

## Predicting Entrepreneurial Intention of Undergraduate Students in an Efficiency-Driven Economy: an Application of the Theory of Planned Behavior

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### Abstract:

Entrepreneurship has become a national priority for sustainable economic growth, innovation, and job creation. The purpose of this paper is to examine the relationship between antecedents of theory of planned behavior (TPB) and entrepreneurial intention of 136 undergraduate students in Albaha province, Saudi Arabia., as well as the association between some demographic characteristics and antecedents of the TPB. Hierarchical regression analysis revealed that attitude toward behavior was the only antecedent positively and significantly related to entrepreneurial intention. A separate multiple regression analysis showed that some demographic characteristics were positively and significantly related to perceived behavior control, not to other antecedents.

**Keywords:** Entrepreneurial intention, Efficiency- driven economy, Theory of planned behavior (TPB).

توقع الاتجاهات الريادية لدى طلاب المرحلة الجامعية في الاقتصاد

القائم على الكفاءة: باستخدام نظرية السلوك المخطط

د. فارس بن صالح الغامدي

الأستاذ المشارك بقسم إدارة الأعمال

كلية إدارة الأعمال في جامعة الباحة

الملخص:

أصبحت ريادة الأعمال أولوية وطنية من أجل التطور الاقتصادي المستدام والابتكار وخلق الوظائف، الهدف من هذه الدراسة هو اختبار العلاقة بين المتغيرات الشرطية لنظرية السلوك المخطط والنية لريادة الأعمال لعدد ١٣٦ طالب بكالوريوس في منطقة الباحة بالمملكة العربية السعودية، وأيضا العلاقة بين بعض المتغيرات الديموغرافية والمتغيرات الشرطية لنظرية السلوك المخطط، تحليل الانحدار الهرمي يظهر أن اتجاهات المستجيبين نحو السلوك هو المتغير الشرطي الوحيد من متغيرات نظرية السلوك المخطط الذي يرتبط بعلاقة طردية ذات دلالة احصائية مع متغير النية نحو ريادة الأعمال، التحليل الانحداري المتعدد بشكل منفصل يوضح أن بعض المتغيرات الديموغرافية ترتبط بعلاقة طردية ذات دلالة احصائية مع التحكم في السلوك المدرك كمتغير شرطي وحيد من متغيرات نظرية السلوك المخطط.

الكلمات المفتاحية: الاتجاهات الريادية؛ الاقتصاد القائم على الكفاءة؛ نظرية السلوك المخطط.

## **Introduction**

Saudi Arabia is more than ever, based on Saudi 2030 Vision, looking for achieving two critical priorities, namely, diversification of the country's economic base and Saudization of the labor force, which indeed intensified by the youth bulge. It was estimated that 59% of the Saudi population is younger than 29 years old. The unemployment rate in 20 to 29 age bracket stood at 28.6% as of 2014 (General Authority for Statistics, 2016). The implementation of Saudi Vision 2030 and the National Transformation Plan (NTP) is considered fundamental in diversifying the kingdom's economy and minimizing its dependence on oil and other commodities in order to take Saudi Arabia to the group of high income, innovation-driven economies. This can be attained through encouraging the growth of a vibrant entrepreneurial ecosystem, aligning the Saudi education system with market needs, creating economic opportunities for Saudi entrepreneurs and small and medium-sized enterprises (SMEs), as well as cultivating innovation and entrepreneurship among large businesses (Saudi vision 2030, 2016).

Presently, Saudi economy is facing key challenges, hence undertaking the most ambitious plan in its history to enhance growth of non-hydrocarbons, further modernize the public sector, foster the entrepreneurial mindset among the Saudi population, stimulate small and medium enterprises (SMEs) activity and growth, and attract more international investment into Saudi Arabia. SMEs estimates at 99.7% of all Saudi enterprises; however, they make a modest contribution of 20 % to the country's gross domestic product (Global Entrepreneurial Monitor, 2016/17). With all these in mind, there is a scantiness of research on the entrepreneurial intentions of university youth in Saudi Arabia (Almobaireek & Manolova, 2012), and even fewer studies on the entrepreneurial intentions of university youth in southern Saudi Arabia, particularly in Albaha province.

