationals, some non-national responses were received. Their rarity comes from the fact that few outstanding non-national students are accepted by the targeted government universities. But because the non-nationals represent only a small percentage of all the total respondents compared to the percentage of nationals and because they submitted full questionnaires, the study includes them in the analysis. It is also the case that most of this non-national sub-

group have led their entire lives in the UAE and are highly influenced by the norms of its society, sharing similar values to those of their Emirati classmates (Ryan & Tipu, 2016).

Table 10: Respondents by Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	National	481	88.4	88.4	88.4
	Non-national	60	11.0	11.0	99.4
	Not specified	3	.6	.6	100.0
	Total	544	100.0	100.0	

4.2.5 Country of Study

As Table 11, below, shows, most of the respondents (91.9%), equaling 500 respondents in this survey, were taking a degree in the UAE, whereas 44 (8.1%) respondents were doing so beyond its borders. The USA had attracted most of the latter group (28 respondents, 5.1%), followed by 7 in Australia (1.3%), four in Canada (0.7%) and two in the UK. Finally, 1 student was based in Bahrain, 1 in New Zealand, and 1 in Sudan.

Table 11: Country of Study

		Frequency	Percent	Cumulative Percent
Valid	Australia	7	1.3	1.3
	Bahrain	1	.2	1.5
	Canada	4	.7	2.2
	New Zealand	1	.2	2.4
	Sudan	1	.2	2.6
	UAE	500	91.9	94.5
	UK	2	.4	94.9
	USA	28	5.1	100.0
	Total	544	100.0	

4.2.6 University of Study

In terms of the university of study, as shown in Table 12 below, nearly half of the locally educated respondents (43%) were studying at the United Arab Emirates University (UAEU), while (40.4%) of them were studying at Zayed University (ZU). Moreover, (4%) were studying at either the Higher Colleges of Technology (HCT) or the Petroleum Institute (PI). Examples of the overseas universities where the respondents were studying range from Carleton University, Concordia University, Dalhousie University, and Pennsylvania State University to Simon Fraser University.

Table 12: Distribution of Sample by University of Study

		Frequency	Percent	Cumulative Percent
Valid	Carleton University	1	.2	.2
	Concordia University	1	.2	.4
	Dalhousie University	1	.2	.6
	Higher Colleges of Technology (HCT)	22	4.0	4.6
	Not Specified	41	7.5	12.1
	Pennsylvania State University	1	.2	12.3
	Simon Fraser University	1	.2	12.5
	The Petroleum Institute (PI)	22	4.0	16.5
	United Arab Emirates University (UAEU)	234	43.0	59.6
	Zayed University (ZU)	220	40.4	100.0
	Total	544	100.0	

4.2.7 College of Study

As is shown in Table 13, below, most (77.9%) of the participants were business college students, and 21.3% were engineering students (116 participants). This result was expected as the research had targeted schools of business and schools of engineering (see the previous chapter, on methodology). However, four respondents only from the schools of Humanities, IT and the sciences completed the questionnaires. This may have been because these students were studying aspects of business or engineering as a second subject or minor. But because these students who were not majoring in business or engineering represent only a small percentage of the total respondents and because they offered a full set of answers, they were included in the analysis.

Table 13: Respondents by College of Study

		Frequency	Percent	Cumulative Percent
Valid	Business College	424	77.9	77.9
	Engineering College	116	21.3	99.3
	Humanities	1	.2	99.4
	IT	1	.2	99.6
	Sciences	2	.4	100.0
	Total	544	100.0	

4.2.8 Graduation Date

Table 14, below, shows that 88.6% of the respondents were expecting to graduate either in 2016 or 2017. However, 9.4 % expected to graduate in 2018. Finally, 2% were expecting to graduate in 2019. This is because, as mentioned in the methodology chapter, the research targeted only senior students who are more likely than others to be considering their imminent career intentions.

Table 14: Distribution of Sample by Graduation Date

		Frequency	Percent	Cumulative Percent
Valid	2016	255	46.9	46.9
	2017	227	41.7	88.6
	2018	51	9.4	98.0
	2019	11	2.0	100.0
	Total	544	100.0	

4.2.9 Entrepreneurship Education

As Table 15, below, shows that 63.2% of the respondents were taking courses that covered entrepreneurship. Only 36.6% of the participants were taking none. As noted above in the literature review, entrepreneurship education is in most cases limited to business majors, and hence a high percentage of the non-business students in this research were not exposed to entrepreneurial education in some form (Zhang et al., 2015; Khalifa Fund, 2014). In terms of the entrepreneurship education courses or examples of modules that had been taken by the respondents, "entrepreneurship" is followed by "entrepreneurship innovation and creativity".

Table 15: Distribution of Sample by Entrepreneurship Education

		Frequency	Percent	Cumulative Percent
Valid	Yes	344	63.2	63.2
	No	200	36.8	100.0
	Total	544	100.0	

4.2.10 Entrepreneurship Experience

As Table 16 shows, most of the participating students (88.2%) had no previous entrepreneurship experience. This is normal in the context of the UAE, since most undergraduates have limited work experience in general, being still at the stage of formal education (Zhang et al., 2015).

Table 16: Distribution of Sample by Entrepreneurship Experience

		Frequency	Percent	Cumulative Percent
Valid	No	480	88.2	88.2
	Yes	64	11.8	100.0
	Total	544	100.0	

4.2.11 Family Entrepreneurship Experience

Table 17 shows that most of the participating students (65.3%) had a family member with previous entrepreneurship experience, whereas only 34.7% of them had no family member with previous entrepreneurship experience. Uncles/Aunts claimed the highest percentage (32.9%) in terms of family members with entrepreneurship experience, followed by a parent (26.3%), cousin (21%), sibling (17.5%) and grandparent (7.9%).

Table 17: Distribution of sample by Family Member Entrepreneurs

		Frequency	Percent	Cumulative Percent
Valid	No	189	34.7	34.7
	Yes	355	65.3	100.0
	Total	544	100.0	

4.3 Measurement Model Validity

Before testing the model, which considers all the dimensions together, it is important from a methodological point of view to highlight the fact that individualized analyses of each of the dimensions were made (the measurement model), in order to refine in advance the items used in the measurement. Having established the different measures, a confirmatory factor analysis (CFA) was conducted. The current research

used both a structural model (which includes all the constructs in one model) and a measurement model (in which each construct has a separate model). Having established the eight dimensions of the factors that affect the EI and its two dimensions, a confirmatory factor analysis (CFA) was conducted rather than an Exploratory Factor Analysis (EFA). Indeed, use of the CFA is suggested when a strong theoretical model is adopted, as it is the case of the Theory of Planned Behavior. Moreover, it is suggested that the use of CFA is generally increasing while the use of EFA is declining especially in major journals of organizational research (Hurley et al., 1997).

In this study, eight multi-item measures were used, namely, attitude, subjective norm, perceived behavioral control, autonomy, creativity and workload were treated as pure independent variables, while EI and its option preferences were treated as dependent variables. It may be noted that autonomy, creativity and workload are the second attitude measurement scale variables used in the study, while EI option preferences represent the second measurement variable in measuring EI. Finally, the socio-demographic variables were used as control variables.

4.3.1 Content Validity

Content validity is the degree to which the domain of properties or characteristics of a variable that are intended to be measured are in fact captured by the measures (Bagozzi, 1994). A measure has content validity if there is general agreement among the subjects and researchers that the instruments have measurement items that cover the whole content domain of the variables being measured (Nunnally & Bernstein, 1994). The researcher can satisfy content validity by carefully defining the study problem, the elements to be scaled, and the scales to be used. This logical

process is somewhat intuitive and is unique to each researcher (Emory & Cooper, 1991). However, the measurement scale must satisfy certain criteria before it can be applied in the empirical work. These criteria are (McDaniel and Gates, 1996):

- Carefully defining what is to be measured.
- Conducting a careful literature review and interviews with the target population before collecting our data.
- Getting the scale checked by experts.
- Making sure that the scales are pre-tested.
- Carefully selecting from related research scales which have been tested and validated by other researchers.

As discussed earlier, all the factors listed in the present questionnaire were determined by a comprehensive review of the relevant literature. The list of factors was also validated by several interviews with entrepreneurship experts and by a pilot study. This process supports the validity of the survey content in the present study.

4.3.2 Reliability and Convergent Validity

4.3.2.1 Reliability

Reliability is defined as the "*consistency and stability of scores from a measurement scale*" (Chandler & Lyon, 2001, p. 103). A measure is considered reliable if it gives similar results under consistent conditions. The emphasis on the reliability of the measurements is justified by several reasons. First, a reliable measuring instrument enhances the methodological rigor of the research. Second, it permits a co-operative research effort and provides support for the triangulation of

results; and third, it provides a more meaningful explanation of the phenomena that are being investigated (Hair et al., 2006).

Cronbach's Alpha provides a good estimate of reliability: a Cronbach's Alpha value of 0.7 or more would normally be viewed as acceptable (Nunnally, 1978). As shown in the last column of Table 18 below, an initial examination of the reliability coefficient ranged from 0.74 to 0.91, which was significantly higher than the acceptable level. The scale reliability of the measurements was established by all the scales achieving a Cronbach's Alpha greater than the .70 level recommended by Nunnally (1978).

4.3.2.2 Convergent Validity

Convergent validity describes the extent to which items of a specific dimension or construct converge or share a high proportion of variance (Hair et al., 2010). Convergent validity can be examined in two ways (Čater & Čater, 2010; Fornell & Larcker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2005; Hooper, Coughlan, & Mullen, 2008; Liang & Wen-Hung, 2004). First, construct reliability is a minimum of 0.70. Second, the average variance extracted (AVE) for a construct is greater than 0.5. Table 18 summarizes the results of the convergent validity analysis. Note that all of the scales had an acceptable level of convergent validity.

Table 18: Reliability Analysis for the Research Constructs

	AVE	Composite Reliability	Cronbach's Alpha
Attit	0.520	0.896	0.867
EI	0.632	0.889	0.837
EIOP	0.601	0.858	0.779
PBC	0.647	0.928	0.909
SN	0.569	0.840	0.744
Autonomy	0.666	0.854	0.748
Creativity	0.886	0.939	0.871
Workload	0.653	0.849	0.739

It may be noted that item SN3 from the subjective norm scale (SN3= my spouse) was removed because most of the respondents chose Not Applicable (N/A) for this item out of all the options. This is understandable in that the targeted population was university students, most of whom are not yet married. However, it was initially added as an item on the scale because the literature review supported the possible effect of this item on youth entrepreneurship. In addition, an item from the Attitude scale (EP2 and EA2 or Attitudes2= taking calculated risks) was removed because it did not load properly on the Attitude scale. Moreover, the General Risk Aversion (GRA) scale suggested by Mandrik and Bao (2005) appeared not to have acceptable reliability and the measurement items did not load properly. Accordingly, this scale was eliminated from further analysis and thus H24 could not be tested. More discussion and elaboration of this issue of measurement of "Risk taking" in the context of the present study is provided below.

4.3.3 Discriminant Validity

Discriminant validity is another form of validity, which, with convergent validity, provides evidence for construct validity (Campbell & Fiske, 1959). An

examination of the correlation matrix and AVE was used to assess the discriminant validity of the constructs. To meet the requirements for satisfactory discriminant validity, the correlation between the latent variables was smaller than the square root of the AVE for each construct (see Table 19); this implies that the constructs were empirically distinct (Fornell & Larcker, 1981). Thus, each construct should share more variance with its items than it shares with other constructs.

Table 19: Discriminant Validity

	Attit	EI	EIOP	PBC	SN	Auto	Creat.	W-load
Attit	1.000							
EI	0.457	1.000						
EIOP	0.232	0.363	1.000					
PBC	0.410	0.315	0.326	1.000				
SN	0.328	0.211	0.181	0.241	1.000			
Autonomy	0.275	0.278	0.203	0.248	0.100	1.000		
Creativity	0.517	0.389	0.233	0.362	0.151	0.469	1.000	
Workload	-0.077	-0.037	-0.128	-0.032	0.093	0.167	-0.012	1.000

Table 20 shows the loading for each item into the suggested constructs. In summary, the measurement model tests, including convergent and discriminant validity measures, were satisfactory.

Table 20: The loadings for each item

	Attit	EI	EIOP	PBC	SN	Auto	Creat	W-load
Attitudes1	0.6002							
Attitudes3	0.7564							
Attitudes4	0.7083							
Attitudes5	0.7924							
Attitudes6	0.7331							
Attitudes7	0.6818							
Attitudes8	0.6947							
Attitudes9	0.7843							
Q12_EI1		0.8654						
Q12_EI2		0.8895						
Q12_EI3		0.3644						
Q12_EI4		0.8961						
Q12_EI5		0.8264						
Q19_PBC1				0.7555				
Q19_PBC2				0.8171				
Q19_PBC3				0.7993				
Q19_PBC4				0.8238				
Q19_PBC5				0.7934				
Q19_PBC6				0.7935				
Q19_PBC7				0.8459				
Q21_EIOP1			0.7464					
Q21_EIOP2			0.7735					
Q21_EIOP3			0.8153					
Q21_EIOP4			0.7650					
subNorm1					0.6899			
subNorm2					0.7898			
subNorm4					0.8325			
subNorm5					0.6946			

Q16_CARATT1								0.8088
Q16_CARATT2								0.8629
Q16_CARATT3								0.7493
Q16_CARATT4						0.6213		
Q16_CARATT5						0.9040		
Q16_CARATT6						0.8920		
Q16_CARATT7							0.9479	
Q16_CARATT8							0.9343	

As noted above, in this study Structure Equation Modeling (SEM) is used to analyze the data. It is suggested that SEM provides more robust results regarding the relationships between the study's different variables and constructs (Nabi & Liñán, 2011). Moreover, it is suggested as a useful technique to use in the social sciences (Nunnally, 1978).

The partial least-square approach (PLS) is used in the present study to assess the structural model. As noted above, this technique is considered a powerful SEM-based analysis technique (Chin, 1998). Indeed, the use of PLS has become increasingly popular as a method in empirical management research, which may reflect a recognition of the unique methodological features of PLS (Henseler & Chin, 2010). According to Chin (1998) and Chin and Newsted (1999), the PLS technique can be used not only to confirm theory, but also to suggest whether or not relationships exist and to present suggestions for further testing (Chin, 1998; Chin & Newsted, 1999).

4.4 Hypotheses Testing

The path modelling and analysis were performed using SmartPLS software (http://www.smartpls.com). Whether the SEM coefficients are significant or not is tested by approximating the standard error using bootstrapping techniques. In our case, the study used 2000 bootstrap samples for each model considered in the analysis. Bootstrapping is commonly used when the assumptions of ordinary (parametric) statistical tests are not fully met. Indeed it is commonly used whenever PLS-SEM statistical techniques are applied without the assumption of data normality (Hair Jr, Hult, Ringle, & Sarstedt, 2016). The aim of path analysis is to examine the direct and indirect effects of each hypothesis on the basis of knowledge and theoretical constructs (Pedhazur & Kerlinger, 1982). Arrows are used to symbolize the hypothesized relationships and the direction of influence in the model. Figure 6 depicts the proposed structural model, reflecting the relationships between the variables. The value of the path coefficient associated with each path represents the strength of each linear influence. SmartPLS software was used to test the hypotheses developed in the model.

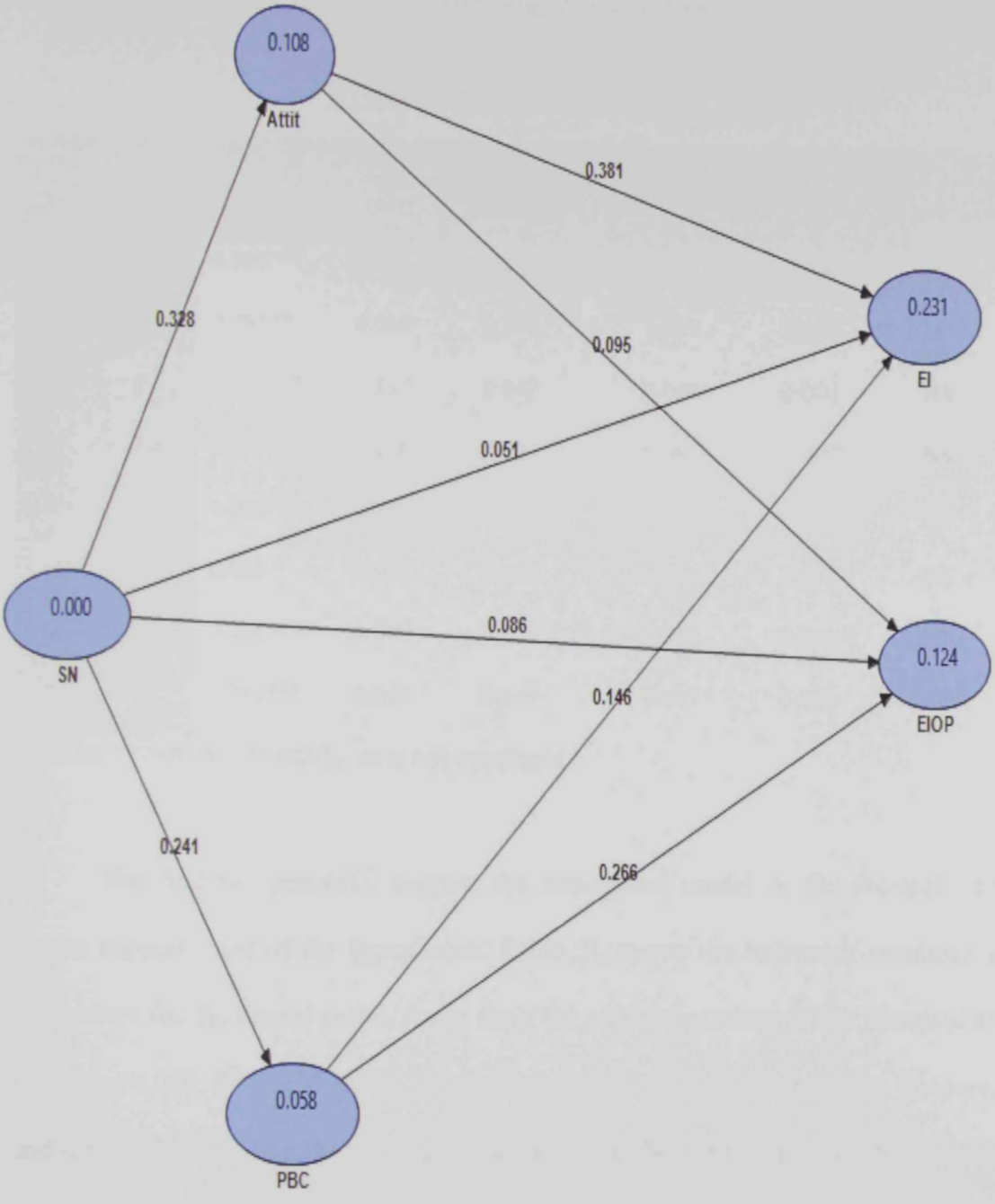

Figure 6: Structural Basic Research Model

In order to establish the stability and significance of our parameter estimates, t-values using the bootstrap procedure available in SMARTPLS were computed. As shown in Figure 6, the R2 for entrepreneurship intention is 0.231 and for

entrepreneurship intention option preferences it is 0.124. Similarly, the R2 for attitude was 0.108 and for perceived behavioral control it was .058.

Table 21: Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STERR|)	P value	Hypothesis
Attit -> EI	0.380***	0.383	0.041	9.094	0.000	**H1**
Attit -> EIOP	0.095**	0.095	0.048	1.953	0.050	**H2**
PBC -> EI	0.146***	0.147	0.047	3.069	0.002	**H3**
PBC -> EIOP	0.265***	0.268	0.047	5.641	0.000	**H4**
SN -> Attit	0.328***	0.331	0.041	7.868	0.000	**H5**
SN -> EI	0.050 ns	0.051	0.046	1.102	0.270	**H6**
SN -> EIOP	0.085*	0.088	0.045	1.880	0.060	**H7**
SN -> PBC	0.241***	0.244	0.044	5.447	0.000	**H8**

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The findings generally support the conceptual model in the research. The results support most of the hypotheses. Table 21 shows the estimated standardized parameters for the causal paths. Apart from the subjective norm **(H6)** (Standardized Estimate=0.050, P= 0.270 which is not significant), the suggested factors positively and directly affect the entrepreneurship intention in the UAE, namely; attitude **(H1)** (Standardized Estimate=0.380, P< 0.01) and perceived behavioral control **(H3)** (Standardized Estimate=0.146, P< 0.01).