Consequently, the current study seeks to predict the entrepreneurial intentions of university youth in southern Saudi Arabia, Albaha province, applying the theory of planned behavior (Ajzen's TPB).

## **Literature review**

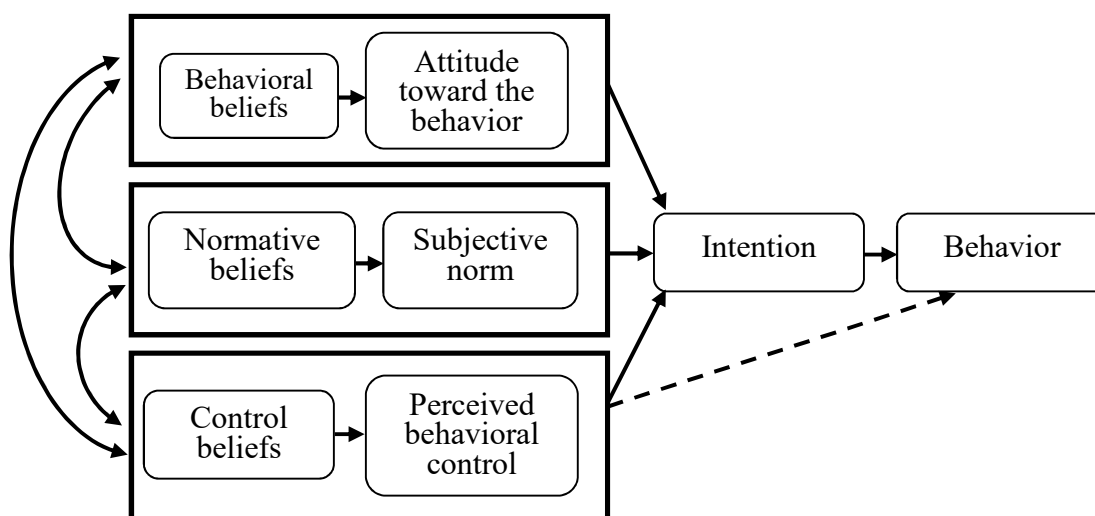
Human behavior has been explicated from a variety of disciplines: psychology, sociology, economy, organization, to name a few. Likewise, entrepreneurship has been studied from various research fields: historically economy ( Knight, 1921; Schumpeter, 1934; Kirzner, 1973), social sciences ( Jenks, 1944; Cochran, 1960; Chandler, 1962; McClelland, 1961), management( Birch, 1979), and more recently a trait approach ( Chell et al., 1991; Cooper & Gimeno-Gascon, 1992), a process approach ( Gartner et al., 2004) and a cognitive approach (Kyrö, 2011) (ref from Landström, Harirchi, & Åström, 2011; Landström & Lohrke, 2010; Rauch & Frese, 2007). Researchers have suggested and detailed many intention models, including model of integrating personal and contextual factors and self-efficacy, model of entrepreneurial event, and theory of planned behavior ( Ajzen, 1991). These models and theory claimed that entrepreneurial intentions can be impacted through conviction linking to personal factors. They also purported that attitudes towards entrepreneurial acts mediate the association between entrepreneurial self-efficacy and intentions towards a new venture startup ( Karali, 2013; Izquierdo & Buelens, 2011).

Entrepreneurial intent defines as the intention of a person to establish a new business. in studying entrepreneurial intent, Ajzen's theory of planned behavior (TPB) and Shapero's model of the entrepreneurial event (SEE) have received more attention by subsequent research as the two dominant formal theory-driven models of intentions ( Karali, 2013; Küttim, Kallaste, Venesaar, & Kiis, 2014; Malebana, 2014; Fayolle & Gailly, 2015; Iqbal, Melhem, and Kokash, 2012; Van Gelderen et al., 2008; Aloulou, 2016). The current study applied the theory of

planned behavior, hence, disregarded the Shapero's model of the entrepreneurial event and any additional variables outside of the TPB that may explain entrepreneurial intentions. Conceptualizing perceived desirability in terms of social norms and propensity to act in terms of control measures, leading to confusion causes the researcher not to apply the SEE in the current study. Additionally, a review of related on-line databases looking for the TPB has found over 100 studies in the eived behavioral control, which is the third conceptual deterrent of intentions in the TPB. From cognition perspective, human action is a function of three salient beliefs or information developed through observation and experience, namely, behavioral beliefs ( possible outcomes of behavior), normative beliefs ( normative expectations of others), and control beliefs ( factors facilitating or hindering performance of the behavior. The stronger the beliefs the people have about the

social sciences with findings support for the TPB's ability to predict intentions and behavior across a wide variety of human behaviors, few of which were conducted in Saudi Arabia context ( Van Gelderen et al., 2008; Engle et al., 2010; Aloulou, 2016).

The theory of planned behavior (TPB) is the successor of the theory of reasoned action (TRA). It was based on the finding that a given behavior is not said to be completely voluntary and under control. This finding leads to the addition of perc personal and attitude toward behavior and subjective norms to act, and the needed skills and abilities i.e., control they believe they have, the greater the probability they will behavior in a certain way. Understanding the motives and intentions towards any planned behavior is a key to understand the antecedents and consequence of that behavior ( Engle et al., 2010; Wurthmann, 2013; Van Gelderen et al., 2008;; Fayolle & Gailly, 2015).



**Figure 1.1** The theory of planned behavior (TPB). Adapted from: Küttim, M., Kallaste, M., Venesaar, U., and Kiis, A. (2014) " entrepreneurship education at university level and students' entrepreneurial intentions." *Procedia - Social and Behavioral Sciences*, 110, 658-668.

Psychological literature have demonstrated that intentions are the best predictor of any planned behavior i.e., starting an entrepreneurial venture, especially when the behavior is said to be rare, hard to observe, or having unpredictable time lags (Almobaireek &

Manolova, 2012). The TPB (Ajzen, 1991) in its most robust form proposed three antecedent variables which intentions are a function of them ( Figure 1.1). The first is attitude towards behavior referring to the degree to which an individual holds a favorable appraisal of behavior. The

second antecedent of intention is subjective norm referring to perceived social pressure to perform a certain behavior. The third is perceived behavioral control denoting an individual assessing his/her ability regarding perceived ease or difficulty to perform a certain behavior, as well as having control over such behavior (Autio, Keeley, Klofsten, Parker, & Hay, 2001; Carr & Sequeira, 2007; Küttim et al., 2014).

According to the TPB, intentions mediate the association between antecedent variables and a certain behavior. Exogenous variables such as traits, demographic, social, cultural, to name a few, impact attitudes, and hence, indirectly intentions and behavior (Soutaris, Zerbinati, & Al-Laham, 2007). To link the TPB to the SEE, Iakovleva and Kolvereid (2008) claimed that both models can be integrated into one model so as to predict intention of an individual to become self-employed. Indeed, there is an overlap between them: the SEE's perceived desirability construct is equivalent to the TPB's attitude toward behavior and subjective norm, as well as the SEE's perceived feasibility is equivalent to the TPB's perceived behavioral control or to self-efficacy, which found to have a significant association with entrepreneurial intentions (Malebana, 2014; Linan, Urbano, & Guerrero, 2011).

An empirical study (Engle, et al., 2008) conducted to examine the ability of Ajzen's theory of Planned Behavior to predict entrepreneurial intention in 12 countries, including all ten of global regional clusters as in the GLOBE project. There were a total of 1,748 usable participants in this study, all of them were university business school students and citizens of their respective country. The result concluded that the TPB has the statistically significant capability explain from 9% (Egypt) to 42% (Spain and USA) of the variance in entrepreneurial intent among the sample of participants, that is, five countries having  $R^2_{adj}$  of 0.30 or more and nine countries having  $R^2_{adj}$  of 0.25 or more. This general

result support the significance of applying cognitive theories such as the TPB in entrepreneurship research. Given that, researchers who are interested in conducting international and cross-cultural research in entrepreneurship can apply the TPB since it proved the potential capability to globally predict entrepreneurial intent.