In addition, the suggested factors positively and directly affect the entrepreneurship intention option preferences: attitude **(H2)** (Standardized Estimate=0. 095, P< 0.05), perceived behavioral control **(H4)** (Standardized

Estimate=0.265, P< 0.01) and subjective norms **(H7)** (Standardized Estimate=0.085, P< 0.10).

Furthermore, the subjective norm positively affects both attitude **(H5)** (Standardized Estimate=0.328, P< 0.01) and perceived behavioral control **(H8)** (Standardized Estimate=0.241, P< 0.01).

Since the causal effects of the suggested factors may be direct or indirect i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 22 shows the total effects of the suggested factors.

Table 22: Total Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Attit -> EI	0.380***	0.383	0.041	0.041	9.094	0.000
Attit -> EIOP	0.095**	0.095	0.048	0.048	1.953	0.050
PBC -> EI	0.146***	0.147	0.047	0.047	3.069	0.002
PBC -> EIOP	0.265***	0.268	0.047	0.047	5.641	0.000
SN -> Attit	0.328***	0.331	0.041	0.041	7.868	0.000
SN -> EI	0.211***	0.214	0.047	0.047	4.459	0.000
SN -> EIOP	0.181***	0.185	0.043	0.043	4.193	0.000
SN -> PBC	0.241***	0.244	0.044	0.044	5.447	0.000

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

From the above table, the author found that the total effect of SN on EI and EIOP is positive and significant. Similar conclusions also hold for PBC and Attitude.

Accordingly, although the author found that the subjective norm showed only a negligible insignificant impact on entrepreneurship intention. However, this insignificant direct effect is strengthened by the indirect positive effect of the subjective norm on attitude and perceived behavioral control. This means that it is not the subjective norm per se, but rather the improvement in attitude and perceived behavioral control that influences entrepreneurship intention. The subjective norm indirectly affects the entrepreneurship intention through both attitude and perceived behavioral control (Total Standardized Estimate=0.211, P< 0.01). Similarly, subjective norms indirectly affect the entrepreneurship intention option preferences through both attitude and perceived behavioral control (Total Standardized Estimate=0.181, P< 0.01).

Furthermore, the study tests hypotheses that are related to the "Mini-Kolvereivd Scale", which is taken from the original factors suggested by Kolvereivd (1996a,b) to measure attitude toward two career choices; self-employment and organizational employment. These factors are workload, autonomy and creativity and it is suggested that they (like attitude) affect both entrepreneurship intention and entrepreneurship intention option preferences. Autonomy and creativity should affect entrepreneurship intention and entrepreneurship intention option preferences positively and directly. However, workload should affect the entrepreneurship intention and entrepreneurship intention option preferences directly but negatively. As noted above, the improved scale is suggested to predict and measure more accurately the relationship between entrepreneurship attitudes and EI (McNally et al., 2014). First, the figure below (Figure 7) shows the coefficients for including autonomy as an indicator of attitude.

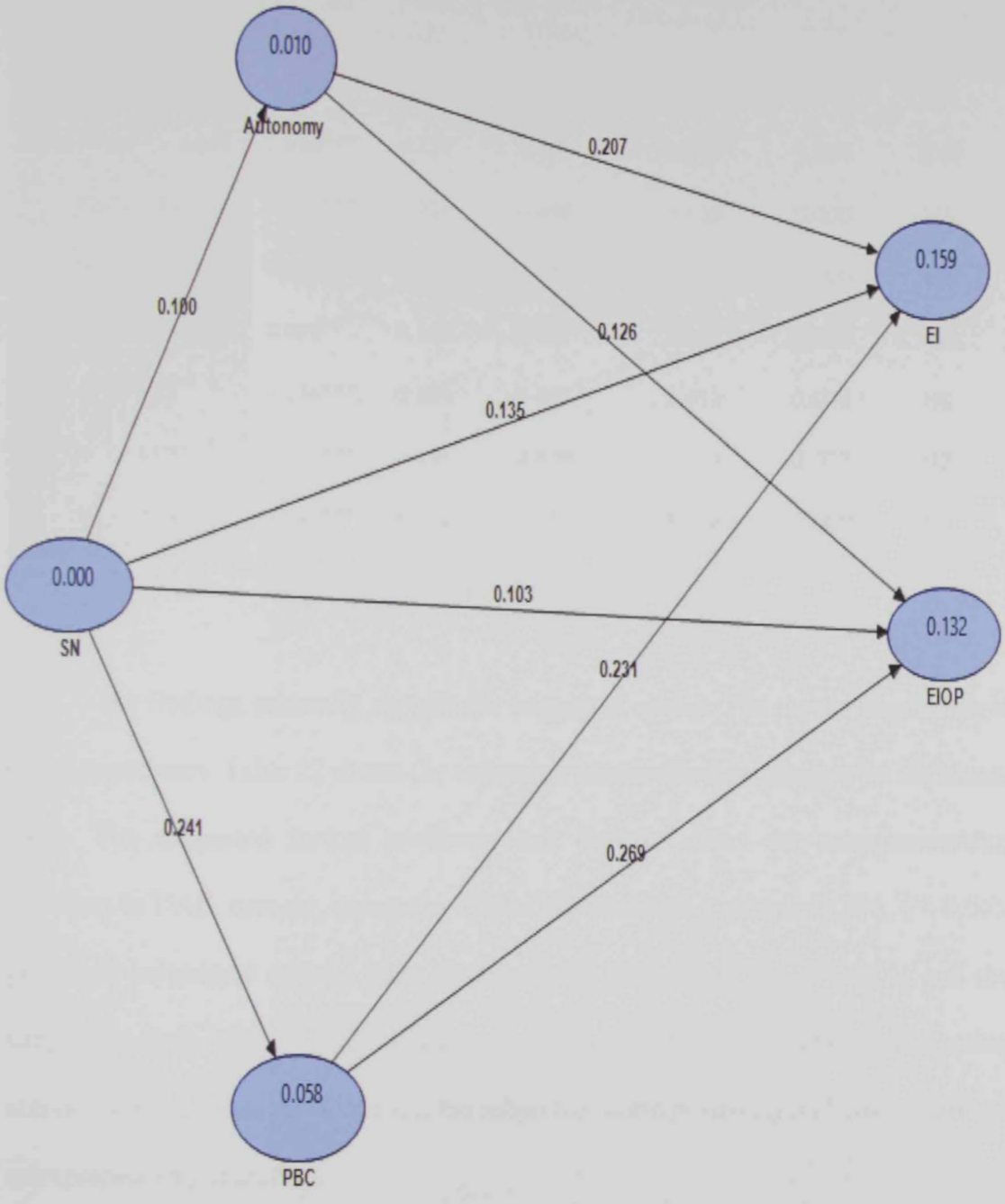

Figure 7: Structural Model - Autonomy

Tables 23 and 24 below show the significance of these coefficients and the total effects of including autonomy as an indicator of attitude.

Table 23: Path Coefficients - Autonomy

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STERR|)	P value	Hypothesis
Autonomy -> EI	0.206***	0.208	0.044	4.653	0.000	**H9**
Autonomy -> EIOP	0.126***	0.127	0.044	2.855	0.004	**H10**
PBC -> EI	0.231***	0.228	0.049	4.639	0.000	**H3**
PBC -> EIOP	0.269***	0.267	0.045	5.907	0.000	**H4**
SN -> Autonomy	0.099**	0.101	0.047	2.112	0.034	**H11**
SN -> EI	0.134***	0.136	0.047	2.812	0.004	**H6**
SN -> EIOP	0.103***	0.104	0.038	2.675	0.007	**H7**
SN -> PBC	0.241***	0.241	0.042	5.746	0.000	**H8**

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The findings generally support the suggested model. The results support most of the hypotheses. Table 22 shows the estimated standardized parameters for the causal paths. The suggested factors positively and directly affect the entrepreneurship intention in UAE, namely, autonomy **(H9)** (Standardized Estimate=0.206, P< 0.01), perceived behavioral control **(H3)** (Standardized Estimate=0.231, P< 0.01) and the subjective norm **(H6)** (Standardized Estimate=0.134, P< 0.01). Thus, when using autonomy as an indicator of attitude, the subjective norm positively and directly affects entrepreneurship intention.

In line with the previous model, the suggested factors positively affect the entrepreneurship intention option preferences: autonomy **(H10)** (Standardized Estimate=0.126, P< 0.01), perceived behavioral control **(H4)** (Standardized Estimate=0.269, P< 0.01) and subjective norms **(H7)** (Standardized Estimate=0.103, P< 0.01).

Moreover, the subjective norm positively affects both autonomy **(H11)** (Standardized Estimate=0.099, P< 0.05) and perceived behavioral control **(H8)** (Standardized Estimate=0.241, P< 0.01).

Since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. As previously described, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 24 shows the total effects of the suggested factors.

Table 24: Total Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Autonomy -> EI	0.206***	0.208	0.044	0.044	4.653	0.000
Autonomy -> EIOP	0.126***	0.127	0.044	0.044	2.855	0.004
PBC -> EI	0.231***	0.228	0.049	0.049	4.639	0.000
PBC -> EIOP	0.269***	0.267	0.045	0.045	5.907	0.000
SN -> Autonomy	0.099**	0.101	0.047	0.047	2.112	0.034
SN -> EI	0.211***	0.212	0.048	0.048	2.812	0.004
SN -> EIOP	0.181***	0.181	0.038	0.038	2.675	0.007
SN -> PBC	0.241***	0.241	0.042	0.042	5.746	0.000

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The above table shows that the subjective norms also indirectly affect the entrepreneurship intention through both autonomy and perceived behavioral control (Total Standardized Estimate=0.211, P< 0.01). Similarly, subjective norms indirectly

affect the entrepreneurship intention option preferences through both autonomy and perceived behavioral control (Total Standardized Estimate=0.181, P< 0.01).

Second, the figure below (Figure 8) shows the coefficients for including creativity as an indicator of attitude.

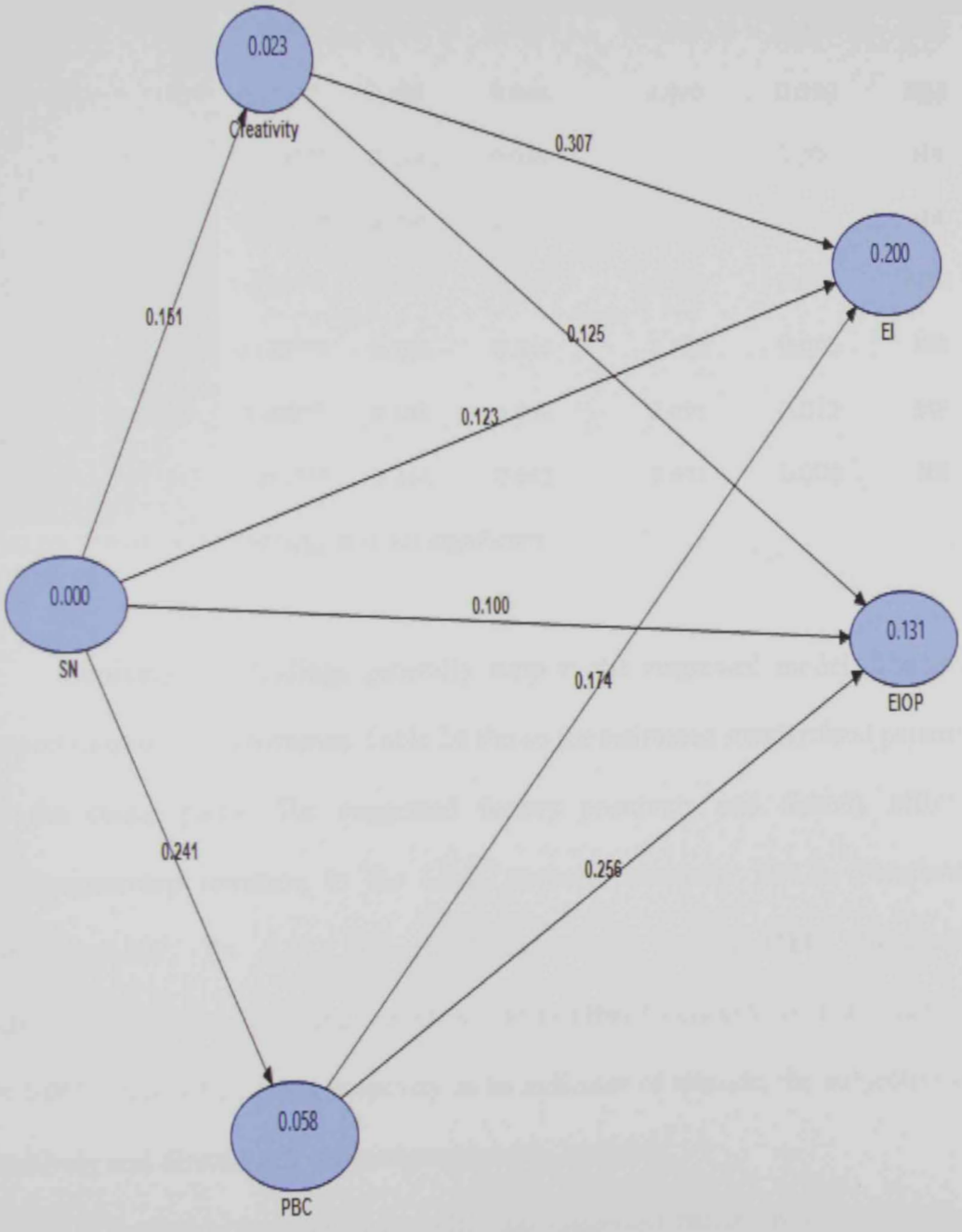

Figure 8: Structural Model - Creativity

Tables 25 and 26 below shows the significance of these coefficients and the total effects for including creativity as an indicator of attitude.

Table 25: Path Coefficients - Creativity

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STERR|)	P value	Hypothesis
Creativity -> EI	0.307***	0.305	0.049	6.267	0.000	**H12**
Creativity -> EIOP	0.125**	0.125	0.048	2.570	0.010	**H13**
PBC -> EI	0.173***	0.174	0.049	3.502	0.000	**H3**
PBC -> EIOP	0.255***	0.254	0.047	5.443	0.000	**H4**
SN -> Creativity	0.150***	0.150	0.045	3.305	0.000	**H14**
SN -> EI	0.123***	0.123	0.044	2.762	0.005	**H6**
SN -> EIOP	0.100**	0.101	0.040	2.491	0.012	**H7**
SN -> PBC	0.241***	0.242	0.043	5.601	0.000	**H8**

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

Similarly, the findings generally support the suggested model. The results support most of the hypotheses. Table 24 shows the estimated standardized parameters for the causal paths. The suggested factors positively and directly affect the entrepreneurship intention in the UAE, namely, creativity **(H12)** (Standardized Estimate=0.307, P< 0.01), perceived behavioral control **(H3)** (Standardized Estimate=0.173, P< 0.01) and subjective norm **(H6)** (Standardized Estimate=0.123, P< 0.01). Thus, when using creativity as an indicator of attitude, the subjective norm positively and directly affects entrepreneurship intention.

In line with the previous model, the suggested factors positively affect the entrepreneurship intention option preference: creativity **(H13)** (Standardized Estimate=0.125, P< 0.05), perceived behavioral control **(H4)** (Standardized

Estimate=0.235, P< 0.01) and subjective norms **(H7)** (Standardized Estimate=0.100, P< 0.05).

Moreover, the subjective norm positively affects both creativity **(H14)** (Standardized Estimate=0.150, P< 0.01) and perceived behavioral control **(H8)** (Standardized Estimate=0.241, P< 0.01).

Again, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. The indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 26 shows the total effects of the suggested factors.

Table 26: Total Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Creativity -> EI	0.307***	0.305	0.049	0.049	6.267	0.000
Creativity -> EIOP	0.125**	0.125	0.048	0.048	2.570	0.010
PBC -> EI	0.173***	0.174	0.049	0.049	3.502	0.000
PBC -> EIOP	0.255***	0.254	0.047	0.047	5.443	0.000
SN -> Creativity	0.150***	0.150	0.045	0.045	3.305	0.000
SN -> EI	0.211***	0.211	0.046	0.046	4.508	0.000
SN -> EIOP	0.181***	0.181	0.040	0.040	4.503	0.000
SN -> PBC	0.241***	0.242	0.043	0.043	5.601	0.000

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

Table 25 shows that subjective norms also indirectly affect the entrepreneurship intention through both creativity and perceived behavioral control

(Total Standardized Estimate=0.211, P< 0.01). Similarly, subjective norms indirectly affect the entrepreneurship intention option preferences through both creativity and perceived behavioral control (Total Standardized Estimate=0.181, P< 0.01).

Finally, the figure below (Figure 9) shows the coefficients for including workload as an indicator of attitude.

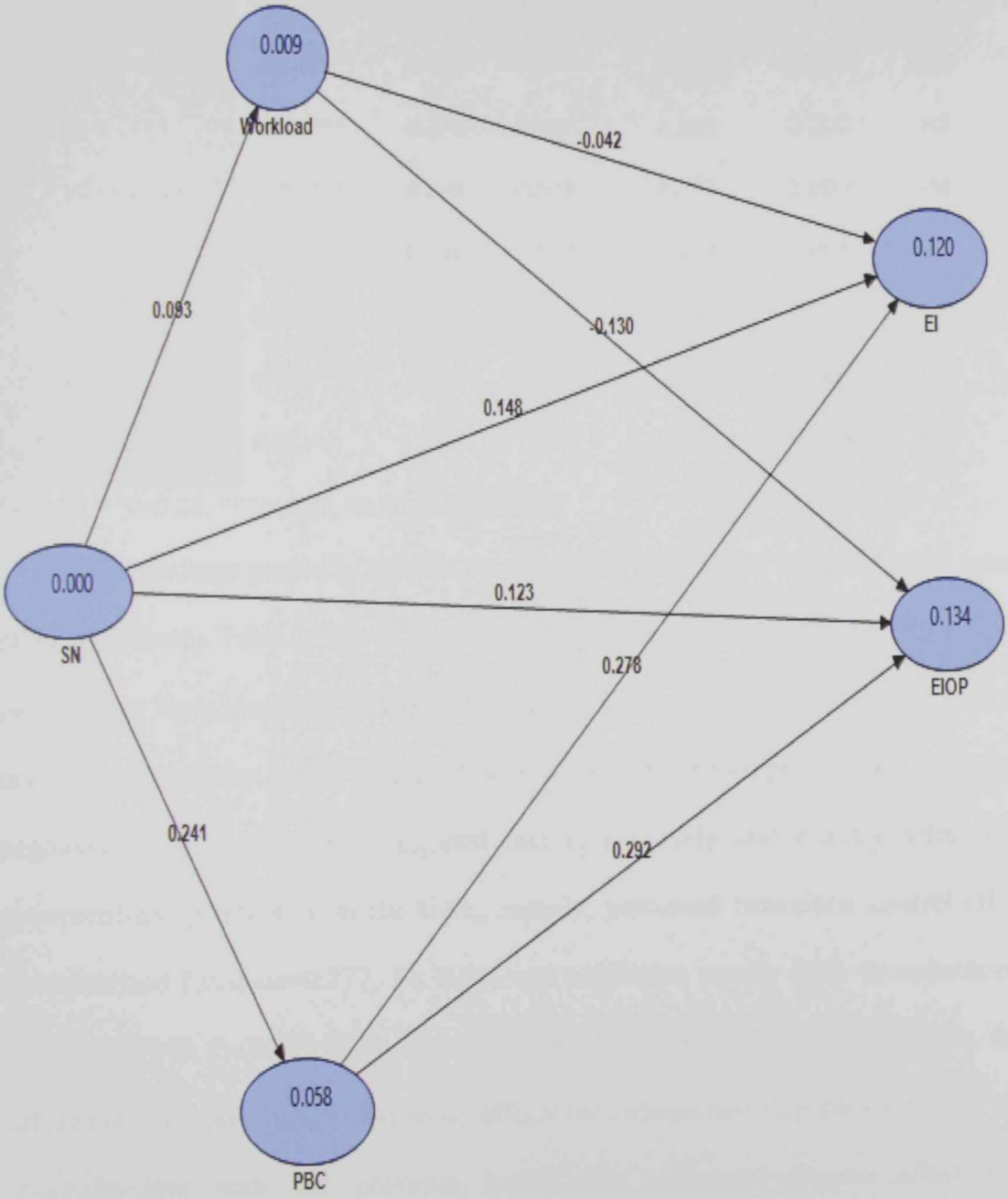

Figure 9: Structural Model - Workload

Tables 27 and 28 below show the significance of these coefficients and the total effects for including the workload as an indicator of attitude.

Table 27: Path Coefficients - Workload

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STERR|)	P value	Hypothesis
Workload -> EI	-0.042 ns	-0.043	0.051	0.819	0.412	**H15**
Workload -> EIOP	-0.130***	-0.134	0.041	3.176	0.001	**H16**
PBC -> EI	0.277***	0.278	0.047	5.853	0.000	**H3**
PBC -> EIOP	0.291***	0.290	0.043	6.710	0.000	**H4**
SN -> EI	0.148***	0.146	0.047	3.153	0.001	**H6**
SN -> EIOP	0.122***	0.123	0.039	3.089	0.002	**H7**
SN -> PBC	0.241***	0.238	0.042	5.688	0.000	**H8**
SN -> Workload	0.093*	0.095	0.049	1.886	0.059	**H17**

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The findings generally support the suggested model. The results support most of the hypotheses. Table 26 shows the estimated standardized parameters for the causal paths. Apart from workload **(H15)** (Standardized Estimate=-0.042, P= 0.412), which is not significant: that is, the workload does not affect the entrepreneurship intention negatively and directly, the suggested factors positively and directly affect the entrepreneurship intention in the UAE, namely, perceived behavioral control **(H3)** (Standardized Estimate=0.277, P< 0.01) and subjective norms **(H6)** (Standardized Estimate=0.148, P< 0.01). Thus, when using workload as an indicator of attitude, the subjective norm positively and directly affects the entrepreneurship intention.

In line with the previous model, the suggested factors affect the entrepreneurship intention option preferences: workload negatively and directly

affects the entrepreneurship intention option preferences **(H16)** (Standardized Estimate=-0.130, P< 0.00), perceived behavioral control positively and directly affects the entrepreneurship intention option preferences **(H4)** (Standardized Estimate=0.291, P< 0.01) and subjective norms positively and directly affect entrepreneurship intention option preferences **(H7)** (Standardized Estimate=0.122, P< 0.01).

Moreover, the subjective norm positively affects both workload **(H17)** (Standardized Estimate=0.093, P< 0.10) and perceived behavioral control **(H8)** (Standardized Estimate=0.241, P< 0.01).

Again, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 28 shows the total effects of the suggested factors.

Table 28: Total Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Workload -> EI	-0.042^{ns}	-0.043	0.051	0.051	0.819	0.412
Workload -> EIOP	-0.130***	-0.134	0.040	0.040	3.176	0.001
PBC -> EI	0.277***	0.278	0.047	0.047	5.853	0.000
PBC -> EIOP	0.291***	0.290	0.043	0.043	6.710	0.000
SN -> EI	**0.211*** **	0.208	0.046	0.046	4.498	0.000
SN -> EIOP	**0.181*** **	0.180	0.039	0.039	4.593	0.000
SN -> PBC	0.241***	0.238	0.042	0.042	5.688	0.000
SN -> Workload	0.093*	0.095	0.049	0.049	1.886	0.059

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

Table 28 shows that subjective norms indirectly affect the entrepreneurship intention through both workload and perceived behavioral control (Total Standardized Estimate=0.211, P< 0.01). Similarly, subjective norms indirectly affect the entrepreneurship intention option preferences through both workload and perceived behavioral control (Total Standardized Estimate=0.181, P< 0.01).

The above section tested the effect of the study's main constructs on entrepreneurship intention. The following section tests the effects of socio-demographic variables.

The final aim was to measure the effect and relations of socio-demographic variables on the research variables. The model used is shown in Figure 10 below in the case of gender.

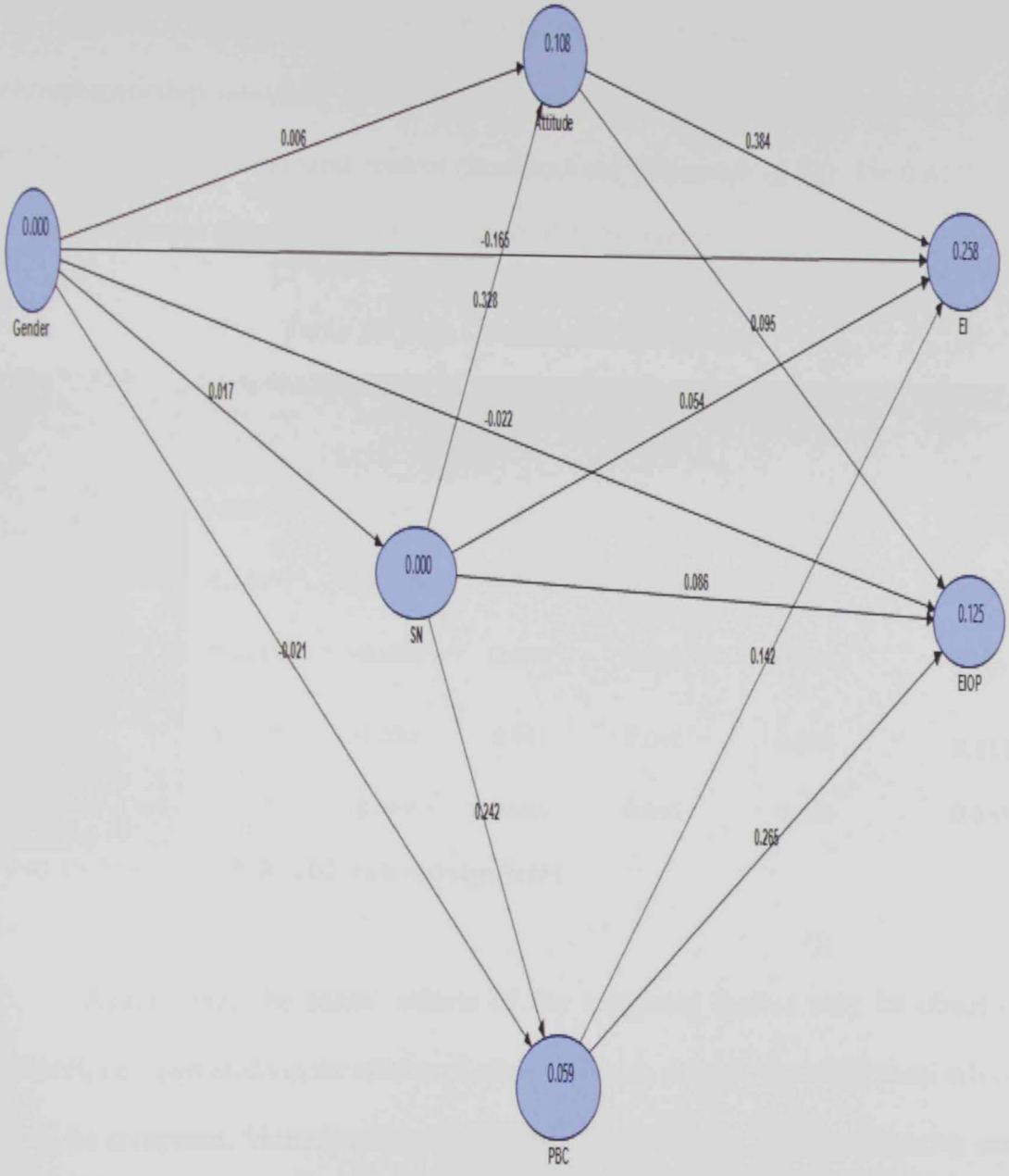

Figure 10: Structural Model- Gender

The author uses a similar model for the other variables (age, education, etc.) That is, the author can interchange gender with age or one of the other variables. The results for each of these variables are shown in the form of tables.

Table 29 shows the estimated standardized parameters for the causal paths. Apart from entrepreneurship intention which is negatively affected by gender

(Standardized Estimate= 0.166, P< 0.01), the other suggested factors are not affected by gender, namely, attitude (Standardized Estimate=0.005, P= 0.886), entrepreneurship intention option preferences (Standardized Estimate= -0.023, P= 0.576), perceived behavioral control (Standardized Estimate= -0.021, P= 0.613) and subjective norms (Standardized Estimate=0.017, P= 0.696).

Table 29: Path Coefficients for Gender

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Gender -> Attit	0.005 ns	0.006	0.041	0.041	0.143	0.886
Gender -> EI	-0.166***	-0.166	0.034	0.034	4.872	0.000
Gender -> EIOP	-0.023 ns	-0.025	0.042	0.042	0.558	0.576
Gender -> PBC	-0.021 ns	-0.022	0.041	0.041	0.505	0.613
Gender -> SN	0.017 ns	0.017	0.045	0.045	0.389	0.696

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

Again, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 30 shows the total effects of the suggested factors.

Table 30: Total Effects - Gender

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Gender -> Attit	0.011 ns	0.012	0.043	0.043	0.267	0.788
Gender -> EI	-0.164***	-0.164	0.039	0.039	4.153	0.000
Gender -> EIOP	-0.025 ns	-0.027	0.045	0.045	0.561	0.574
Gender -> PBC	-0.016 ns	-0.018	0.042	0.042	0.394	0.692
Gender -> SN	0.017 ns	0.017	0.045	0.045	0.389	0.696

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The results show that there is a negative total (indirect) effect of gender on entrepreneurial intention through the direct effect on attitude, the subjective norm and perceived behavioral control. Accordingly, **(H18)** is supported. Indeed, the result shows that gender has a significant negative direct and indirect effect on EI.

A similar model was developed to measure the effect of age. The results are presented in Table 31. It shows the estimated standardized parameters for the causal paths. Both entrepreneurship intention (Standardized Estimate=-0.075, P< 0.05) and entrepreneurship intention option preferences (Standardized Estimate=-0.129, P< 0.01) are positively and directly affected by age. However, attitude (Standardized Estimate= -0.004, P= 0.911) perceived behavioral control (Standardized Estimate= 0.006, P= 0.861), and subjective norms (Standardized Estimate=0.011, P= 0.779) are not influenced by age.

Table 31: Path Coefficients for Age

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Age -> Attit	-0.004 ns	-0.004	0.041	0.041	0.110	0.911
Age -> EI	0.075**	0.074	0.035	0.035	2.116	0.034
Age -> EIOP	0.129***	0.130	0.042	0.042	3.025	0.002
Age -> PBC	0.006 ns	0.006	0.038	0.038	0.173	0.861
Age -> SN	0.011 ns	0.010	0.040	0.040	0.280	0.779

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

Again, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 32 shows the total effects of the suggested factors.

Table 32: Total Effects- Age

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Age -> Attit	-0.000 ns	-0.000	0.042	0.042	0.021	0.982
Age -> EI	0.076*	0.075	0.040	0.040	1.903	0.057
Age -> EIOP	0.132***	0.133	0.046	0.046	2.884	0.003
Age -> PBC	0.009 ns	0.008	0.039	0.039	0.238	0.811
Age -> SN	0.011 ns	0.010	0.040	0.040	0.280	0.779

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

These results support the hypothesis that age influences the entrepreneurial intention indirectly through the direct effect on attitude, subjective norms and

perceived behavioral control **(H19)** (Total Standardized Estimate=0.076, P= 0.057). Moreover, age influences the entrepreneurship intention option preferences indirectly through the direct effect on attitude, subjective norms and perceived behavioral control (Total Standardized Estimate=0.132, P< 0.01).

Similarly, a model was developed to measure the effect of Entrepreneurship Experience. The results are presented in Table 33. It shows the estimated standardized parameters for the causal paths. Entrepreneurship intention (Standardized Estimate=-0.079, P< 0.05) and perceived behavioral control (Standardized Estimate=0.077, P= 0.057) are positively and directly affected by Entrepreneurship Experience. However, attitude (Standardized Estimate= 0.033, P= 0.388), entrepreneurship intention option preferences (Standardized Estimate= 0.061, P= 0.203), and subjective norms (Standardized Estimate=0.058, P= 0.203) are not directly influenced by Entrepreneurship Experience.

Table 33: Path Coefficients for Entrepreneurship Experience

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Ent_exp -> Attit	0.033 ns	0.034	0.039	0.039	0.862	0.388
Ent_exp -> EI	0.079**	0.080	0.034	0.034	2.288	0.022
Ent_exp -> EIOP	0.061 ns	0.058	0.047	0.047	1.272	0.203
Ent_exp -> PBC	0.077*	0.075	0.040	0.040	1.919	0.055
Ent_exp -> SN	0.058 ns	0.060	0.046	0.046	1.270	0.203

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

As noted above, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal

effects were computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 34 shows the total effects of the suggested factors.

Table 34: Total Effects- Entrepreneurship Experience

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Ent_exp -> Attit	0.052 ns	0.054	0.042	0.042	1.248	0.211
Ent_exp -> EI	0.115***	0.116	0.037	0.037	3.102	0.001
Ent_exp -> EIOP	0.094**	0.092	0.047	0.047	1.979	0.047
Ent_exp -> PBC	0.091**	0.089	0.03	0.039	2.314	0.020
Ent_exp -> SN	0.058 ns	0.060	0.046	0.046	1.270	0.203

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

These results support the hypothesis that Entrepreneurship Experience indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norms and perceived behavioral control **(H20)** (Total Standardized Estimate=0.115, P< 0.01). Similarly, Entrepreneurship Experience influences the entrepreneurship intention option preferences through the direct effect on attitude, subjective norm and perceived behavioral control (Total Standardized Estimate=0.094, P< 0.05). Accordingly, this factor has both a direct and an indirect effect on entrepreneurship intention.

A similar model was developed to measure the effect of family role models. The results are presented in Table 35. It shows the estimated standardized parameters for the causal paths. Apart from entrepreneurship intention, which is weakly and low

significantly directly and positively affected by family role model (Standardized Estimate=0.070, P= 0.072), attitude (Standardized Estimate= 0.044, P= 0.283), entrepreneurship intention option preferences (Standardized Estimate= 0.004, P= 0.915), perceived behavioral control (Standardized Estimate=0.055, P= 0.194) and subjective norms (Standardized Estimate=0.001, P= 0.965) are not influenced by family role. Therefore, the results support part of the hypothesis **(H21)** that family role models directly influence the entrepreneurial intention.

Table 35: Path Coefficients for Family Role

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Fam_role -> Attit	0.044 ns	0.045	0.041	0.041	1.072	0.283
Fam_role -> EI	0.070*	0.071	0.039	0.039	1.796	0.072
Fam_role -> EIOP	0.004 ns	0.003	0.041	0.041	0.106	0.915
Fam_role -> PBC	0.055 ns	0.055	0.042	0.042	1.297	0.194
Fam_role -> SN	0.001 ns	0.001	0.040	0.040	0.043	0.965

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

As noted above, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. More specifically, the indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 36 shows the total effects of the suggested factors.

Table 36: Total Effects - Family Role

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Fam_role -> Attit	0.045 ns	0.045	0.044	0.044	1.028	0.303
Fam_role -> EI	0.095**	0.097	0.044	0.044	2.140	0.032
Fam_role -> EIOP	0.023 ns	0.023	0.044	0.044	0.532	0.594
Fam_role -> PBC	0.055 ns	0.055	0.043	0.043	1.268	0.204
Fam_role -> SN	0.001 ns	0.001	0.040	0.040	0.043	0.965

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The above results in Table 36 support the hypothesis that the family role model indirectly influences the entrepreneurial intention through the direct effects on attitude, subjective norms and perceived behavioral control **(H21)** (Total Standardized Estimate=0.095, P< 0.05), thus, **(H21)** is accepted.

Furthermore, a similar model was developed to measure the effect of education. The results are presented in Table 37. It shows the estimated standardized parameters for the causal paths. It was found that education had no significant impact on attitude (Standardized Estimate= 0.044, P= 0.283), entrepreneurship intention (Standardized Estimate= 0.038, P=0.304), entrepreneurship intention option preferences (Standardized Estimate= 0.010, P= 0.784), perceived behavioral control (Standardized Estimate=0.044, P= 0.270) or subjective norms (Standardized Estimate=-0.022, P= 0.61).

Table 37: Path Coefficients for Education

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Educ -> Attit	0.048 ns	0.047	0.0406	0.040	1.195	0.232
Educ -> EI	0.038 ns	0.038	0.037	0.037	1.026	0.304
Educ -> EIOP	0.010 ns	0.009	0.038	0.038	0.273	0.784
Educ -> PBC	0.044 ns	0.043	0.040	0.040	1.102	0.270
Educ -> SN	-0.022 ns	-0.022	0.043	0.043	0.521	0.601

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

As noted above, since the causal effects of the suggested factors may be direct or indirect, i.e., mediated via the effects of other variables, or both, the total causal effects could be computed. The indirect effects are the multiplicative sum of the standardized path coefficients. The total effects are the sum of the direct effect and all the indirect effects. Table 38 shows the total effects of the suggested factors.

Table 38: Total Effects- Education

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	P Value
Educ -> Attit	0.041 ns	0.040	0.043	0.043	0.936	0.349
Educ -> EI	0.058 ns	0.058	0.042	0.042	1.378	0.168
Educ -> EIOP	0.022 ns	0.021	0.041	0.041	0.547	0.583
Educ -> PBC	0.038 ns	0.038	0.041	0.041	0.937	0.348
Educ -> SN	-0.022 ns	-0.022	0.043	0.043	0.521	0.601

*P<0.10, **P<0.05, ***P<0.01, ns is not significant

The above results in Table 38 did not support the hypothesis that education influences the entrepreneurial intention through the direct effect on attitude and perceived behavioral control **(H22)** (Standardized Estimate=0.058, P= 0.168). However, it does support part of the hypothesis that education has no direct effect on subjective norms.

To test the effect of the country of education on the student entrepreneurial intention, two sample T-Tests were used to check the differences between students who were studying in the UAE and those studying abroad.

Table 39: Differences Between the Two Groups

	countryEduc	N	Mean	Std. Deviation	Std. Error Mean
EI Score	.00	44	.30115298	.930349358	.140255443
	1.00	500	-.02650140	1.003440723	.044875233
EIOP Score	.00	44	.19613743	.988032093	.148951442
	1.00	500	-.01726004	1.001183152	.044774272

Referring to Table 39 above, the author found that the P value for EI of the two-sample t-test was 0.037; that is, entrepreneurial intention is higher for those who studied abroad. However, the EI option preferences had the same direction, but still the difference was not significant (P value =0.175). Accordingly, the author can tentatively accept the hypothesis that the entrepreneurial intention is higher among UAE nationals who are studying outside the country than among their counterparts studying locally **(H23).**

Furthermore, to achieve this study's objectives, the author conducted more analysis to know which of the TPB three main constructs most deeply influenced the EI of UAE national youth. The standard regression weights show that attitudes (0.381) are stronger than subjective norms (0.051) and perceived behavioral control

(0.146) in explaining changes in the entrepreneurial intention of the respondents. Yet the standard regression weights show that the perceived behavioral control (0.266) is stronger than attitudes (0.095) and the subjective norm (0.086) in explaining changes in the entrepreneurship intention option preferences of the respondents.

Moreover, the study also asks which of the two entrepreneurial intention and attitude measurement scales best explains the EI. Comparing the entrepreneurial intention measurement scale of Jaén & Liñán (2013) and the measurement of entrepreneurship intention option preferences devised by Autio, Keeley, Klofsten, Parker, & Hay, (2001), the author found that, based on the achieved R-squared for the different models, the former is better than the latter for the task.

In addition, comparing the EIQ's attitude measurement scale suggested by Jaén and Liñán (2013) with the "Mini-Kolvereid Scales" suggested by McNally et al. (2014) shows the superiority of the former. Indeed, the results showed that EIQ measurement gives the best explanation for EI (R-squared was 0.231), although R-squared remained somewhat the same for the EIOP when different attitude measures of EIQ and the "Mini-Kolvereid Scales" were used.

Summary

This chapter reports on the inferential statistics that enable researcher to reach conclusions that extend beyond the immediate data. It describes the procedures and findings of the confirmatory factor analysis, path analysis, and hypotheses testing, which were used for analytical purposes.