Four empirical studies have examined the association between some environmental, situational and personal factors and entrepreneurial intentions in light of the TPB. The first study (Wang & Wong, 2004) was undertaken to understand the relationship between gender, family business experience, type of family residence, ethnicity, citizenship status, educational level, and risk-averse attitude. The sample consisted of 5326 undergraduate students in technical disciplines from the National university of Singapore. The study concluded that gender, family business experience, and educational level found to significantly impact the level of interests in starting one's own business; however, type of family residence, ethnicity, citizenship status found to have little independent influence. Additionally, the study found that risk-averse attitude variable had no independent influence i.e., a significant deterrent, on the level of interests in starting one's own business.

The second study (Autio et al., 2001) conducted to compare entrepreneurial intent among students in Scandinavia and in the USA in light of the TPB. The study main goal was to examine determinants of entrepreneurial intent in university environments, using an international comparative sampling from three countries. The combined sample was 3445 students of technology field. The result showed that subjective norm, attitude toward entrepreneurship as a career option, and perceived control over the decision and process were statistically significant and positively related to entrepreneurial intent. It showed that perceived behavioral control had the strongest effect on entrepreneurial intent. Unexpectedly, the

country differences were small in the different analysis, implying good general applicability of the TPB in studying entrepreneurial intent.

The third study (Carr & Sequeira, 2007) carried out to evaluate the impact of prior family business experience on entrepreneurial intent, taking into account the components of the TPB. The study sample comprised 308 participants from a large southwest U.S. city i.e., members of different ethnic, technology, micro business networking organizations, and attendees of business start-up seminars within the community. The finding revealed that higher levels of exposure to a prior family business were statistically significant and positively related to entrepreneurial intent. It also revealed that attitude towards establishing a new business, perceived family support, and entrepreneurial self-efficacy partially mediated the relationship between prior family business exposure and entrepreneurial intent.

The last study (Küttim et al., 2014) investigated the content of university entrepreneurship education and its influence on entrepreneurial intentions of students in 17 European countries. A total of 55781 students participated in this study; and for the purpose of this study, participants have been divided into two groups based on the level of economic development. There were 11282 participants in efficiency-driven economies and 44499 participants in innovation-driven economies. The result showed that participants in both groups were more interested in the provision of financial and other resources for funders and in the networking and coaching opportunities than lectures and seminars on entrepreneurship.

Within Saudi Arabia context, four pertinent empirical studies are selected in order to shed light on the application of the TPB and its applicability in predicting entrepreneurial intentions of undergraduate students from business school in Albaha province. The first study (Almobaireek & Manolova, 2012) examined the influence

of perceived desirability, social support, and behavioral control on the entrepreneurial intentions of 950 Saudi students at the undergraduate level, and gender differences in these influences. The results showed that prior qualifications and training had a positive and significant impact on entrepreneurial intentions. Men were more likely to express entrepreneurial intentions than women. Perceived desirability and perceived feasibility were positively and significantly associated with entrepreneurial intentions, whereas perceived social support were not. Furthermore, perceived desirability had a stronger impact for men, whereas perceived social support and behavioral control had a stronger impact for women.

Another empirical study (Iqbal et al., 2012) conducted to investigate the association between the elements of the TPB and entrepreneurial intentions. Data were collected from a sample of 292 undergraduate students at a private university in the capital city of Saudi Arabia. The finding aggregately demonstrated that personal attitude, social norms, and perceived behavioral control had a significant and positive influence on entrepreneurial intentions. This study implied that entrepreneurship education should focus on development of competencies pertinent to entrepreneurship and cultural awareness.