First, following the screening of the data, a descriptive statistical analysis was carried out to highlight the different demographic variables of the studied sample. This was followed by validity and reliability testing of the measurement model, which

covers all the research constructs to find how far the measurements were reliable and valid. All the variables were found to have acceptable reliability values, ranging from 0.74 to 0.91, which are significantly higher than the acceptable level of 0.70 (Nunnally, 1978) and therefore acceptable for further analysis. Moreover, content and construct validity were discussed. The reliability and validity analyses show that our measures are both reliable and valid. The confirmatory factor analysis for all research constructs was mainly undertaken first to validate the measures at each stage and second to reduce the specific factors tested to a more general classification to enrich the theoretical development of EI in the UAE. These factors were than taken to be the most interpretable and thus were accepted as the final factor solution. The eight factors support the findings in the literature review (Chapter 2) and are defined as:

1. Attitude,
2. Subjective norm,
3. Perceived behavioral control,
4. Entrepreneurship intention,
5. Entrepreneurship intention option preferences
6. Autonomy,
7. Creativity,
8. Workload.

After the results of the confirmatory factor analysis, the hypotheses of each stage were tested. The results summary of the hypothesis testing is presented in Table 40:

Table 40: Results of Hypotheses Testing

Hypotheses	Results
H1. Attitude positively and directly influences entrepreneurial intention	Accepted
H2. Attitude positively and directly influences entrepreneurship intention option preferences	Accepted
H3. Perceived behavioral control positively and directly influences entrepreneurial intention	Accepted
H4. Perceived behavioral control positively and directly influences entrepreneurship intention option preferences	Accepted
H5. The Subjective norm positively influences attitude	Accepted
H6. The Subjective norm positively and directly influences entrepreneurial intention	Rejected
H7. The Subjective norm positively and directly influences entrepreneurship intention option preferences	Accepted
H8. The Subjective norm positively influences perceived behavioral control	Accepted
H9. Autonomy positively and directly influences entrepreneurial intention	Accepted
H10. Autonomy positively and directly influences entrepreneurship intention option preferences	Accepted
H11. The Subjective norm positively influences autonomy	Accepted
H12. Creativity positively and directly influences entrepreneurial intention	Accepted

H13. Creativity positively and directly influences entrepreneurship intention option preferences	Accepted
H14. The Subjective norm positively influences creativity	Accepted
H15. Workload negatively and directly influences entrepreneurial intention	Rejected
H16. Workload negatively and directly influences entrepreneurship intention option preferences	Accepted
H17. The Subjective norm positively influences workload	Accepted
H18. Gender indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H19. Age indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H20. Entrepreneurship Experience indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H21. Family role models directly and indirectly influence the entrepreneurial intention. Indirectly through the direct effect on attitude, subjective norm and perceived behavioral control.	Accepted
H22. Education indirectly influences the entrepreneurial intention through the direct effect on attitude and perceived behavioral control but not on the subjective norm.	Partially Accepted

H23. Entrepreneurial intention is higher among UAE national students who are studying outside the country than students who are studying locally	Accepted
H24. Attitude toward risk (risk aversion) is higher among UAE national students who are studying locally than those who are studying abroad.	Could not be tested

Source: Analysis of Survey Data

Chapter 5: Discussion and Conclusion

This chapter discusses and interprets the findings of the study results and analyses them with reference to the current literature and theory in the area. It starts by revisiting the study objectives and questions and discusses how they were addressed. Then the applicability of the study model and measurement approach in the UAE context is discussed. The study hypotheses and analysis results are then interpreted before presenting the study limitations. Finally, the conclusions from the study are discussed, highlighting their theoretical and practical implications and identifying possible areas for future research.

5.1 Research Objectives and Questions

5.1.1 Research Objectives

As noted above, this study has six main objectives, which have almost all been achieved, as follows:

The first objective was *to investigate the intention among the UAE national youth to start new entrepreneurial ventures by examining the factors that impact on undergraduate students' choice of entrepreneurship as a career option through applying a "Theory of Planned Behavior" (TPB) framework. Using this framework, the study aims to contribute to filling the research gap in the general area of entrepreneurship and entrepreneurial intention (EI) in a Middle Eastern context (specifically the UAE)*. This objective was fully achieved. To investigate UAE national youth intention to start new entrepreneurial ventures, the study adopted the entrepreneurial intention model suggested by Liñán & Chen (2009), which is based on Ajzan's (1991) Theory of Planned Behavior (TPB) model, while considering the

unique context of the UAE. In accordance with Ajzan's (1991) model, the study model proposed that attitude, subjective norm and perceived behavioral control, directly and positively affect UAE students' EI. Moreover, in accordance with Liñán & Chen's (2009) Entrepreneurial Intention Model, the study also assumes that subjective norms directly influence both the attitude of UAE national youth and the perceived behavioral control. In addition, human capital and other demographic variables are assumed to affect UAE national youth EI indirectly through the direct effect on the TPB's three main variables (Liñán & Chen, 2009a), namely, their education, age, gender, and entrepreneurship experience. However, family role models are assumed to directly and indirectly affect the intention of UAE national youth to start a new venture. Research hypotheses were developed to test the above proposed relationships. The study results support the study model and almost all of its hypotheses. Accordingly, the study results and findings contribute to filling the research gap found in this research field, specifically in the UAE and hence the Middle East more generally.

The second objective was *to test the robustness and validity of the TPB to explore entrepreneurial intention in the UAE context, thus adding to and comparing the existing knowledge and literature on the topic*. This objective was also achieved. Supporting other research findings regarding the applicability of Ajzen's(TPB) model to different institutional contexts and cultures (Turker & Selcuk, 2009; Kautonen et al., 2015; Liñán & Chen, 2009b; Moriano et al., 2011; Rueda et al., 2015; Nishimura & Morales, 2011), the study findings generally support the conceptual model of the research, thus supporting the applicability of the TPB to explore the entrepreneurial intention in the context of the UAE's students. The results with the EIQ measurement instrument initially suggested by Liñán & Chen (2009) confirm that the main theoretical constructs of attitude and perceived behavioral control appear to directly

and positively affect UAE national youth entrepreneurial intention in the UAE. The subjective norm, however, appears to have an indirect effect on entrepreneurial intention through its direct effect on attitude and perceived behavioral control. The direct effect of the subjective norm on entrepreneurial intention was not supported. The same results reached when using the measurement of entrepreneurship intention option preferences (EIOP) devised by Autio, Keeley, Klofsten, Parker, & Hay, (2001) showed the subjective norm to have a weak low significance direct effect on the participants' entrepreneurship intention option preferences. However, with the "Mini Kolvereid Scales" attitude measures, the subjective norm appeared to have a direct and highly significant positive effect on both entrepreneurship intention (EI) and entrepreneurship intention option preferences (EIOP), thus supporting the claims of Liñán & Chen (2009) and other researchers that the measurement instrument that is chosen may affect the result regarding the relationship between subjective norms and entrepreneurship intention (Turker & Selcuk, 2009; Liñán & Chen, 2009b; Matlay et al., 2012; Schlaegel & Koenig, 2014). Whether it does so or not, the present study, which adopted the modified model of TPB suggested by Liñán & Chen (2009), emphasizes the indirect effect of the subjective norm on entrepreneurship intention through the direct effect on attitude and perceived behavioral control. This is considered an important contribution to the literature with regard to Ajzen's (TPB) model. Many studies which do not support the effect of the subjective norm on entrepreneurship intention may fail to test the indirect or total effect of this factor using proper statistical analysis (Liñán & Chen, 2009b), and consequently may not provide accurate conclusions regarding the effect of this variable on entrepreneurship intention. This in turn moderates the effectiveness of the recommendations provided to enhance entrepreneurial intention. Indeed, in spite of its effects, some studies omit

this variable from their studies (Peterman & Kennedy, 2003; Veciana, Aponte, & Urbano, 2005). But this cannot be a wise choice, because ignoring or omitting this variable means ignoring or omitting the role of culture, which is suggested to influence and shape the entrepreneurship intention in many contexts (Liñán & Chen, 2009b; Moriano et al., 2011).

The third objective was *to examine the robustness and validity of the Entrepreneurial Intention questionnaire (EIQ) in the UAE context and thus respond to research calls for testing and further validating this measurement instrument in future studies*. This objective was also achieved. The study survey questionnaire was designed and developed on the basis of the most recent version of the standardized measure of the "Entrepreneurial Intention Questionnaire (EIQ)", which was initially developed by Liñán and Chen (2009). The EIQ was here used for the first time in a UAE context. Moreover, additional measurements were considered to measure the UAE's unique variables and further validate the EIQ as a measurement tool. The measurement model tests conducted in this study, which included measures of convergent and discriminant validity, were satisfactory. All the variables had reliability values higher than the minimum acceptable level of 0.70 (Nunnally, 1978) and therefore they could be accepted for further analysis. Accordingly, this study supports the robustness, validity and reliability of the standardized measure of the EIQ. Moreover, comparing the EIQ's attitude measurement scale suggested by Jaén and Liñán (2013) with the "Mini-Kolvereid Scales" suggested by McNally et al. (2014) shows the superiority of the former. Indeed, the results showed that EIQ measurement gives the best explanation for the entrepreneurial intention (EI) (R-squared was 0.231), although R-square remained more or less the same for the entrepreneurship intention option preferences (EIOP) when different attitude measures of EIQ and the "Mini-

Kolvereid Scales" were used. In addition, comparing Jaén & Liñán's (2013) entrepreneurial intention measurement (EI) scale and the measurement of entrepreneurship intention option preferences (EIOP) proposed by Autio, Keeley, Klofsten, Parker, & Hay, (2001), the study found that, on the basis of the achieved R-squared for the different models, the former was better than the latter. This result endorses the robustness of the EIQ measurement.

The fourth objective *was to clarify the differences and similarities among the factors affecting the entrepreneurship intentions of undergraduate students specializing in business and engineering majors inside and outside the country*. This objective was partially achieved. Although the study revealed that the entrepreneurial intention was higher among UAE national youth students who are studying outside the country than among students who are studying locally, thus supporting H23, the small sample of outside students (44 cases) compared to the large number of inside students (500) made any such comparison invalid. Nevertheless, further analysis was conducted to discover which of the TPB's three main constructs most deeply influenced the entrepreneurial intention of the UAE's students. The standard regression weights show that attitudes (0.380) are stronger than perceived behavioral control (0.146) and subjective norms (0.050) in explaining changes in the entrepreneurial intention (EI) of the respondents. But the standard regression weights show that the perceived behavioral control (0.265) was stronger than attitudes (0.095) and the subjective norm (0.085) in explaining changes in the entrepreneurship intention option preferences of the respondents.

On the basis of the study results and interpretations of the hypothetical testing, the study seeks to set out the theoretical and practical implications to educators and policy-makers that they should foster and enhance entrepreneurial intention among

UAE national youth and promote entrepreneurship as a career choice, thus achieving the fifth and sixth objectives of this study.

5.1.2 Research Questions

This study was intended to answer three main questions. The first is: *Based on the Theory of Planned Behavior (TBP) and other considered variables, what are the main factors that affect UAE national youth intentions to start their own businesses in the UAE and be entrepreneurs?* The second question is: *Are there any differences in entrepreneurial intentions and their antecedents between UAE national youth students who are studying locally and those who study abroad?* The third question is: *Based on the previous questions, what recommendations can be made to the government and policy makers of the UAE to promote and enhance the choice of entrepreneurship as a career option?*

Using the study model, the results supported almost all the study hypotheses, confirming the effects of attitude, subjective norm, and perceived behavioral control on the entrepreneurial intention of the UAE's students. Moreover, the age, gender, entrepreneurship experience and family role model appeared also to affect the entrepreneurial intention of these young people, whereas education has no effect on their entrepreneurial intention. Moreover, as noted above, the study results related to standard regression weights show that attitudes (0.380) are stronger than subjective norms (0.050) and perceived behavioral control (0.146) in explaining changes in the entrepreneurial intention of the respondents. However, the standard regression weights show that the perceived behavioral control (0.265) is stronger than attitudes (0.095) and the subjective norm (0.085) in explaining changes in the entrepreneurship intention option preferences of the respondents. The subjective norm also has a fairly

high effect on both the attitude (standard regression weights = .328) and perceived behavioral control (standard regression weights = .241), which in turn affect both the EI of the UAE national youth in question and their EIOP. Accordingly, as supported by Liñán & Chen (2009), when these youth feel that their families or close friends support their decision to be entrepreneurs it enhances the attractiveness of this career option and tends to make them feel that they are able to handle it successfully (Liñán & Chen, 2009b). At the same time, the standard regression weights of the study's other controlled variables showed weak relationships between those variables and both EI and EIOP.

Referring to the second research question, the result revealed that entrepreneurial intention is higher among UAE national youth students who are studying outside the country than among their counterparts at local universities. However, as mentioned above, the study could not compare the effect of the different research variables between these two groups because one sample was very much smaller (44) than the other (500) and a comparison may have led to invalid results.

The third research question regarding recommendations to promote entrepreneurs is discussed later in the chapter.

Accordingly, the above findings make it clear that the study achieved its objectives and successfully answered almost all of its questions.

5.2 Applicability of TPB and EIQ in the UAE Context

5.2.1 Applicability of TPB

This study, as noted above, aimed to investigate the intention among a sample of UAE national youth to start their own entrepreneurial ventures by examining the factors that affect the choice of entrepreneurship as a career option, thus, treating the

choice of self-employment as something based on the intention model of Ajzen's TPB. This model was chosen out of all the possible intention models because of its applicability to the UAE context and its support and validation by many previous researchers. More specifically, the study adopted the entrepreneurial intention model suggested by Liñán & Chen (2009), which is based on Ajzan's (1991) Theory of Planned Behavior model, while considering also the unique context of the UAE.

The study findings generally support the conceptual model of the research, and hence support the applicability, robustness and validity of the TPB to predict and investigate entrepreneurial intention among UAE national youth. The applicability of this model to entrepreneurship has received wide support in the past (Turker & Selcuk, 2009; Kautonen et al., 2015; Liñán & Chen, 2009b; Moriano et al., 2011; Rueda et al., 2015; Nishimura & Morales, 2011) and it has also been used to explain the entrepreneurial intention of students in the USA (Autio et al., 2001), the Netherlands (Van Gelderen et al., 2008), Russia (Tkachev & Kolvereid, 1999), Spain and Taiwan (Liñán & Chen, 2009b) and Saudi Arabia (Almobaireek & Manolova, 2012) among other countries and contexts. Moriano et al. (2011) claim that TPB could be used as a "*culture-universal theory*", to predict career intentions in any country (Moriano et al., 2011, p. 2). The general results of the present study support the direct and positive effects of attitude and perceived behavioral control on the entrepreneurial intention of UAE national youth, whereas the subjective norm appears to have an indirect effect on entrepreneurial intention through the direct effect on attitude and perceived behavioral control. This is aligned with the findings by Liñán & Chen, (Liñán & Chen, 2009b). Although the study results support the past research findings that the subjective norm has an insignificant and weak direct relationship with entrepreneurial intention (Armitage & Conner, 2001; Kautonen et al., 2015; Matlay et al., 2012;

Moriano et al., 2011; Schlaegel & Koenig, 2014), it does not support the claim that it is the least important predictor of students' entrepreneurial intention, as suggested by Moriano et al. (2011). As noted above, the subjective norm has a relatively high effect on both the attitude of the study's sample of UAE national youth (standard regression weights = .328) and the perceived behavioral control (standard regression weights = .241), which in turn affects their entrepreneurial intention. Accordingly, this variable appears to be a relatively strong indirect predictor of the entrepreneurial intention of the UAE national youth.

Liñán & Chen's entrepreneurial intention model (2009) emphasizes the direct relationship of the subjective norm compared with other TPB constructs, namely, attitude and perceived behavioral control. This is considered a major contribution in that it further validates Ajzen's TPB model.

5.2.2 Applicability of the EIQ

In order to operationalize the study variables, a survey questionnaire was designed and developed on the basis of the latest versions of the previously validated standardized measure, the "Entrepreneurial Intention Questionnaire", which was initially developed by Liñán and Chen (2009). Moreover, additional measurements were adopted to measure UAE unique variables. As supported by Liñán and Chen (2009) and Rueda et al. (2015), the EIQ appears to be a valid instrument with which to study entrepreneurship intention in the UAE context (Liñán & Chen, 2009b; Rueda et al., 2015). The measurement model test conducted in the present study, including convergent and discriminant validity measures, had satisfactory results. All the variables were found to have acceptable reliability values higher than the lowest acceptable level of 0.70 (Nunnally, 1978).

The present study responded to the call by Liñán and Chen (2009) to use standardized measurement instruments to facilitate the comparison between different entrepreneurial intention research results, derived from different cultures and countries. However, the study also used other measures to assess entrepreneurial intention.

The EIOP measurement devised by Autio, Keeley, Klofsten, Parker, & Hay, (2001) was used as a second way of measuring entrepreneurial intention. Four items used to measure the time taken to start a future new venture, and whether it would support a full or part-time career. This additional measurement, as noted above, was considered to reflect the UAE context, where a high percentage of Emiratis combine these two types of work (employment and entrepreneurship) (Sokari, Horne, Huang, & Awad, 2013). Moreover, admitting this additional measurement enables the study to compare the results of the suggested standardized measurement of the EIQ (Autio, Keeley, Klofsten, Parker, & Hay, (2001) in assessing EI, thus responding to the EIQ authors' call to test and further validate this measurement instrument by future studies in different contexts.

Similarly, the "Mini-Kolvereid Scales" and the attitude to risk were used as additional ways of measuring attitude. The study results could not support the General Risk Aversion (GRA) scale suggested by Mandrik and Bao (2005). Indeed, this measurement appeared to lack acceptable reliability and the measurement items did not load in a logical fashion. Accordingly, this scale was eliminated from further analysis and (H24) could not be tested.

Comparing the EIQ entrepreneurial intention measurement scale, as suggested by Jaén and Liñán (2013), with EIOP from Autio, Keeley, Klofsten, Parker, & Hay, (2001), and basing our comparison on the R-squared achieved for the different models,

the author found that the entrepreneurial intention scale suggested by Jaén and Liñán (2013) is a more suitable measure than the EIOP. In addition, the EIQ attitude measurement scale appears to explain entrepreneurship intention better than the "Mini-Kolvereid Scales" do for attitude. The results show that the EIQ instrument gives the best explanation for EI as measured by R-squared (R-squared was 0.231 for the entrepreneurial intention) although the R-squared remains more or less the same for the EIOP when different attitude measures of EIQ and "Mini-Kolvereid Scales" were used

Accordingly, the study encourages the use of the EIQ measurement instrument as a valid, reliable and standardized measurement in the study of entrepreneurial intention, whatever the context.

5.3 Discussion of Research Hypotheses

As noted above, in order to investigate the intention of UAE national youth to start new entrepreneurial ventures, the study, while considering the UAE's unique context, adopted the EI model suggested by Liñán & Chen (2009), which is based on Ajzan's (1991) TPB model. The standardized measures of the EIQ were used for the study questionnaire. Additional measurements for both entrepreneurial intention and attitude variables were also considered. Accordingly, 24 hypotheses were developed. The summary result of the hypotheses testing is presented in Table 39 in the previous chapter and is also presented below for convenience in reviewing the hypotheses in relation to the discussion. As shown, most of the study hypotheses were accepted, while a few were rejected and partially accepted. Hypotheses concerning the attitude to risk could not be measured.

Table 40: Results of Hypotheses Testing

Hypotheses	Results
H1. Attitude positively and directly influences entrepreneurial intention	Accepted
H2. Attitude positively and directly influences entrepreneurship intention option preferences	Accepted
H3. Perceived behavioral control positively and directly influences entrepreneurial intention	Accepted
H4. Perceived behavioral control positively and directly influences entrepreneurship intention option preferences	Accepted
H5. The Subjective norm positively influences attitude	Accepted
H6. The Subjective norm positively and directly influences entrepreneurial intention	Rejected
H7. The Subjective norm positively and directly influences entrepreneurship intention option preferences	Accepted
H8. The Subjective norm positively influences perceived behavioral control	Accepted
H9. Autonomy positively and directly influences entrepreneurial intention	Accepted
*H10.*Autonomy positively and directly influences entrepreneurship intention option preferences	Accepted
H11. The Subjective norm positively influences autonomy	Accepted
H12. Creativity positively and directly influences entrepreneurial intention	Accepted

*H13.*Creativity positively and directly influences entrepreneurship intention option preferences	Accepted
H14. The Subjective norm positively influences creativity	Accepted
H15. Workload negatively and directly influences entrepreneurial intention	Rejected
*H16.*Workload negatively and directly influences entrepreneurship intention option preferences	Accepted
H17. The Subjective norm positively influences workload	Accepted
H18. Gender indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H19. Age indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H20. Entrepreneurs Experience indirectly influences the entrepreneurial intention through the direct effect on attitude, subjective norm and perceived behavioral control	Accepted
H21. Family role models directly and indirectly influence the entrepreneurial intention. Indirectly through the direct effect on attitude, subjective norm and perceived behavioral control.	Accepted
H22. Education indirectly influences the entrepreneurial intention through the direct effect on attitude and perceived behavioral control but not on the subjective norm	Partially Accepted

H23. Entrepreneurial intention is higher among UAE national students who are studying outside the country than students who are studying locally	Accepted
H24. Attitude toward risk (risk aversion) is higher among UAE national students who are studying locally than those who are studying abroad	Could not be tested

Source: Analysis of Survey Data

The section below discusses the hypothesis findings for each of the study variables.

5.3.1 Attitude

Attitude refers to the degree to which individuals perceive the attractiveness of the behavior in question (Ajzen, 1991) and in the present study the behavior is entrepreneurship. This construct was measured in three ways. The first was the EIQ measurement suggested by Jaén and Liñán (2013), which assessed the expected outcomes of an entrepreneurial career and the desirability of these outcomes to the respondents. The second used the "Mini-Kolvereid Scales", which are based on the Kolvereid scale (1996). The Kolvereid scale was first developed to distinguish between organizational employment and self-employment. The mini-Kolvereid scale includes three mini attitude factors related to work intention, i.e. workload, autonomy and creativity. Workload relates to a person's preference for organizational employment, while autonomy and creativity relate to a person's preference for self-employment (Kolvereid, 1996b; McNally et al., 2014). Using the validated measurement approaches of the EIQ and "Mini-Kolvereid Scale" to measure attitude

allows the study to compare the results of the two approaches and thus helps to enhance the methodological rigor, advance the literature in this regard (McNally et al., 2014) and reach more accurate conclusions regarding the effect of attitude on entrepreneurship intention. The third measure is attitude to risk. Risk is suggested to play a key role in affecting the entrepreneurship intention of UAE national youth. Accordingly, (H1), (H2), (H9), (H10), (H12), (H13), (H15), (H16) and (H24) were developed to test the effect of this construct on the entrepreneurial intention of these young students. The results support all the previously mentioned hypotheses, except (H15) and (H24).

Supporting past research findings (Autio et al., 2001; Liñán & Chen, 2009b; Matlay et al., 2012; Moriano et al., 2011; Rueda et al., 2015; Van Gelderen et al., 2008), attitude appears to have a positive and direct effect on the EI of UAE national youth. Indeed, this construct was suggested by previous research to be the strongest predictor of entrepreneurial intention (Ajzen, 1991; Moriano et al., 2011). Supporting this conclusion, this study found that attitude appears to be the strongest predictor of all the constructs on the EI of UAE national youth. Indeed, the effect of attitude appears to be even stronger and of higher significance when using Jaén and Liñán's (2013) EIQ measurement of entrepreneurial intention (EI) than the EIOP (Autio, Keeley, Klofsten, Parker, & Hay, 2001), even though attitude positively and directly affects both EI and EIOP. Accordingly, if UAE national youth perceive entrepreneurship as an attractive career option, this strongly enhances their intention to choose it as a career.

When using the "Mini-Kolvereid Scale" as an alternative measurement for attitude, the study reached the same conclusions as when using the EIQ measurements of Jaén and Liñán (2013) for attitude, except in the case of workload. That is to say,

creativity and autonomy appears to have positive and direct effects on both EI and EIOP. However, creativity appears to be stronger than autonomy in predicting the EI of these young people. Moreover, the effect of creativity and autonomy appears to be stronger and of higher significance when using the EIQ instrument of Jaén and Liñán (2013) to measure EI than when it is measured by EIOP (by Autio, Keeley, Klofsten, Parker, & Hay, 2001). The above result indicates that creativity is considered an important motivational factor in attracting UAE national youth to entrepreneurship. This view is also supported by Majumdar & Varadarajan (2013), who find that creativity is an important personality factor for entrepreneurial intent (Majumdar & Varadarajan, 2013). Indeed, creativity is suggested also as one of the important cultural factors in the Gulf region, which should relate closely to entrepreneurial potential and success (Rice, 2003).

Workload, which indicates in contrast the preference for organizational employment, is suggested to negatively and directly affect UAE national youth entrepreneurial intention; this was not supported by the EIQ measurement of Jaén and Liñán (2013). This contradicts the finding of McNally et al. (2014) that workload has a significantly negative and direct effect on entrepreneurial intention. It is worth mentioning that McNally et al. (2014) use Liñán and Chen's EIQ measurement (2009) to measure the intention to pursue entrepreneurship. The negative direct effect of workload was supported only when using EIOP. Indeed, Autio et al.'s measurement for EIOP (2001) concerns the time needed to start a new venture in the future, and whether the consequent career will be on a full-time or part-time basis. Accordingly, the effect of workload – as *an indicator of a person's preference for organizational employment* – would be particularly clear in the UAE context, where there is a high

tendency among youth to combine employment with entrepreneurship, as noted above and in the literature review (Sokari, Horne, Huang, & Awad, 2013).

Comparing two possible approaches to measuring the UAE's attitudes to entrepreneurship, the present study may claim that Jaén and Liñán's EIQ measurement (2013) of attitude is superior to the "Mini-Kolvereid Scale' when used to assess EI. That is, attitude as measured by EIQ appears to be stronger than either autonomy or creativity in predicting entrepreneurial intention among UAE national youth. In addition, the study finds that the effect of autonomy, creativity and attitude – *as suggested by Jaén and Liñán (2013)* – appears to be weak when using Autio et al.'s (2001) EIOP. The result of the R-squared, EIQ attitude measurement scale suggested by Jaén and Liñán (2013), seems to explain entrepreneurship intention better than the "Mini-Kolvereid Scale' did.

This study could not test the effect of attitude to risk on UAE national youth entrepreneurial intention. The previously validated measure of the General Risk Aversion (GRA) scale suggested by Mandrik and Bao (2005) appears not to have acceptable reliability and the measurement items did not load in a proper manner. Moreover, an item related to measuring risk from Jaén and Liñán's (2013) attitude scale (EP2 and EA2 or Attitudes to taking calculated risk) was removed because it did not load properly on the attitude scale. It seems also that the students have a problem when it comes to conceptualizing the term 'risk'. Without a test of the effect of the attitude to risk, our understanding of what drives the entrepreneurial intention, especially in the UAE context, is limited. Admittedly, Hofstede ranked the UAE high in Uncertainty Avoidance (UA), reflecting the fact that the society exhibits little tendency to prefer risk-taking. Such limited risk-taking in turn affects one's intention

to be entrepreneur (Douglas & Shepherd, 2002). Accordingly, this issue is one for future research to investigate further.

5.3.2 Perceived Behavioral Control (PBC)

Perceived behavioral control refers to a person's perception of the ease or difficulty of performing the behavior in question, in this case, being entrepreneur (Ajzen, 1991; Liñán & Chen, 2009b). This construct relates to the individual's perception of and confidence in his/her skills and abilities (Almobaireek & Manolova, 2012; Wilson et al., 2007).

The study results supported the positive and direct effect of perceived behavioral control over both EI and EIOP in the UAE context. This is consistent with previous research findings which were drawn from different contexts (Autio et al., 2001; Liñán & Chen, 2009b; Matlay et al., 2012; Rueda et al., 2015; Van Gelderen et al., 2008). Although many researchers emphasize the role of this construct on predicting EI, especially when their sample consists of students (Armitage & Conner, 2001; Kautonen et al., 2015; Matlay et al., 2012; Schlaegel & Koenig, 2014), this study found perceived behavioral control to be a moderate to weak predictor of the EI of UAE national youth. The effect of this variable on EI is enhanced when using Autio et al.'s, measurement (2001) for EIOP. Thus, although PBC seemed the second most significant predictor – after attitude – for youth EI in this country, it revealed only a moderate to weak effect in so doing.

It seems that students in the UAE may not be equipped with enough of the necessary skills to make them confident in their own future success as entrepreneurs. The study result showed that only 63.2% of the respondents, i.e. the senior students, had been educated in entrepreneurship. This could affect the role of this construct in

predicting EI in the UAE context. It seems, as noted above, that entrepreneurship education is limited in most cases to students who are business majors; thus, a high percentage of non-business students have limited chance to develop prior knowledge or educational experience in entrepreneurship. Accordingly, extending entrepreneurial education courses at university to include all major students may be useful for equipping them with the necessary entrepreneurial skills and raising their confidence and perception of their own capacity to become successfully entrepreneurs. Another explanation for the weaker effect on EI of perceived behavioral control could be the fact that UAE ranks high in Uncertainty Avoidance (UA). This in turn could make people feel threatened by uncertain situations, and thus feel less capable of starting their own business entrepreneurially, even with the required knowledge. This explanation is supported by Liñán & Chen (2009), who found that in Spain, also a country with high Uncertainty Avoidance (UA), perceived behavioral control appeared to be a weaker predictor of EI (Liñán & Chen, 2009a). Moreover, as suggested by Ajzan (1991), PBC is assumed to reflect past experience of the behavior in question (Ajzen, 1991). Since one of the study's results is that most of the sample (88.2%) had no previous experience of entrepreneurship, the effect of this construct on UAE national youth EI appeared to be relatively weak. Our targeted sample comprised youth who were still in full-time study; thus in the UAE context it is normal for them to have had limited work experience (Zhang et al., 2015).

5.3.3 Subjective Norm (SN)

The subjective norm (SN) refers to the perceived pressure from families and closer friends to perform or not to perform the intended behavior (Ajzen, 1991; Liñán & Chen, 2009b) which in this case is to be entrepreneur.

As mentioned in the earlier literature review, the family's approval and agreement regarding career choice and overall life decisions are given high importance by UAE national youth (Zeffane, 2014). Accordingly, this study posits that the subjective norm may have profound effects on the EI in this context. Indeed, many researchers suggest that this construct plays a strong role in explaining EI in any collectivist culture (Ajzen, 2001; Begley & Tan, 2001; Kristiansen & Indarti, 2004), such as the culture of the UAE.

Although the study results did not support a positive and direct relationship between the SN and the EI, they do find a weakly significant direct and positive relationship when using EIOP, which is aligned with other research findings (Armitage & Conner, 2001; Autio et al., 2001; Kautonen et al., 2015; Krueger JR et al., 2000; Liñán & Chen, 2009b; Matlay et al., 2012; Schlaegel & Koenig, 2014). However, the study results support the indirect effect of this construct on EI through a positive and direct effect on both attitude and PBC. Indeed, the effect appeared to be stronger on attitude than perceived behavioral control was. Accordingly, although it was found that the subjective norm showed only a negligible insignificant impact on entrepreneurship intention, this insignificant direct effect is strengthened by the indirect positive effect of the subjective norm on attitude and PBC. This means that it is not the subjective norm per se, but rather the improvement in attitude and PBC that influences EI. The subjective norm indirectly affects the entrepreneurship intention through both attitude and perceived behavior. Similarly, SNs indirectly affect the EIOP through both attitude and PBC. This finding supports the above findings in the literature that families and country context do affect national youth career preferences and thus their entrepreneurship intention in the UAE's collectivist culture (Ajzen, 2001; Begley & Tan, 2001; Kristiansen & Indarti, 2004; Zeffane, 2014).

When using the "Mini-Kolvereivd Scale", however, quite different conclusions were reached regarding the influence of the SNs. Measurements with this scale suggested that the SN had a direct and highly significantly positive effect on both EI and EIOP. Moreover, the direct positive relationships between the subjective norm and autonomy, creativity, workload (as indicators of attitude) and perceived behavioral control were also supported. Accordingly, when using this scale, the SN appears to have both direct and indirect effects on EI. Indeed, Kolvereid (1996) was able also to support the significant direct relationship between the subjective norm and entrepreneurship intention (Lars Kolvereid, 1996b). This conclusion supports the claims of Liñán & Chen (2009) and other researchers that the measurement approach does affect the relationship between the theory of planned behavior (TPB) constructs and EI (Armitage & Conner, 2001; Liñán & Chen, 2009b). As a result, this study also supports Liñán & Chen's call (2009) to use a standardized measurement instrument and thus make it easier to make more accurate comparisons and reach sounder conclusions regarding the effect of different TPB constructs on entrepreneurship intention in any context.

This study adopts all the study findings reached using Jaén and Liñán's EIQ measurement (2013) with regard to the effect of different constructs on national youth entrepreneurship intention in the UAE. Comparing Jaén and Liñán's EI measurement scale (2013) with that of Autio et al., EIOP, the author found on the basis of the R-squared achieved for the different models that the former is better than the latter. Moreover, the former appears to give a better explanation for UAE national youth EI than the "Mini-Kolvereid Scale" suggested by Martin, McNally, & Kay (2013).

Accordingly, this study suggests that attitudes are the strongest predictor for the EI of UAE's students, followed by PBC. The subjective norm, however, has a

highly significant and relatively strong direct effect on attitude and a highly significant but moderate direct effect on PBC. Thus, it has highly significant indirect effects on EI. Indeed, the SN is the strongest predictor of UAE national youth attitude. Furthermore, the study claims that attitude and PBC positively and directly affect these people's EI in their own country.

This conclusion suggests that more focus should be given to the effect of the SN on students' EI, instead of simply omitting or ignoring it, as prevois researchers did (Peterman & Kennedy, 2003; Veciana et al., 2005). Although it has no direct effect on EI in the UAE context, it has a highly significant positive direct effect on the other core constructs of the model. Thus, positively influencing this construct could ensure the improved effects of other constructs on EI as well. In the UAE, families play a major role in directing the preferences of students and youth to different career options. Consequently, it would be wise to include or consider them when developing and implementing different initiatives and strategies to enhance youth preference for entrepreneurship. Zhang et al. (2015) claim that the influence of the SN tends to be higher among students who may not have enough entrepreneurial experience; these students would easily be influenced by those who share their social environment, including relatives and friends (Zhang et al., 2015). It is suggested that enhancing the image of entrepreneurship as a respected career option in this social context could raise people's interest in entrepreneurship and encourage the creation of new business (Morris & Schindehutte, 2005)

5.3.4 Controlled Variables

This section discusses the study findings regarding the effect of other controlled variables on EI. They are education, entrepreneurship experiences, family role models and other demographic data of gender and age.

The general study findings support Liñán & Chen's claim (2009) that these variables have significant but weak indirect influence on youth EI (Liñán & Chen, 2009b). Indeed, the indirect effects of these variables are also found by many past researchers (Almobaireek & Manolova, 2012; Jianfeng Yang, 2013; Kolvereid & Isaksen, 2006). However, the study also found a significant but weak direct effect on EI of all these controlled variables except education. Education appears to have no significant effects on EI or its antecedents in the UAE context. Thus, it not only has no significant effect on SNs, as this study proposes, but also has no effect on any of the theory's other constructs. Even though the direct effects of the study's controlled variables on EI may contradict Ajzan's claim (1991) that these variables should affect entrepreneurship intention only indirectly through the theory's three main constructs (Ajzen, 1991), other researchers find direct relationships between some of the controlled variables and EI (Autio et al., 2001; Liñán et al., 2011). Accordingly, future researchers should investigate this issue.

The research findings regarding the effects of these controlled variables on UAE national youth EI are as follows:

- **Age**: This variable appears to have rather insignificant and weak indirect effects on youth EI. Moreover, it has significant but weak direct

effects on it. The direct effects of this controlled variable on the theory's other main constructs were not significant.

- **Gender**: Gender is found to have significant, direct but weak effect on UAE national youth EI. The direct effect of this controlled variable on the theory's other main constructs were not significant. It is worth mentioning that investigating the relationship between gender and EI is especially important in UAE context. As noted above in the literature review, there is a general belief that Emirati males are more likely than females to be involved in entrepreneurial activities due to the added social, cultural and environmental factors that stand in the way of female entrepreneurs, thus weakening it as a career option (Kargwell, 2012; Kargwell & Inguva, 2012; Khalifa Fund, 2014). This study supports this argument by findings which reveal that Emirati females have significantly lower EI than their male counterparts do. However, the suggested additional social, cultural and environmental factors – *which impede females from pursuing entrepreneurship* – do not seem to be reflected in any of the TPB's main constructs (attitude, subjective norm and perceived behavioral control). As noted above, the direct effect of gender on the TPB's other main constructs were not significant for either gender. Accordingly, other factors or variables which may not be included in this study are responsible for the difference between Emirati males' and females' EI. Admittedly, unemployment in the UAE is higher for females, accounting for 62% of all unemployed young people in the country (Khalifa Fund; 2014). Accordingly, if the target is to end unemployment among UAE national youth and promote

entrepreneurship as a career option, it is very important to further investigate the factors which affect female Emiratis' EI and thus try to enhance their preference for entrepreneurship as a career option.

- **Entrepreneurship Experience:** This variable appears to be significant but with a weak indirect effect on UAE national youth EI. Moreover, its direct effects on national youth EI are significant but weak. The direct effect of this controlled variable on the theory's other main constructs, except PBC, is also insignificant. The direct relationship between the entrepreneurship experience and PBC is found to be weak but significant. This finding further confirms Ajzan's claim (1991) that PBC can be assumed to reflect past experience of a behavior. Indeed, the study results, as noted above, show that most of the respondents (88.2%) had no previous entrepreneurship experience, being still in full-time study. Accordingly, if the plan is to enhance the effect of PBC and thus raise EI, the focus should be on enhancing the experience of entrepreneurship among UAE national youth. This in turn will increase their confidence in their skills and abilities to work in this way.
- **Family Role Model:** The study result supports both the indirect and direct effects of this controlled variable on UAE national youth EI, the indirect affect appearing more significant. Both the direct and indirect effects of family role models on UAE national youth appear to be weak. Moreover, this variable shows no direct effects on any of the theory's main constructs.

  The results of this study showed that more than half the respondents (65.3%) had family member with previous entrepreneurship xperience.

Uncle/Aunt is placed the highest percentage (32.9%) in term of the relative family member with entrepreneurship experience followed by parents (26.3%), cousins (21%), siblings (17.5%) and grandparents (7.9%) in the above sequence. However, if the role model was a close relative (a parent or sibling) it might enhance the effect of this controlled variable on UAE national youth EI. Indeed, Carr & Sequeira (2007) suggest that – given Chua, Chrisman, & Sharma's definition of 'family business' (1999) – a family role model or family business plays an important role in directing the career preferences of relatives, children above all, towards entrepreneurship (Carr & Sequeira, 2007; Chua, Chrisman, & Sharma, 1999) . Accordingly, a parental role model would enhance the direct effect of this controlled variable on the theory's other constructs, mainly attitude and PBC (Carr & Sequeira, 2007). This would enhance youth preference for entrepreneurship as a career choice.

- **Education:** Contradicting other research findings, where education has significant effects on EI (Heuer & Kolvereid, 2014; Martin et al., 2013), especially in collectivist cultures (Bae et al., 2014), this study reveals that this variable has no direct or indirect significant effect on UAE national youth EI. This study further suggests that education does not influence subjective norms in the UAE, and shows, indeed, that education has no direct effects there on any of the theory's main constructs. Thus, (H22) is partially accepted. It seems that education does not play any role in increasing students' awareness or influencing their attitude to entrepreneurship, although the study results reveal that

63.2% of the respondents were receiving entrepreneurship education. It is suggested that if the universities provided adequate knowledge and inspiration for entrepreneurship, youth tendency to choose it could rise (Almobaireek & Manolova, 2012; Turker & Selcuk, 2009; Franke & Lüthje, 2004; Liñán & Chen, 2009b; Matlay et al., 2012). Since the study result shows that 91.9% of the respondents to this study survey were taking degrees in the UAE, it could be claimed that government universities in the UAE are not effectively influencing youth to become entrepreneurs. The universities' failure to involve families in their entrepreneurial programs and initiatives planned for UAE national students may be one reason (Khalifa Fund, 2014). Families and the overall unique UAE context seem to be key activators of many of the variables expected to influence UAE national students' EI. Because families and the unique UAE context appear in this study to have positive and strong effects on attitudes to entrepreneurship among national youth, universities' involving families in their initiatives would enhance the attractiveness of entrepreneurship among UAE national youth and widen the role of education.