An empirical study (Aloulou, 2016) examined the influences of personal background and entrepreneurial attitudes on entrepreneurial intentions of a total of 103 Saudi Freshmen students of a public university in the capital city of Saudi Arabia, in light of the Entrepreneurial Attitude Orientation model (EAO). The result confirmed that achievement and innovation attitudes, entrepreneurs among relatives, and entrepreneurship training were significantly related to entrepreneurial intentions. Participants scored high in entrepreneurial attitude's element (achieving attitude, innovative attitude, and personal control); however, they scored medium in self-esteem.

Moreover, there was no significant difference of entrepreneurial attitude among male and female participants.

The final study ( Aloulou, 2016) carried out to determine the factors that impact the intentions of a total of 177 final- year Saudi university business students of a public university in the capital city of Saudi Arabia to become an entrepreneur, applying the TPB. The study concluded that all the key antecedents of entrepreneurial intention i.e., elements of the TPB contributed significantly to the explanation of intentions. gender, parents owners, relatives owners, and entrepreneurship training variables i.e.,

control variables found to directly impact intentions. Surprisingly, female participants were more likely to start a new business than their male counterparts. Having considered the preceding discussion, the following research hypotheses are formulated:

**H1.** *There is a positive relationship between the antecedents of the TPB and entrepreneurial intentions of student to start a new business ( H1a, H1b, and H1c).*

**H2.** *There is a relationship between demographic characteristics and the antecedents of the TPB ( H2a, H2b, and H2c).*

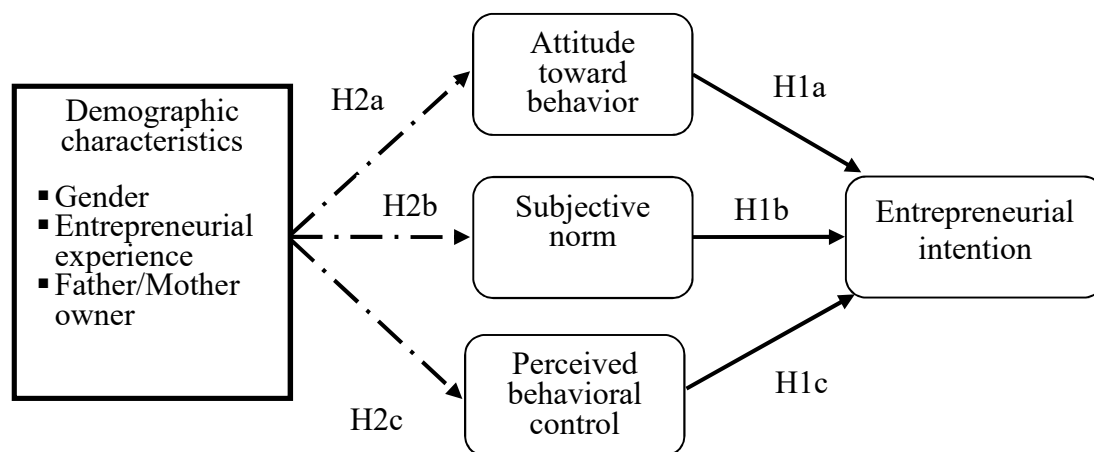


Figure 1.2 Hypothesized model of entrepreneurial intentions based on the TPB

## Methodology

### Instrument

The current study used a descriptive cross-sectional method. The study instrument is structured, self-administered, and comprises two parts. The first part included items regarding demographic characteristics of participants, namely gender, GPA, academic level, and three yes-no questions to measure whether participants currently own a business, attempt to start a business, and are from an entrepreneurial family. The second part is the entrepreneurial intention questionnaire attitude toward becoming an entrepreneur ( five items), subjective norm ( three items), and perceived behavioral control ( six items). The response was recorded on the five-point Likert scale wherein “1” indicates “strongly disagree” and “5” indicates “strongly agree”. The modified questionnaire was translated from

that was developed and examined by Liñán and Chen (2006, 2009). It was exclusively designed for the TPB as it is used for entrepreneurship ( Liñán & Chen, 2006, 2009; Liñán, 2008; Liñán, Rodriguez-Cohard, & Rueda-Cantuche, 2011), and has been validated in developed and developing countries (Aloulou, 2016; Malebana, 2014; Guerrero, Lavin, & Alvarez, 2009; Iakovleva, Kolvereid, & Stephan, 2011; Gerba, 2012; Sesen, 2013).

The entrepreneurial intention questionnaire consists of four constructs: entrepreneurial intention ( four items), English language to Arabic language, which is the official language for all potential participants, using a back-translation technique. In doing so, a professor at Albaha University translated the modified questionnaire into Arabic language and then another professor at the same university translated back to English

language without references to the original English version. Both professors are fully bilingual. After that, the researcher went carefully over both versions and made revisions needed in order to ensure a complete and accurate meaning of the original text of the modified questionnaire. In addition, the researcher wanted to ensure that an appropriate level of formality for all potential participants can be attained.

#### *Sample*

The target population of this study consisted of all undergraduate students pursuing their degree in business program at Albaha University, and hence the population size estimates of a total of 958 undergraduate students. All of them must have enrolled in a full-time on-campus degree program. As for confidentiality, the protocol describes the means whereby personal information is collected, kept secure, and maintained was explained clearly, including anonymity of all participants. A cover letter providing some information about the importance of the study, participants' rights, as well as explaining how to respond to the questionnaire items was attached. The sample size was chosen using a simple random sampling technique. For determining appropriate sample size, the guideline provided by Barlett, Kotrlik, and Higgins (2001) was applied. Thus, for the population size between 900 to 1000 with continuous data, 106 sample size deem to be appropriate at ( $P = 0.05$ ). There were

210 self-administered questionnaires distributed to participants who met the criteria mentioned above. Trained employees worked with the researcher have been assigned to distribute the survey to potential subjects and then gather all completed questionnaires. From that, 136 were returned and useful for analysis, with a response rate of 65%.

#### **Data analysis**

Descriptive statistics were used first to summarize the data and then Pearson's zero-order correlations for study variables. Cronbach's alpha reliability coefficient applied to examine the internal consistency reliability for the scales. The current study used hierarchical regression analysis and a separate multiple regression analysis to test the study hypotheses, by means of SPSS for Windows 22. Statistical significance at  $P < 0.05$  and  $P < 0.01$  were employed for all analyses.

#### **Results**

A total of 136 students undergraduate students in business college at Albaha University participated in the current study. Table 5.1 depicts the demographic data of participants. The majority of the participants were male (64.7%). As for the academic level, the majority of student was at senior level (48.5%) followed by junior level (36.8%), sophomore level (11.0%), and freshmen level (5%). Most of participants lied in the GPA between 2-3.99 (67.6%) followed by the GPA between 1-1.99 (29.4%), 4 and above (2.2%), and less than 0.99 (0.7%).

**Table 5.1** Demographic Data of Participants

Variable	Frequency N= 136	Percentage (%)
<b>Gender</b>		
Male	88	64.7
Female	48	35.3
<b>Academic Level</b>		
Freshmen	5	3.7
Sophomore	15	11.0
Junior	50	36.8
Senior	66	48.5
<b>GPA</b>		
Less than 0.99	1	0.7
1 - 1.99	40	29.4
2- 3.99	92	67.6
4 and above	3	2.2

As for the yes-no questions, the first question asked participants if they currently have their own business. Hence, a greater part of participants said no ( 85.3 %) and the rest said yes. The second question. The second question asked participants if they have tried to start their own business. Their answers were close to each other, and therefore 52.9% of participants said no and 47.1% said yes. The last question asked participants if they are from a family who owns a business. Their answers were also close to each other, and therefore 57.4% said no and 42.6% said yes.

Mean values, standard deviations, and Pearson's zero-order correlations for study variables are shown in Table 5.2. Cronbach's alpha ( $\alpha$ ) for the TPB's constructs was .74 for attitude toward behavior, .74 for perceived behavior control, and .82 for subjective norm.

Cronbach's alpha ( $\alpha$ ) for the entire scale was .81. Cronbach's alpha ( $\alpha$ ) for entrepreneurial intention construct was .79. Consequently, the internal consistency for the study's questionnaire considered substantially reliable (Nunnally, 1978).