When the study compares the intention to be entrepreneur between UAE national youth who are studying locally and those studying abroad, the entrepreneurial intention appears higher among the latter. Most of the study's responses from abroad came from people studying in the USA, a nation considered to have the "*largest supplier of entrepreneurs*" (Zeffane, 2014, p. 290). This confirms that exposure to

the US culture increases EI among UAE national youth, as suggested by the Khalifa Fund report (Khalifa Fund, 2014).

Although the study sample represents UAE national youth who were brought up in a collectivist culture, those who study abroad are influenced by the individualistic culture of Western countries, mainly the US. Thus, these students show a higher EI than national youth students who are studying inside the UAE. This confirms that people may be influenced by entrepreneurial cultural values and that these values can be transferred (Jaén & Liñán, 2013). Liñán, Moriano, & Jaén, (2015) suggest that even if individuals come from the same country, their intention to start new businesses will depend on their individual personal values. This in turn depends on many factors, such as their acquired knowledge of and qualification for entrepreneurship (Liñán, Moriano, & Jaén, 2015). It seems that the students who study abroad may acquire higher entrepreneurship knowledge and qualifications through their universities than those who study locally. Thus, it would be advisable to learn from these universities and try to bring some good practices to local public universities to enhance the EI of UAE national youth. Moreover, if the government wants to promote entrepreneurship among UAE national youth as a third career option, it may be best to start with this group, who appear to be more prepared for this career option.

Conducting comparisons to investigate the effect of different cultures on EI of students who come from the same country may be a major contribution to this research field. However, the generalizability of this

finding could be enhanced by targeting a wider sample to represent the overseas students better. Indeed, the comparatively small number of these students (44 cases compared to 500 cases of local students) limits the study's capacity to investigate the differences in the effects of the TPB's three antecedents on the entrepreneurial intentions between national youth at local universities and abroad. As a result, future researchers are recommended to conduct such research by seeking a high response rate from the latter group.

5.4 Research Limitations

The research findings reveal certain specific limitations that should be highlighted.

First, one of this study's main objectives is to compare and clarify the differences and similarities in the factors affecting the EI of undergraduate students who are studying different business and engineering majors inside and outside the country. However, the smaller sample of outside students than of local students prevents such a comparison from being conducted.

Second, in this study, UAE national youth entrepreneurship intention was examined based on subgroup of UAE national undergraduate's students. Indeed, the study limits its population to business and engineering students because the literature review supports these groups as the most representative of potential youth entrepreneurs (Pratheeba, 2014b; Souitaris et al., 2007). Accordingly, this might limit the generalizability of the study results to all UAE youth.

Third, due to the limitations of measurement, the effect of risk or attitude to risk could not be measured. The previously validated measure of the General Risk Aversion (GRA) scale suggested by Mandrik and Bao (2005) appears to lack acceptable reliability. Moreover, an item related to measuring the risk (see Jaén and Liñán, 2013) was removed from the present study because it did not load properly on the attitude scale. As noted above, it seems also that the students have problems in conceptualizing the term 'risk'. The inability to test the effect of attitude to risk also limits the understanding of what drives the entrepreneurial intention and career preference (Douglas & Shepherd, 2002), especially in the UAE context where the tendency to avoid risk is high (Khalifa Fund, 2014; Horne, Huang, & Awad, 2011). It will be recalled that the UAE ranks high in Uncertainty Avoidance (UA), reflecting the fact that the preference for risk-taking preferences in this society is limited. This in turn suggests that it negatively affects EI (Douglas & Shepherd, 2002). Accordingly, Hypothesis (H 25) could not be tested.

Fourth, this study targeted only government universities: Zayed University (ZU), United Arab Emirates University (UAEU), Higher College of Technology (HCT) and the Petroleum Institute (PI) to investigate the intention among UAE national youth to be entrepreneurs locally. These key federal government universities account together for 57% of the total enrolment of Emirati students (Khalifa Fund, 2014). However, the generalizability of the research findings may be improved if other universities, which account for almost half of student enrolment, were included as well.

Fifth, this study is conducted in the UAE context. Many researchers suggest that conducting any research in a specific context may affect the generalizability of the research findings (Liñán & Chen, 2009a; Rueda et al., 2015; Santos, Roomi, & Liñán,

2016; Yurtkoru, Acar, & Teraman, 2014). However, since the focus of this study was the specific context of the UAE, this is not seen as a major problem, but the results should be applied with caution.

Finally, using online survey might rise the issue of self-selection bias. That is some students might choose to respond to the study survey because they are interested or affected by it is items (Eysenbach & Wyatt, 2002). This might limit the study generalizability. Moreover, not being able to know or calculate the response rate might affect the results generalizability of the study results as well.

5.5 Conclusion and Implications

This study aimed to investigate the intentions of UAE national youth to start their own entrepreneurial ventures by examining the factors that affect the intention to choose entrepreneurship as a career option. This was based on the TPB and targeted UAE national youth business and engineering undergraduates, studying both locally and abroad. The results support the applicability of Ajzen's theory of planned behavior. All the antecedents of attitude, subjective norm and perceived behavioral control appeared to affect UAE national youth decisions to start their own businesses. Both attitude and perceived behavioral control affect the EI of national youth positively and directly. The subjective norm affects UAE national youth EI indirectly through the direct effect on both attitude and perceived behavioral control. This conclusion supports Liñán & Chen's justification of Ajzan's TPB model (2009), which proposes the direct effect of subjective norms on both attitude and perceived behavioral control. Thus, although the study findings did not support the direct effect of this antecedent on EI, subjective norms appear to have relatively strong and significant effects on both attitude and perceived behavioral control, which in turn

affects entrepreneurial intention directly. As a result, if the effect of subjective norms is enhanced, this can positively enhance the effect of the other theory constructs on EI. This study proposes that it is unwise to simply ignore or omit subjective norms from the intentional model simply because they seem to have no direct effect on entrepreneurial intention, as previous studies did (Peterman & Kennedy, 2003; Veciana et al., 2005).

In terms of the effects of the different constructs of the TPB on youth EI, the result reveals that attitude was the strongest predictor of UAE national youth EI, followed by perceived behavioral control and finally the subjective norm.

The controlled variables of age, gender, entrepreneurship experience and family role model appear to have both direct and indirect effects on UAE national youth EI. However, these effects appeared to be weak. Education, as observed, appears to have no direct or indirect effect on the EI of UAE national youth. The direct effect of the controlled variable on entrepreneurial intentions, although it appeared to be weak, deserves more investigation, as Liñán & Chen (2009) also suggest. The direct effects contradict Ajzan's theory (1991) that these variables should affect entrepreneurial intentions only indirectly through their direct effects on the theoretical construct of attitude, subjective norm and perceived behavioral control (Ajzen, 1991; Liñán & Chen, 2009a).

The study also finds that Emirati male students have a stronger intention than Emirati female students to start new businesses. However, the unemployment percentages among young UAE national females is higher than among males, accounting for 62% of the former. Accordingly, this finding deserves further

investigation by future researchers if the goal is to advocate entrepreneurship among UAE national youth, both male and female, as a preferable career option.

The study findings regarding the insignificant effect of education on youth EI should attract the attention of future researchers and UAE policy makers. It seems that government universities in the UAE play little part in increasing the awareness among their students of entrepreneurship and improving their attitude to it. The study found that 91.9% of the respondents studied in the UAE. As noted above, education in general represents an important means of developing human resources and it is argued that the universities can foster the entrepreneurship activity in any country by enhancing the EI among students through influencing the preferences regarding career choice and increasing their entrepreneurial awareness (Bae et al., 2014). Indeed, Martin, McNally, & Kay, (2013) were able to support the view that entrepreneurship education is associated with stronger intentions to become an entrepreneur (Martin et al., 2013). Moreover, educational support is perceived to be more important than structural support (from economic, political, technological factors, etc.) in predicting EI (Turker & Selcuk, 2009). As a result, the current effect of the UAE government universities efforts to influence youth preference for entrepreneurship as career choices should be evaluated and the universities might well examine effective strategies to enhance their role in this regard. Since families and the overall UAE context (subjective norms) appear in this study to have positive and strong effects on UAE national youth attitudes to entrepreneurship, involving families in university programs and initiatives could enhance the attractiveness of entrepreneurship among UAE national youth. It may also enhance students' confidence in their skills and abilities to succeed as entrepreneurs, which is part of the task of education in this regard.

The study found also that the entrepreneurial intention is higher among UAE national youth students who are studying outside the country than students who are local. It seems that the students who are studying outside may acquire higher entrepreneurship knowledge than those studying locally. Moreover, the literature review suggests that entrepreneurial intentions could be higher in individualistic than collectivist cultures. Most of the responses received from students studying overseas came from the USA, a culture characterized by individualism. Thus, the study offers some support to the view that people could be influenced by entrepreneurial cultural values and those values could be transferred (Jaén & Liñán, 2013).

Conducting such comparisons to investigate the effect of different countries' contexts on youth entrepreneurship intention when experiencing different cultures for some time could be considered a great contribution to this research field. Another contribution of this study is that it filled the literature gap found in Middle East in general and the UAE in specific regarding the validation of Azjen's TPB to predict entrepreneurial intention. Moreover, this study responded to Liñán & Chen's (2009) call to test and validate EIQ, the Entrepreneurial Intention Questionnaire. Indeed, the study result supports this instrument's validity and reliability in the UAE context (with the exception of the problem with a measurement statement relating to risk). The following summarizes the theoretical and practical implications of the study.

5.5.1 Theoretical Implications

This study validates the Theory of Planned Behavior in predicting UAE national youth EI in the UAE context, which was lacking from the literature. The results support the robustness and universal applicability of the model. Indeed, this

study supports Liñán & Chen's (2009) entrepreneurial intention model, which is based on Ajzan's Theory of Planned Behavior (TBP). However, it also emphasizes the direct effect of subjective norms on both attitude and perceived behavior control. The study emphasized and further investigated the indirect effect of subjective norms on entrepreneurial intention, as suggested by Liñán & Chen (2009). The study claims that the subjective norm is a strong indirect predictor of entrepreneurial intention although it has been omitted or neglected by previous researchers (Peterman & Kennedy, 2003; Veciana et al., 2005). The study suggests that investigating the indirect effect of subjective norms could even enhance the applicability of TPB. Supporting previous research findings, both attitude and perceived behavioral control affect UAE student entrepreneurial intention positively and directly (Autio et al., 2001; Liñán & Chen, 2009b; Matlay et al., 2012; Moriano et al., 2011; Rueda et al., 2015; Van Gelderen et al., 2008).

Moreover, this study's model included some other control variables: age, gender, entrepreneurship experience, family role model and education. These variables were suggested by Ajzen (1991) to affect entrepreneurial intention indirectly through a direct effect on the three constructs of the theory of planned behavior. A family role model in the UAE context, however, was proposed also to directly affect entrepreneurial intention. Education is suggested to affect other theory constructs but not the subjective norm in the UAE context. The study findings support the direct and indirect effect of those variables on entrepreneurial intention, except for education, which appears, in this context, to affect entrepreneurial intention neither directly nor indirectly. Accordingly, the variables appear to have effects on national youth entrepreneurial intention in the UAE context, even if these affects appear to be

relatively weak. This should encourage future researchers to include these and other control variables, and investigate their effects on entrepreneurial intention further.

Another theoretical implication of this study is that it responds to calls from Liñán & Chen (2009) and Rueda et al. (2015) to further test and validate the Entrepreneurial Intention questionnaire (EIQ) in different research contexts (Liñán & Chen, 2009b; Rueda et al., 2015). Accordingly, EIQ was used here for the first time in the UAE context. Using Structural Equation Modelling (SEM) – which was used also by both Liñán & Chen (2009) and Rueda et al. (2015) – and the latest version of the EIQ suggested by Jaén and Liñán (2013) as measurement instrument sand as statistical methodology, the study results largely support the validity and reliability of EIQ as an instrument in the UAE context. Thus, other research in the future is encouraged to use this standardized measurement instrument. Accordingly, to make the results even more widely comparable and trustworthy, the same statistical methodology of (SEM) could be used, especially if the interest is to test the direct, indirect and total relationship between the study variables and EI (Liñán & Chen, 2009a). Moreover, EIQ does not consider entrepreneurship the diametrical opposite of being an employee (Liñán & Chen, 2009a). This goes in line with this study's scope and definition of the possible co-existence of self-employment/entrepreneurship and regular employee status, a view which should be encouraged in other research.

This study used other well-validated measurement approaches to measure both entrepreneurial intention and attitudes. The results support the use of EIQ measurements over mini-Kolvereid to measure attitude and support the use of EIQ measurements more than the alternative measure of entrepreneurial intention by Autio, Keeley, Klofsten, Parker, & Hay, (2001). Such comparisons are suggested to enhance the methodological rigor and to reach more accurate conclusions regarding the effect

of different TPB variables over entrepreneurship intention. Moreover, by using the mini-Kolvereid scale to measure attitude and comparing its results to the EIQ instrument, the author responded to McNally et al.'s, (2014) call to further examine the mini-Kolvereid scale (McNally et al., 2014). To our best knowledge, this is the first study where these different measurement approaches were used to measure specific constructs and allow such comparison.

Moreover, this study intended to compare the entrepreneurship intention of UAE national youth students who are studying inside and outside the country. The study found that entrepreneurial intention is generally higher among the UAE national youth who are studying abroad than those studying locally. This finding offers some insight into the possible effect of different cultural experiences on entrepreneurship intentions.

5.5.2 Practical Implications

On a practical note, the study has many implications and recommendations for both educators and UAE policy makers seeking to enhance entrepreneurial intention among UAE national youth population and, thus, promote entrepreneurship as a career choice.

First, according to this study, attitude appears to be the strongest predictor of entrepreneurship intention in this group. Accordingly, more focus should be given to enhancing UAE national youth entrepreneurial intention through improving their attitude to entrepreneurship. Attitude is suggested to highly affected by education (Fayolle, Gailly, & Lassas-Clerc, 2006; Ghazali et al., 2012). As education in this study appears not to have any significant effect on national youth attitude to entrepreneurship as career choice, the role currently played by government universities

should be evaluated. The effects of some educational variables of entrepreneurship courses contents, teacheres' professional profiles and resources available on youth entrepreneurship and career intentions should be investigated. Moreover, evaluation of entrepreneurship educational programs and courses on youth entrepreneurship intention before and after taking those programs and courses using high methodological rigor studies is essential. This will help to discover current shortages and gaps and thus suggest required interventions to enhance the education role in influencing UAE youth attitude and their career intentions toward entrepreneurship. Moreover, initiatives and educational programs are suggested also in this study to target all university's majors to promote entrepreneurship among all youth.

Second, because the subjective norm in this study appears to strongly affect both attitude and perceived behavioral control, there is great need to include UAE national youth families in any strategies or initiatives aimed to enhance youth EI. Family, in the UAE context, plays an important role in shaping national youth career preferences. As noted above in this discussion, educational institutions or policy makers may have limited influence on UAE national youth career choices and preference for entrepreneurship if their families are actively encouraging them to work only in the public sector ("Reshaping Attitudes, Beliefs, and Opinions: The Key to Emiratization in the Private Sector | Al Qasimi," n.d.). Thus, including the broader family may help to build a more entrepreneurship-friendly culture that could favor national youth acceptance of entrepreneurship as a career choice. Such involvement could also enhance students' confidence in their skill and ability to become successful entrepreneurs, activating the role of education in this regard.

Third, to enhance the role of perceived behavioral control, thus enhancing national youth confidence as potential entrepreneurs, the study suggests also that UAE

national youth entrepreneurship experience could be broadened, perhaps through expanding internships or attaching them to successful start-up enterprises locally or abroad.

Fourth, the study result suggests that EI is higher among Emiratis who are studying abroad than those studying locally. As noted above, studying outside is considered one important way for youth to be exposed to international practices (Khalifa Fund, 2014). In return, international exposure may increase the EI among youth. If the UAE government plans to encourage UAE national youth to be entrepreneurs, it may be wise to target this specific group of young people first, as they may be more intent on an entrepreneurial career path. Encouraging and supporting greater numbers of UAE national youth to study abroad is also recommended.

Finally, a study finding is that Emirati males have a higher intention than Emirati females to start new businesses. Moreover, unemployment is higher among the latter (Khalifa Fund, 2014). Accordingly, this study suggests further investigating the reasons behind this lower intention among Emirati females and accordingly come up with actions to enhance it. Activating the role of women network associations of for example Abu Dhabi Business Women Council, Dubai Business Women Council and Sharjah Business Women Council could be suggested. Finding ways to link those networks with young UAE national females can enhance the entrepreneurship intention among them. Indeed, any initiatives that fail to fully consider fostering entrepreneurship intentions among young national women will have a very limited impact on youth employment overall.

5.6 Future Research

Although this study achieved most of its objectives, it also highlighted many interesting avenues for future research.

First, smaller samples of outside students limited the study's ability to investigate the differences regarding its model variables and antecedents in the entrepreneurial intentions between those who were studying locally and those abroad. Future researchers are encouraged to conduct such research by targeting a high response from people studying outside the UAE.

Second, the attitude to risk could not be investigated in this study, due to measurement limitations. Thus, future research is encouraged to use another measurement approach or to better investigate UAE national youth perceptions and conceptualization of this factor, and thus gain better understanding of its effects on youth EI.

Third, the study found that the control variables of age, gender, entrepreneurship experience and family role model directly affect UAE national youth entrepreneurial intention, which contradicts Ajzan's (1991) claim that these variables should only affect entrepreneurship intention indirectly through the theory's main three constructs (Ajzen, 1991). Accordingly, future researchers should further investigate this issue.

Fourth, this study targets only government universities in its investigations. Future research is encouraged to target also private and other universities to strengthen the generalizability of the research findings. Moreover, targeting other universities and colleges to investigate the EI of senior students in different college majors is recommended.

Fifth, the lower intention among young UAE national women than men deserve further investigation. Given the relatively small size of the Emirati population, maximizing female participation in the workforce is an important consideration. Barriers to female employment intentions, including entrepreneurship, should be fully considered.

Sixth, this study focused on prediction of UAE youth entrepreneurial intentions, not the actual realization of those intentions. Future research can focus on exploring the link between the intentions and actual realization of entrepreneurship (Turker & Selcuk, 2009; Fayolle & Liñán, 2014; Kautonen et al., 2015; Nishimura & Morales, 2011).

Finally, triangulation could give more insight regarding the EI of youth and the factors affecting it. Future researchers are encouraged to apply a mix of quantitative and qualitative methodologies to strengthen the research findings.

Summary

This chapter focused on interpreting and discussing the research hypotheses and analytical findings with regard to UAE national youth EI, on the basis of the theory of planned behavior. It described how the research objectives were achieved and how its questions were answered. Moreover, the study's limitations, contributions and implications were discussed. Finally, possible areas for future research were highlighted.

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Appendix 1

[Study Questionnaire]

جامعة الإمارات العربية المتحدة
United Arab Emirates University

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UAE Youth Entrepreneurial Intention
توجهات ريادة الأعمال لدى الشباب المواطنين في دولة الإمارات العربية المتحدة

UAE Youth Entrepreneurial Intention
توجهات ريادة الاعمال لدى الشباب المواطنين في دولة الامارات

My name is Noora Yousif Al Saiqal. I am a doctoral student in United Arab Emirates University (UAEU). I am conducting research about UAE youth intention to be entrepreneurs. You have been invited to take part in this study, which intends more specifically to investigate the entrepreneurial intentions (the intentions to start one own business/venture and be self-employed) among UAE national youth undergraduate university students and examine factors affecting those intentions. The study hopes to improve our understanding of UAE youth intentions in entrepreneurship and support the development of a competitive UAE economy.

The following questionnaire consists of a number of items regarding some aspects as education, experience, personal attitudes and other factors believed to affect the entrepreneurial intention. There are no right or wrong answers to the below questions. Please respond to each statement accurately as the statement/question applies to you.

Please be assured that the collected data and information will be confidential and will be used only for the purpose of this study.

By participating in this study and completing this questionnaire, you are giving the researcher the consent to analyse the data and present its findings to interested parties. Please note that no individual participant will be identified in the study. Data will be analysed at aggregate level.

Please note also that you can withdraw at any stage in the process without being penalized. If you have any concerns or questions regarding the questionnaire, please contact me at my email: 201290025@uaeu.ac.ae.

This survey should take around 15 minutes to be completed.

Thank you for participation.

اسمي نورا يوسف الصيقل، طالبة دكتوراه في جامعة الإمارات العربية المتحدة، أقوم حالياً بإعداد أطروحتي حول توجهات الشباب في دولة الإمارات لأن يكونوا رواد أعمال. أنتم مدعوين من خلال المشاركة في هذه الاستبانة لأن تكونوا جزءاً من هذه الدراسة التي تستهدف بالتحديد استكشاف والتعرف على توجهات طلاب الجامعة الشباب المواطنين لتأسيس مشاريعهم الخاصة وميولهم نحو التوظيف الذاتي، واستكشاف العوامل المؤثرة على ذلك. الدراسة تطمح إلى تحقيق فهم أكبر لتوجه الشباب في دولة الإمارات في هذا الخصوص، وبالتالي المساهمة في دعم الاقتصاد التنافسي لدولة الإمارات العربية المتحدة

يتكون الاستبيان التالي من عدد من المحاور المتعلقة ببعض الجوانب مثل التعليم، والخبرة، والمواقف الشخصية وعوامل أخرى يعتقد أنها تؤثر على التوجهات في تأسيس المشاريع وريادة الأعمال.

لا توجد إجابات صحيحة أو خاطئة على الأسئلة، يرجى الإجابة على كل سؤال بدقة كما كان السؤال ينطبق عليك. كما يرجى التأكد على أن البيانات والمعلومات التي تم سيتم جمعها ستكون سرية ولن تستخدم إلا لغرض هذه الدراسة.

من خلال المشاركة في هذه الدراسة والانتهاء من هذا الاستبيان، فإنك تعطي الباحث الموافقة على تحليل البيانات وتقديم نتائجها إلى الأطراف المعنية، مع التنويه بأنه لن يتم تحديد هوية الفرد المشارك في الدراسة، وأن تحليل البيانات سيتم بشكل عام وشمولي.

كما يرجى ملاحظة أنه يمكنك الانسحاب في أي مرحلة من مراحل المشاركة في الاستبيان دون التعرض لأي عقاب أو مساءلة، وإذا كان لديك أي أسئلة أو استفسارات بخصوص هذا الاستبيان، يرجى التواصل على بريدي الالكتروني التالي:

201290025@uaeu.ac.ae

يستغرق هذا الاستبيان نحو 15 دقيقة لإكماله.

شكرا لك على المشاركة.

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* 1. Please identify your gender:
يرجى تحديد النوع الاجتماعي

- Male ذكر
- Female انثى

* 2. Please identify your age
يرجى تحديد عمرك

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* 3. Please indicate the country that you are studying in:
يرجى تحديد اسم البلد الذي تدرس فيه

- UAE دولة الإمارات العربية المتحدة
- USA الولايات المتحدة الأمريكية
- UK المملكة المتحدة
- Australia استراليا
- Malaysia ماليزيا
- Canada كندا
- Other (please specify)
  أخرى (يرجى تحديده)

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4. Please indicate the university name that you are studying at.
يرجى تحديد اسم الجامعة التي تدرس فيها

- United Arab Emirates University (UAEU) جامعة الإمارات العربية المتحدة
- Zayed University (ZU) جامعة زايد
- Higher Colleges Of Technology (HCT) كليات التقنية العليا
- The Petroleum Institute (PI) المعهد البترولي
- Other overseas university (please indicate it)
  أخرى الجامعات خارج الدولة (يرجى ذكر اسم الجامعة)

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* 5. Please indicate the college that you are studying at
يرجى تحديد طبيعة الكلية التي تدرس فيها

- Business College كلية إدارة أعمال
- Engineering College كلية هندسة
- Other (please specify) أخرى (يرجى تحديدها)

* 6. What major are you studying? (if you are not yet declared a major, please choose "Not yet in major")
ما هو التخصص الذي تدرسه؟ إذا لم تتخصص حتى الآن، يرجى اختيار عبارة "لم التخصص حتى الآن"

* 7. When do you expect to complete your degree?
متى تتوقع الانتهاء من دراستك ونيل الشهادة الجامعية؟

- 2016
- 2017
- Later, please indicate the year لاحقا يرجى تحديد السنة

* 8. Entrepreneurship is defined as "starting one's own business/venture". Have you taken any course or module that could be considered as entrepreneurship education during your studying?
تُعرّف ريادة الأعمال بأن "بدء الفرد أعماله أو مشروعة الخاص"، هل التحقت بأي دورة أو مسار علمي يمكن أن يعتبر تعليما في مجال ريادة الأعمال خلال فترة دراستك؟

- Yes نعم
- No لا

If Yes, Please indicate them
إذا كانت الإجابة بنعم يرجى ذكر اسم الدورة أو المسار العلمي

* 9. Have you ever been an entrepreneur/started your own business venture?
هل كنت سابقا من رواد الأعمال/ أو بدأت مشروعك الذاتي؟

- Yes نعم
- No لا

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* 10. Are any of your close family members currently entrepreneurs, or have they been entrepreneurs in the past?
هل هناك أحد من أقرب الأقربين من بين أفراد عائلتك من رواد الأعمال حاليا، أو كانوا من رواد الأعمال سابقا؟

- Yes نعم
- No لا

11. If you answered "Yes" in the above question, please identify your relation with that entrepreneur.
The entrepreneur/s in my family is my:
إذا كنت إجابتك بـ "نعم" عن السؤال أعلاه، يرجى تحديد علاقتك مع رائد الأعمال هذا كما يلي :

- [ ] Parent والد/والدة
- [ ] Sibling شقيق/شقيقة، أخ/أخت
- [ ] Grandparent جد/جدة
- [ ] Uncle/Aunt عم/عمة، خالي/خالتي
- [ ] Cousin ابن عم/بنت عم، ابن عمة/بنت عمة، ابن خالي/بنت خالتي
- [ ] Other (please identify the relation)
أخرى (يرجى التحديد)

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* 12. Please state your level of agreement with respect to the following statements (1= *Strongly disagree*, *5=Strongly agree)*
يرجى تحديد مستوى موافقك على العبارات التالية (الرقم 1 = لا أوافق بشدة، الرقم 5 = أوافق بشدة)

	Strongly disagree/1 لا أوافق بشدة	Disagree/2 غير موافق	Neutral/3 محايد	Agree/4 موافق	Strongly agree/5 موافق بشدة	N/A, I have already started a business غير مطابق، قد بدأت العمل فعليا
It is very likely that I will start a business someday من المرجح أن أبدأ أعمالي الخاصة يوما ما	○	○	○	○	○	○
I am willing to make any efforts to become an entrepreneur أرغب في بذل أي جهد كي أصبح من رواد الأعمال	○	○	○	○	○	○
I have serious doubts whether I will ever start a venture لدي شكوك كثيرة في أنني سأتمكن من بدء عمل تجاري خاص في المستقبل	○	○	○	○	○	○
I am determined to start a business in the future إنني مصمم على بدء عمل تجاري في المستقبل	○	○	○	○	○	○
My professional goal is to be an entrepreneur إن هدفي المهني هو أن أصبح من رواد الأعمال	○	○	○	○	○	○

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Entrepreneurial Attitude **الموقف بشأن ريادة الاعمال**

* 13. For you, starting a new business (being an entrepreneur) would involve.... (*1=Totally unlikely, 5= Totally likely*)

بالنسبة إليك، فإن بدء عمل تجاري جديد (أي أن تكون رائد أعمال) يشمل ..... (الرقم 1 = مستبعد تماما، الرقم 5 = محتمل تماما)

	Totally unlikely/1 مستبعد تماما	Somewhat unlikely/2 غير محتمل نوعا ما	Neutral/3 محايد	Somewhat likely/4 محتمل نوعا ما	Totally likely/5 محتمل تماما
Facing new challenges مواجهة تحديات جديدة	○	○	○	○	○
Taking calculated risks خوض مخاطر محسوبة المواقف	○	○	○	○	○
Contributing to the society and country المساهمة في تقدم المجتمع والوطن	○	○	○	○	○
Achieving higher self independence تحقيق قدر أعلى من الاستقلالية الذاتية	○	○	○	○	○
Pursuing passion السعي لتحقيق هدف	○	○	○	○	○
Creating jobs for others خلق وظائف للآخرين	○	○	○	○	○
Creating a job for myself إيجاد وظيفة لنفسي	○	○	○	○	○
Having more income الحصول على دخل إضافي	○	○	○	○	○
Being creative and innovative أن أكون مبتكرا ومبدعا	○	○	○	○	○

* 14. Now, please state to what extent these statements are<u>desirable</u> for you generally in your life. *(1=Totally not desirable, 5=Totally desirable)*
والآن، نرجو تحديد إلى أي مدى تعتبر هذه العبارات مرغوبة لديك بشكل عام في حياتك (الرقم 1 = لا أرغب تماماً، الرقم 5 = أرغب تماماً)

	Totally not desirable/1 غير مرغوبة تماماً	Somewhat not desirable/2 غير مرغوبة نوعاً ما	Neutral/3 محايد	Somewhat desirable/4 مرغوبة نوعاً ما	Totally desirable/5 مرغوبة تماماً
Facing new challenges مواجهة تحديات جديدة	○	○	○	○	○
Taking calculated risks خوض مخاطر محسوبة العواقب	○	○	○	○	○
Contributing to the society and country المساهمة في خدمة المجتمع والوطن	○	○	○	○	○
Achieving higher self independence تحقيق قدر أعلى من الاستقلالية الذاتية	○	○	○	○	○
Pursuing passion السعي لتحقيق حلم	○	○	○	○	○
Creating jobs for others خلق وظائف للآخرين	○	○	○	○	○
Creating jobs for myself إيجاد وظيفة لنفسي	○	○	○	○	○
Having more income الحصول على دخل إضافي	○	○	○	○	○
Being creative and innovative أن أكون مبتكرا ومبدعا	○	○	○	○	○

* 15. Please indicate the extent to which you agree with the following statements about taking risk *(1= Strongly disagree, 5= Strongly agree)*
يرجى تحديد مدى موافقتك على العبارات التالية المتعلقة بالإقدام على المخاطرة (الرقم 1 = لا أوافق بشدة، الرقم 5 = أوافق بشدة)

	Strongly disagree/1 لا أوافق بشدة	Disagree/2 لا أوافق	Neutral/3 محايد	Agree/4 أوافق	Strongly agree/5 أوافق بشدة
I do not feel comfortable about taking chances or opportunities لا أشعر بالارتياح بشأن المغامرة أو اقتناص الفرص	○	○	○	○	○
I prefer situations that have foreseeable outcomes أفضل الحالات التي تكون لها نتائج منظورة/متوقعة	○	○	○	○	○
Before I make a decision, I like to be absolutely sure how things will turn out قبل أن أتخذ أي قرار، أحب أن أكون متأكداً تماماً حول ما سيتمخض عنه/النتيجة	○	○	○	○	○
I avoid situations that have uncertain outcomes أتجنب الحالات التي تكون لها نتائج غير مؤكدة	○	○	○	○	○
I feel comfortable improvising in new situations أشعر بالارتياح نحو التجريب في حالات جديدة	○	○	○	○	○
I feel nervous when I have to make decisions in uncertain situations أشعر بالقلق عندما أضطر لاتخاذ قرارات في حالات غير مضمونة العواقب.	○	○	○	○	○

* 16. Please indicate the extent to which the following factors are important for your decision about your future career plans. *(1= Not at all important, 5= very important)*
يرجى توضيح مدى أهمية العوامل التالية في قرارك المتعلق بخطط مستقبلك المهني (1=غير مهم إطلاقاً، 5= مهم جداً)

	Not at all important/1 غير مهم إطلاقاً	Somewhat not important/2 غير مهم نوعاً ما	Neutral/3 محايد	Somewhat important/4 مهم نوعاً ما	Very important/5 مهم جداً
Not having long working hours ألا يكون لدي ساعات عمل طويلة	○	○	○	○	○
To have fixed working hours أن يكون لدي ساعات عمل محددة	○	○	○	○	○
Not to have a stressful job ألا أعمل في وظيفة فيها ضغوط شديدة	○	○	○	○	○
Independence الاستقلالية	○	○	○	○	○
To be my own boss أن أكون رئيس نفسي	○	○	○	○	○
To be able to choose my own work tasks أن أتمكن من اختيار مهامي العملية بنفسي	○	○	○	○	○
To create something أن أستطيع ابتكار شيئاً ما	○	○	○	○	○
To fulfill my creative needs أن أستطيع تلبية احتياجاتي الإبداعية	○	○	○	○	○

* 17. Please think now about your family and closer friends. To what extent would they agree if you decide to become an entrepreneur and start your own business? *(1= Strongly disagree, 5= Strongly agree)*
يرجى التفكير الآن في أسرتك وأصدقائك المقربين. إلى أي مدى سيوافقونك إذا قررت أن تصبح رائد أعمال وتبدأ عملك الخاص؟ (1 = لا يوافقون بشدة، 5 = موافقون بشدة)

	Strongly disagree/1 لا يوافقون بشدة	Disagree/2 لا يوافقون	Neutral/3 محايد	Agree/4 يوافقون	Strongly agree/5 يوافقون بشدة	N/A لا ينطبق
My parents الوالدين	○	○	○	○	○	○
My siblings أشقائي	○	○	○	○	○	○
My spouse زوجي/زوجتي	○	○	○	○	○	○
My close friends أصدقائي المقربين	○	○	○	○	○	○
My colleagues or mates زملائي ورفقائي	○	○	○	○	○	○

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* 18. ... and how do you value the opinion of these people in this regard? I think it is ..*(1= Not at all important, 5= Very important)*

(1 = غير مهم إطلاقاً، 5 = مهم جداً) ..... وكيف تقيم رأي هؤلاء الأشخاص في هذا الخصوص؟ أعتقد أنه

	Not at all important/1 غير مهم إطلاقاً	Somewhat not important/2 غير مهم نوعاً ما	Neutral/3 محايد	Somewhat important/4 مهم نوعاً ما	Very important/5 مهم جداً	N/A لا ينطبق
The opinion of my parents الوالدين	○	○	○	○	○	○
The opinion of my siblings أشقائي	○	○	○	○	○	○
The opinion of my husband/ wife زوجي/زوجتي	○	○	○	○	○	○
The opinion of my close friends أصدقائي المقربين	○	○	○	○	○	○
The opinion of my colleagues or mates زملائي ورفقائي	○	○	○	○	○	○

* 19. Please indicate to what extent you would be able to effectively perform the following tasks *(1= Totally ineffective, 5= Totally effective)*
يرجى تحديد مدى قدرتك على أداء المهام التالية بفاعلية (1 = غير فاعل إطلاقا، 5 = فاعل تماما)

	Totally ineffective/1 غير فاعل إطلاقا	Somewhat ineffective/2 غير فعال نوعا ما	Neutral/3 محايد	Somewhat effective/3 فعال نوعا ما	Totally effective/5 فاعل تماما
Defining my business idea and a new business strategy تحديد فكرتي التجارية واستراتيجية الأعمال الجديدة الخاصة بي	○	○	○	○	○
Keeping under control the new-venture creation process السيطرة على عملية إنشاء المشروع الجديد	○	○	○	○	○
Negotiating and maintaining favorable relationships with potential investors and banks التفاوض و الحفاظ على علاقات مفيدة مع المستثمرين المحتملين والبنوك	○	○	○	○	○
Writing a business plan إعداد خطة أعمال	○	○	○	○	○
Recognizing opportunities in the market for new products and/or services التعرف على فرص منتجات و/أو خدمات جديدة	○	○	○	○	○
Interacting with key people to raise capital to create a new venture التواصل مع أشخاص رئيسين لجمع رأس المال اللازم لبدء مشروع جديد	○	○	○	○	○
Creating and putting into operation a new venture إنشاء مشروع جديد وتشغيله	○	○	○	○	○

* 20. What would you like to do immediately after finishing your degree?*(1= Totally not desirable, 5= Totally desirable)*

ما الذي تود فعله فور الانتهاء من نيل شهادتك (الرقم 1 = لا أرغب تماما، الرقم 5 = أرغب تماما)

	Totally not desirable/1 لا أرغب تماماً	Somewhat not desirable/2 لا أرغب نوعاً ما	Neutral/3 محايد	Somewhat desirable/4 أرغب نوعاً ما	Totally desirable/5 أرغب تماما
Starting-up a firm انشاء شركة جديدة	○	○	○	○	○
Working in the public sector العمل في القطاع العام	○	○	○	○	○
Working in the private sector العمل في القطاع الخاص	○	○	○	○	○
Pursue a further study (e.g Masters, PhD) (مواصلة الدراسات العليا (ماجستير، دكتوراه	○	○	○	○	○
Not willing to work / stay at home لا أرغب في العمل/ أفضل البقاء في المنزل	○	○	○	○	○

* 21. How likely is it that you will start a new firm of your own? Please assess the option of starting different types of firms using the scale below. *(1= Totally unlikely, 5= Totally likely)*
ما مدى احتمال أن تُنشئ شركتك الخاصة الجديدة؟ يرجى تقييم خيارات إنشاء وبدء أنواع مختلفة من الشركات باستخدام المقياس الموضح أدناه (الرقم 1 = مستبعد تماماً، الرقم 5 = محتمل تماماً)

	Totally unlikely/1 مستبعد تماماً	Somewhat unlikely/2 غير محتمل نوعاً ما	Neutral/3 محايد	Somewhat likely/4 محتمل نوعاً ما	Totally likely/5 محتمل تماماً	N/A, I have already started a business غير منطبق، لأني بدأت العمل فعلياً
Start a firm on **full-time** basis within one year after graduation إنشاء شركة خاصة على أساس التفرغ الكامل خلال سنة بعد التخرج.	○	○	○	○	○	○
Start a firm on **full-time** basis within five years after graduation إنشاء شركة خاصة على أساس التفرغ الكامل خلال خمس سنوات بعد التخرج	○	○	○	○	○	○
Start a firm on **part-time** basis within one year after graduation إنشاء شركة خاصة على أساس التفرغ الجزئي خلال سنة بعد التخرج.	○	○	○	○	○	○
Start a firm on part-time basis within five years after graduation إنشاء شركة خاصة على أساس التفرغ الجزئي خلال خمس سنوات بعد التخرج	○	○	○	○	○	○

* 22. Please identify your nationality
يرجى تحديد جنسيتك

- UAE إمارات
- Other (please specify)
أخرى (يرجى تحديد الجنسية)

* 23. In which Emirate do you live?
في أي إمارة من إمارات الدولة تقيم بشكل دائم

- Abu Dhabi ابو ظبي
- Dubai دبي
- Sharjah الشارقة
- Ajman عجمان
- Umm Al Quwain ام القوين
- Ras Al Khaimah راس الخيمة
- Fujairah الفجيرة

Thank you very much for your cooperation

شكرا جزيلا على تعاونكم

Appendix 2

[Detailed Construct Table]

	Definition	Measurement*	Items**	Other measurements used
Intention ***(Dependent variable)***	This construct indicates the effort that the person will make to carry out the entrepreneurial behavior. **source**: (Liñán & Chen, 2009a)	• It is measured by using a five-item scale in which each item assesses the perceived likelihood of an individual to choose an entrepreneurial career. To prevent acquiescence bias, one item was reversed. (number 3 in items section).Source: (Jaén Inmaculada & Liñán Francisco, 2013). The author adopted the same measurement items; however; the author changed the scale to make it more adequate to the	***Please state your level of intention with respect to the following statements on the Five-point Likert-type scale (1=strongly disagree, 5= strongly agree)*** • It is very likely that I will start a venture someday. • I am willing to make any effort to become an entrepreneur • I have serious doubts whether I will ever start a venture • I am determined to start a business in the future	1. **Kolvereid (1996b)** measured the intention by three 7-point scales used to reveal the choice of occupational state. 1. "if you were to choose between running your own business or being employed by someone what would you prefer?" (1= would prefer to be employed by someone; 7= would prefer to be self-employed). 2. " how likely is it that you will pursue a career as self-employed?" (likely- unlikely).3. "how likely is it that you will pursue a career as employed in an organization?" (likely-unlikely). An index of intentions to become self-employed was created by averaging the scores on these three items (Cronbach alpha=.89) (Kolvereid, 1996).