Table 5.2 depicts the Pearson correlation among study variables. Entrepreneurial intention found to have a statistically significant positive association with attitude toward behavior subscale (0.61), perceived behavior control subscale (0.33), and subjective norm subscale (0.62). The strength of correlations range from strong to weak at  $P < 01$  value (Healey, 2009). Attitude toward behavior had a statistically significant positive association with perceived behavior control subscale (0.41) and subjective norm subscale (0.31). The strength of correlations range from moderate to weak at  $P < 01$  value.

**Table 5.2** Means, standard deviations, and correlations among variables (  $N= 136$  )

	M	SD	1	2	3	4	5	6	7	8	9
Gen	1.4	.48									
Gpa	2.7	.52	.02								
Aca	3.3	.81	.12	-.15*							
Cur	1.8	.36	.00	.01	-.03						
Pri	1.5	.50	.02	.08	-.10	.36**					
Ent	1.6	.50	-.02	-.05	-.16*	.19*	.26**				
Int	4.2	.71	-.07	-.03	.08	-.16*	-.15*	-.12			
Att	4.2	.55	.06	.11	-.06	-.16*	-.12	-.14	.61**		
Beh	3.7	.70	-.09	.00	-.05	-.27**	-.27**	-.17*	.33**	.41**	
Sub	4.1	.70	-.00	.06	.10	.05	.07	-.06	.26**	.31**	.14

*Note:* Gen = gender; Gpa = grade point average; Aca = academic level; Cur = currently own a business; Pri = prior attempt to starting a business; Ent = from an entrepreneurial family; Int = entrepreneurial intention; Att = attitude toward behavior; Beh = perceived behavior control; Sub = subjective norm.

\* $P < 05$ ; \*\* $P < 01$ , 2-tailed significance.



Currently own a business ( -0.16) and prior attempt to starting a business (-0.15) had a statistically significant negative association with entrepreneurial intention. The strength of correlations were weak at  $P < 05$  value. It is surprised that these variables had a negative relationship with entrepreneurial intention comparing to previous studies. However, one explanation may consider having a weak

culture of entrepreneurship among students at that phase of life. Another explanation may go to those who have started their own business, but are about to fail to continue for many obstacles. No differences found between men and women to start their own business, though a very slight difference found in favor of men.

**Table 5.3** Hierarchical regression for assessing the association between the antecedents of the TPB and entrepreneurial intention (  $N= 136$  )

		Model 1	Model 2
		Std. $\beta$	Std. $\beta$
(I)	Control variables		
	Gender	-.08	-.11
	Grade point average	-.02	-.08
	Academic level	.07	.11
	Currently own a business	-.11	-.04
	Prior attempt to starting a business	-.08	-.04
	From an entrepreneurial family	-.06	.01
(II)	Antecedents of the TPB		
	Attitude toward behavior		.58**
	Perceived behavior control		.06
	Subjective norm		.34
	R	.22	.65
	R <sup>2</sup>	.05	.42
	Adjusted R <sup>2</sup>	.00	.38
	$\Delta R^2$	.05	.37
	$\Delta F$	1.08	26.8
	Significance of F	.38	.000**

*Note:* The results of variance inflation factor (VIF) did not show any problems of multicollinearity.

\* $P < 05$ ; \*\* $P < 01$

To test the first study hypothesis, data were analyzed using hierarchical multiple regression analysis in order to assess the linkage between antecedents of the TPB, namely attitude toward behavior, perceived behavior control, and subjective norm as independent variables and entrepreneurial intention as dependent variable. We regressed entrepreneurial intention on the control and predictor variables. In the first model of the regression, we entered the control variables: gender, grade point average, academic level, currently own a business, prior attempt to starting a business, from an entrepreneurial family. In the second model of the regression, we then entered the three predictor variables of interest simultaneously. The results of these regressions are shown in table 5.3. It indicated that attitude toward behavior ( $\beta = 0.58, P < 0.01$ ) was the only antecedent of the TPB significantly and positively associated with entrepreneurial intention. Perceived behavior control ( $\beta = 0.06$ ) and subjective norm ( $\beta = 0.34$ ) were positively, but not significantly associated with entrepreneurial intention. Moreover, analysis of variance (ANOVA) indicated that antecedents of the TPB collectively and significantly predicted the entrepreneurial intention ( $F= 27.57, P = 0.00$ ). It should be noted that Ajzen (1991) supported the aggregate influence rather than independent one.