		study purpose and survey format. A five-point instead of a seven-point scale has been used. • An additional measurement approach has been considered to reflect UAE culture. This is mainly related to measuring the time required to start the new venture in the future, and whether it would be a full-time or part time career. Accordingly, four more items to measure the perceived likelihood of the participants to start their own business in the future were adopted based on the measurement for entrepreneurship intention by Autio, Keeley, Klofsten, Parker, & Hay, (2001); the Cronbach Alpha for this construct was 0.82. Source: Autio et	• My professional goal is to be an entrepreneur. ***(Second Measurement): How likely is it that you will start a new firm of your own? Please assess the option of starting different types of firm using the scale below, a five-point Likert-type scale (1=Not at all likely, 5=Already started a firm)*** FULL-TIME OCCUPATION IN OWN FIRM • Start a firm on full-time basis within one year after graduation. • Start a firm on full-time basis within five years after graduation. PART-TIME OCCUPATION IN OWN FIRM • Start a firm on part-time basis within one year after graduation.	2. In other studies (Manolova, 2012), this construct was measured by **one simple single binary variable as to whether or not the individual wants to** start own business in the future (Yes/No) (Almobaireek & Manolova, 2012). However, this approach considered **"loose operationalization"** (Autio et al., 2001; Davidsson, 1995). 3. To avoid the loose operationalization problem, other researchers added other measures to indicate the time frame (short or long term) of the future intention to start own business. **Davidsson, (**1995) measured intention by an index of three questions: 1."have you ever considered founding your own firm?" (with three response categories from" never occurred to me" to" have seriously considered") and 2. "How likely do you consider it to be, that one [five] year[s]from now you will run your own firm?" (five response categories from "not likely at all" to "dead certain"). These three variables were first standardized, then summed. The

		al., 2001). The author added "after graduation" statement after each item to indicate exactly the time to measure the study interest. Moreover, considering this additional measurement will enable the study to compare the result of the suggested standardized measurement of "Entrepreneurial Intention Questionnaire (EIQ)" by Autio, Keeley, Klofsten, Parker, & Hay, (2001) in measuring EI, thus helping to achieve one of the study's objectives, namely, examining the robustness and validity of the Entrepreneurial Intention questionnaire (EIQ) in the UAE context and responding to the EIQ authors' call for testing and further validate this measurement instrument by future studies.	• Start a firm on part-time basis within five years after graduation.	resulting index has Cronbach alpha of 0.84. 4. **Armitage and Conner (2001)** identified three distinct kinds of intention measures: desire ("I want to . . ."), self-prediction ("How likely it is . . .") and behavioral intention ("I intend to . . ."). This latter type seems to provide slightly better results in the prediction of behavior (Armitage & Conner, 2001, p. 483). 5. Furthermore, according to **Gelderen, Maryse Brand, Bodewes, Poutsma, & Gils, (2008)** the social psychology literature brought up different EI measurements to represent the "desire" to start a new business, the "preference" for being self-employed to being employed by someone else and the "behavioral expectancies", which represent the estimation or the probability of starting one's own business in the future. It is argued that "behavioral expectancies" represent the most proper measurement as they

				6. take into consideration the possible choice of self-employment among other available choices (Warshaw & Davis, 1985; Armitage & Conner, 2001; Gelderen, Maryse Brand, Bodewes, Poutsma, & Gils, 2008).
Attitude ***(Independent variable)***	***Ajzan 1991:*** refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. (Ajzen, 1991) ***Jaén Inmaculada & Liñán Francisco, (2013) and Liñán & Chen, (2009)***: 1. Refers to the degree to	• Attitude towards entrepreneurship was measured through two sets of six (*others will be added reflecting the UAE context*) items, assessing the expected outcomes of an entrepreneurial career and the desirability of these outcomes, respectively. Following Ajzen (2002a), outcome expectations were multiplied by their desirability and then divided by six to obtain scale average scores. **Source: (Jaén Inmaculada & Liñán Francisco, 2013)**	***For you, starting a new business (being an entrepreneur) would involve.... On the five-point Likert-type scale 1=Totally unlikely, 5=Totally likely*** • Facing new challenges • Taking calculated risks • Contributing to the society and country -added • Achieving higher independence • Pursuing a passion-added • Creating jobs for others • Creating a job for myself-added • Having more income • Being creative and innovative ***Now please state to what extent these are desirable for you generally in your life...***	1. **Kolvereid (1996b) and Fayolle et al. (2006)** used belief-based measures to assess this construct. This measure was constructed based on research concerning the reasons that people give for preferring organizational employment or self-employment. Based on the research, five reasons are assumed in favor of organizational employment (security, work load, social environment, avoiding responsibility and career) and six reasons are assumed to favor self-employment (economic opportunity, challenge, autonomy, authority, self-realization and participating in a whole process). A total of 33 items for employment status preferences were formulated, 2 to 5 items representing each of the 11 reasons. Using a 7- point Likert scale, the respondents were asked how far they agreed that an item was important to consider in their future career. The

	which the individual holds a positive or negative personal valuation about being an entrepreneur. 2. It includes not only affective (I like it, it is attractive), but also evaluative considerations (it has advantages) 3. This is determined by the total set of accessible behavioral beliefs		***Five-point Likert-type scale .(1= totally not desirable, 5=Totally desirable)*** • Facing new challenges • Taking calculated risks • Contributing to the society and country -added • Achieving higher independence • Pursuing passion-added • Creating jobs for others • Creating a job for myself-added • Having more income • Being creative and innovative	reliability coefficients varied from .68 to .90 (Lars Kolvereid, 1996a). 2. **Krueger et al. (2000),** used an aggregated attitude scale. In such a design, beliefs were used to explain an aggregate measure of attitude, while where latter variable was used to explain intention. The attitude was measure as following: "Is starting your own business an attractive idea to you?" (scale: 0 to 100), Expected Utilities: Respondents rated the perceived value of five different outcomes (autonomy, stress, financial performance, personal satisfaction, personal quality of life) of starting a business and the likelihood of occurring. This measure is the sum of the values weighted by the expected likelihoods. (Each item used a 7-point Likert scale.) (Krueger JR et al., 2000). 3. Some other studies focused on measuring attitude by concentrating on measuring the attractiveness of entrepreneurial career among other career alternatives such as corporate career, civil servant career and academic career. In this term, they measured the desire to adopt those

	linking the behavior to various outcomes and other attributes. 4. The strength of each belief is weighted by the evaluation of the outcomes. **Source: (Ajzen, 1991; Jaén Inmaculada & Liñán Francisco, 2013; Liñán & Chen, 2009a)**	• In addition, **risk aversion or attitude toward risk,** which was suggested to play a key role in affecting UAE national youth entrepreneurship intention, would be further investigated. Risk aversion is defined as an "*individual degree of negative attitude toward risk arising from outcome uncertainty*"(Mandrik & Bao, 2005). • General Risk Aversion (GRA) scale measurement would be adopted to measure this variable, which is suggested by Mandrik & Bao, (2005). • This scale is preferable to other domain-specific risk taking measurements for many reasons. Domain-specific risk taking measurement approaches -	***(Second Measurement): Please indicate the extent to which you agree with following statements about taking risk. five-point Likert-type scale (1= strongly disagree, 5= strongly agree)*** • I do not feel comfortable about taking chances or opportunities. • I prefer situations that have foreseeable outcomes. • Before I make a decision, I like to be absolutely sure how things will tum out. • I avoid situations that have uncertain outcomes. • I feel comfortable improvising in new situations. • I feel nervous when I have to make decisions in uncertain situations.	career choices. However, concern regarding the reliability of this measurement approach was raised and discussed (Autio, Keeley, Klofsten, Parker, & Hay, 2001). Moreover, Kolverreid and Isaksen (2006) argued that this approach is a "simplification" as it neglects the possible option that individuals may choose to combine two career options at the same time (employ and running own business). 4. **Almobaireek and Manolova (2012)** used entrepreneurial motivations as proxies for measuring the attractiveness and expected benefit of starting one's own business (in their research, they considered attitude toward the behavior to be similar to Shapero's construct of perceived desirability). In doing so, they combined prior research on entrepreneurial motivations with research on opportunity and necessity-based entrepreneurship, thus measuring entrepreneurial motivation by 11 binary items to include financial gains, necessity independence, providing jobs, higher social position, flexibility, and creativity, gaining experience, achievement, higher

		which use for example a self-reported scale to measure buying a new car or investment decisions etc., appeared to face many problems related to their reliability and applicability in other research contexts (Mandrik & Bao, 2005)., GRA instead provides a more standardized and valid measure, which could be used in some wider context to measure risk aversion using a simple short self-reported scale (Mandrik & Bao, 2005).		control and achieving a personal vision (Almobaireek & Manolova, 2012)

		• Moreover, "Mini-Kolvereid Scales" would be used as an additional measurement for attitude. There are many reasons encouraged us to include this scale in our measurement of this construct: **1.** This scale is based on longer well known "Kolvereid scale", which was initially developed to distinguish between organizational employment and self-employment. This could be considered an important approach to measuring career preferences especially in the UAE context where there is a high tendency among young nationals to prefer working in government post or combine the work options of being self-employed	***(Third Measurement): Please indicate the extent to which the following factors are important for your decision about your future career plans. Five-point Likert-type scale (1= not at all important, 5= very important)*** Component 1: Workload 1. Not having long working hours 2. To have fixed working hours 3. Not to have a stressful job Component 2: Autonomy 1. Independence 2. To be my own boss 3. To be able to choose my own work tasks Component 3: Creativity 1. To create something 2. To fulfill my creative needs	

		and organizationally employed. 2. Combining and using the two measurement approaches of Jaén & Liñán (2013) and mini-Kolvereid to measure attitude will allow us to compare the results of the approaches and thus judge whether the tested and validated attitude scales of the mini-Kolvereid do result in a different and more accurate relationship between the test's variables. 3. Accordingly it participates in enhancing the methodological rigor, thus advancing the literature in this field (McNally et al., 2014) and helping the study to reach more accurate conclusions and recommendations which enhance the understanding		

		of the influence of attitudes to EI.		
Subjective norm ***(Independent variable)***	*Ajzan 1991*: refers to the perceived social pressure to perform or not to perform the behavior. ***Jaén Inmaculada & Liñán Francisco, (2013) and Liñán & Chen, (2009)***: 1. Measures the perceived social pressure to engage in or	• Subjective norms were measured with two sets consisting of six items each. These measure how the respondents think significant others (e.g. parents) would view their entrepreneurial career choice, as well as their motivation to comply with people of this kind. These two sets were multiplied and then divided by three. **Source: (Jaén Inmaculada & Liñán Francisco, 2013)** • The original measurement items suggested by Jaén &	***Please, think now about your family and closer friends. To what extent would they agree if you decide to become an entrepreneur and start your own business? Five-point Likert-type scale (1= Strongly disagree, 5=Strongly agree)*** • My parents. • My siblings. • My husband/wife-added. • My close friends. • My colleagues or mates. ***... and how do you value the opinion of these people in this regard? I think it is... Five -point Likert-type scale (1= not at all important, 5=very important)*** • The opinion of my parents.	1. **Kolvereid I. (1996)** measured subjective norms in three steps. First, he measured how the respondents perceived the opinions of the closest family members, closest friends and people that were important in pursuing a career as an entrepreneur. Second, the respondents were asked to indicate how much they cared about these people, ranging from 1=do not care to 7=care very much, thus, assessing the motivation to comply. Finally, the belief items were multiplied by the respective levels of motivation to comply and the obtained scores were averaged to get the SN measure. The Cronbach Alpha was (.77). 2. Other researchers used multiple-items, social support, normative beliefs and unspecified measurements as an

	not engage in entrepreneurial behaviors. 2. It would refer to the perception that the "reference people" would approve of the decision to become an entrepreneur, or not. 3. The subjective norm consists of two components: normative beliefs and the motivation to comply with these beliefs.	Liñán (2013) were three, namely, immediate family (parents and siblings), close friends and colleague or mates. However, based on the literature review and considering the UAE context, the author added some items and split the effect of parents and siblings to measure their effects accurately and individually	• The opinion of my siblings • The opinion of my husband/wife -added • The opinion of my close friends. • The opinion of my colleagues or mates.	alternative subjective norm measurement approaches (Armitage & Conner, 2001). 3. **Almobaireek and Manolova (2012)** used two items in the survey to assess the perceived strength of start-up problems coming from family disagreements and social disapproval. These were measured on a five-point Likert-type scale, from 1=completely disagree to 5 = strongly agree, with 3 as a neutral anchor. 4. **Krueger J. M., (2000)** approach of measuring the subjective norm was also used by many studies (Engle, et al., 2010; Manolova, 2012). They focused on measuring the degree of encouragement to start a new venture: "to what degree would your family/friends/monitor or others encourage you to start your own business?" and the importance of their opinions: "how important would your family/friends/monitoring and others' opinions be regarding starting your own business?" This measure sums up the strength of the perceived reactions

	Source: (Ajzen, 1991; Jaén Inmaculada & Liñán Francisco, 2013; Liñán & Chen, 2009a)			weighted by perceived importance (Krueger Jr et al., 2000).
Perceived behavioral control ***(Independent variable)***	***Ajzan 1991:*** refers to the perceived ease or difficulty of performing the behavior. It is assumed to reflect past experience as well as anticipated impediments and obstacles. ***Jaén Inmaculada & Liñán Francisco, (2013) and***	• PBC has been measured through a six (*others will be added reflecting UAE culture)*-item scale, combining elements of self-efficacy and controllability, in line with the theory (Ajzen, 1991, 2002b) and previous research on entrepreneurial intentions (Krueger et al., 2000; Kolvereid and Isaksen, 2006; Moriano et al., 2007; van Gelderen et al., 2008). **Source: (Jaén Inmaculada & Liñán Francisco, 2013)**	***Please indicate to what extent you would be able to effectively perform the following tasks, Five -point Likert-type scale (1= Totally ineffective, 5= Totally effective)*** • Defining my business idea and new business strategy. • Keeping under control the new-venture creation process. • Negotiating and maintaining favorable relationships with potential investors and banks. • Writing a business plan- added • Recognizing opportunities in the market for new products and/or services	1. **Kolvereid I. (1996)** measured this construct by six 7-point rating scales: 1. "For me, being self-employed would be (very easy –very difficult). 2. " if I wanted to, I could easily pursue a career as self-employed?" (Strongly agree-strongly disagree). 3. "as self-employed, how much control would you have over the situation (absolutely no control-complete control). 4. " the number of events outside my control which could prevent me from being self-employed are (very few- numerous) 5. "if I become self-employed, the chances of success would be (very low- very high). 6. " if I pursue a career as self-employed, the chances of failure would be (very low-very high). Responses to items 1,2,4 and 6 were recoded (1=7, 2=6, etc.) and the scores on the six items were averaged to

	Liñán & Chen, (2009): 1. Refers to people's perceptions of their ability to perform that behavior. 2. Is defined as the perception of the ease or difficulty of becoming an entrepreneur. 3. PBC would include not only the feeling of being able, but also the perception of the		• Interacting with key people to raise capital to create a new venture. • Creating and putting into operation a new venture	obtain an overall measure of the PBC. The Cronbach Alpha was (.77). **Kolvereid and Isaksen (2006)** used an 18-item scale that was then grouped into four specific self-efficacies through factor analysis, however, the study showed no significant correlation between PBC and intention 2. **Wilson et al. (2007)** used a 6-item self-assessment scale, where PBC was considered to be comparable to Bandura's (1977,1982) concept of self-efficiency. For each item the participants were asked to rate themselves against their peers in specific skills and abilities such as problem solving, money management, creativity, getting people to agree with you, leadership and decision making skills. Using a 5-point Likert scale, the respondents could rate themselves from much worse to much better. The Cronbach Alpha was (.79) (Yang, 2013; Wilson, Kickul, & Marlino, 2007). 3. **Chen et al., 1998 and Zhao et al., 2005** also measured PBC through specific self-efficacies. **Zhao et al., 2005** developed items to measure self-efficacy regarding

	controllability of the behavior "*the extent to which successfully performing the behavior is up to the person*". **Source**: **(Ajzen, 1991; Jaén Inmaculada & Liñán Francisco, 2013; Liñán & Chen, 2009a)**			specific entrepreneurial tasks and averaged over those specific tasks to form a more general measure of self-efficacy for the overall entrepreneurial task domain. These writers asked how confident they were in successfully identifying new business opportunities, creating new products, thinking creatively, and commercializing an idea or new development. The Cronbach Alpha was (.78). A Likert scale ranging from 1 (no confidence) to 5 (complete confidence) was used (Zhao, Seibert, & Hills, 2005). 4. **Almobaireek & Manolova, 2012,** measured this construct using three items in the survey which asked about the expected start-up problems stemming from fear of failure, fear of commitment and fear of the administrative burden of running a new business. These were reverse-scored to assess the degree of perceived control over the intended entrepreneurial behavior. The Cronbach's Alpha was (0.693).

Controlled Variables	
Variable	**Suggested Measurement**
Entrepreneurship experience	Following Jaén & Liñán's (2013) measurement using simple binary questions (Yes/No) – with some modification – the following question was be put to the respondents: Have you ever been an entrepreneur/started your own business venture?
Professional attractiveness	To meet the study purposes also, the attractiveness to different professional/career type would be considered. This would base on Liñán & Chen's (2009) suggested items (considering some modifications and additional items) to measure "Professional Attractiveness" as follows: What would you like to do immediately after finishing your degree? Value the following options from 1 (totally not desirable) to 5 (totally desirable) five-point Likert • Starting-up a firm • Working in the public sector • Working in the private sector • Pursuing further study (e.g. a Master's or PhD degree) added • Not willing to work/stay at home added
Family role model	Following Jaén & Liñán's (2013) measurement using the simple binary question (Yes/No) – with some modifications – the following questions were put to the respondents:

	1. Are any of your close family members currently entrepreneurs, or have they been, entrepreneurs in the past? 2. If you answered "Yes" in the above question, please identify your relationship with this entrepreneur (a closed-ended question). The entrepreneur in my family is my: • Parent • Sibling • Grandparent • Uncle/Aunt • Cousin • Other (please identify the relationship) .....
Education	This variable was measured in line with Liñán & Chen's (2009) and Liñán, Urbano, & Guerrero's (2011) measurements, using also additional questions. The focus here was on students from business and engineering majors since the literature suggested that students from these two disciplines would tend more to be entrepreneurs. (Pratheeba, 2014; Shinnar et al., 2009). Accordingly, this variable would be the major, ascertained by the following questions: 1. Please indicate the college that you are studying at: ☐ Business College ☐ Engineering College ☐ Other (please specify) 2. What major are you studying? *"Options of different business and engineer majors were offered"* 3. When do you expect to complete your degree?

☐ 2016? ☐ 2017? ☐ Later (indicate the year) ....

4. Have you taken any course or module that could be considered entrepreneurship education during your studies? ☐ Yes ☐ No
5. If yes, please specify them: .....

.....

Moreover, since international exposure appeared to be an important motivator of entrepreneurship in the UAE, additional close-ended questions were added to identify the country and the university name where the respondent was studying, as follows:

1. Please indicate the country that you are studying in:
   - ☐ UAE
   - ☐ USA
   - ☐ Australia
   - ☐ Malaysia
   - ☐ Canada
   - ☐ Other county (please specify) .....
2. Please indicate the name of the university where you are studying:
   - ☐ United Arab University
   - ☐ Zayed University
   - ☐ Higher Colleges of Technology
   - ☐ The Petroleum Institute (PI)
   - ☐ An overseas university (please specify) .....

Age	Measured using a closed-ended question to identify the respondent's age in years.
Gender	Measured using a closed-ended question to indicate the respondent's gender.
Residential Emirates	This is an extra variable measured in this study - although it is not included in the model - to find the emirate that the student belongs to. The respondents would be asked the following closed-ended question: In which Emirate do you live? ☐ Abu Dhabi ☐ Dubai ☐ Sharjah ☐ Ajman ☐ Umm Al Quwain ☐ Ras Al Khaimah ☐ Fujairah
Nationality	This variable is not included in the study model, but will help to identify the respondent's nationality. The respondents would be asked the following closed-ended question:

	Please identify your nationality ☐ UAE ☐ Other (please specify) .....

*- Mainly based on Liñán & Chen's (2009) standardized Entrepreneurship Intention Questionnaire (EIQ), in its last modified version (2013).

- EIQ follows Ajzen's (2002a) methodological recommendations on how to construct a TPB questionnaire using composite measures of attitudes and subjective norm.
- The Cronbach Alpha reliability of the EIQ subscales in previous research ranged from .76 to .87 (Moriano et al., 2011)

** Considering the UAE context