To examine the second study hypothesis, data were analyzed using a separate multiple regression analysis in order to assess the linkage between demographic characteristics as independent variables and the antecedents of the TPB, namely attitude toward behavior, perceived behavior control, and subjective norm as dependent variables. The results demonstrated that perceived behavior control was the only antecedent of the TPB significantly and positively associated with the predictor ( $P < 0.01$ ) i.e., demographic characteristics collectively. The Currently own a business and From an entrepreneurial family variables explained the highest values of perceived behavior control variance ( $\beta = -0.187, \beta = -0.186$ ). Therefore,  $H2$  was partial supported as well.

### **Discussion**

The current study was undertaken using the TPB framework to explain entrepreneurs' start-up intention within the context of university students in a developing country, Saudi Arabia. The results supported the previous research in term of the association between the antecedents of the TPB and entrepreneurial intention, even though attitude toward behavior was the only antecedent of the TPB significantly and positively associated with entrepreneurial intention. This finding is in line with earlier studies (Wurthmann,

2014; Malebana, 2014; Aloulou, 2016). It appears that those students have a higher level of attitude toward behavior and they are in favor, based on their beliefs, of starting their own businesses. However, a low level of perceived behavior control cautioned that university students in this study have to develop their self-efficacy since some studies have claimed that people with a low level of self-efficacy in a given situation may withdraw from difficult tasks. There was also a relatively low level of subjective norm of participants meaning that the influence of social group that is important to those students is not as expected leading to a weak intention to start a business (Küttim et al., 2014; Iqbal et al., 2012).

It is worthwhile to mention that the findings support previous research (Angriawan, Connors, Furdek, & Ruth, 2012; Otuya, Kibas, Gichira, & Martin, 2013; Malebana, 2014; Aloulou, 2016) regarding the application of the TPB as a precious model in predicting entrepreneurial intentions ( model 1  $R^2 = 0.05$  comparing to model 2  $R^2 = 0.42$ ). Moreover, preceding assessing of the TPB in the entrepreneurship literature claimed that the antecedent of the TPB typically explained 30-45 % of the variance of intention (Aloulou, 2016; Linan & Chen, 2009). In the current study, these

antecedents explained 0.42 % of the variance in intentions. It is noted that attitude toward behavior had more influence on entrepreneurial intentions than perceived behavior control and subjective norm, which supported the claim that the impact of the TPB's antecedents differs across contexts ( Engle et al., 2010; Garcia-Rodriguez, Gil-Soto, Ruiz-Rosa, & Sene; 2015; Kibler; 2013).

In addition, the results demonstrated that perceived behavior control was the only antecedent of the TPB significantly and positively associated with the predictor i.e., demographic characteristics collectively. This result suggested that gender, GPA, academic level, currently own a business, prior attempt to starting a business, and from an entrepreneurial family did not impact the attitude toward behavior and subjective norm variables, and hence less attention should be paid when studying the influence of some exogenous variables on antecedents of the TPB except perceived behavior control. As such, the currently own a business and from an entrepreneurial family variables explained the highest values of perceived behavior control variance meaning that students who currently own a business and from an entrepreneurial family perceived that they have control over the behavior and its outcomes i.e., starting a new

business and its consequences. Hence, the influence of some exogenous variables on perceived behavior control found to indirectly impact entrepreneurial intention and then behavior (Autio et al., 2001; Aloulou, 2016).

### **Conclusion**

The result of this study proved the importance of intentions as the best predictor of planned behavior, especially when such behavior is rare, hard to observe, or involves unpredictable of time lags e.g., starting a business venture. Attitude toward behavior, as one of two other antecedents of the TPB, was the only related to entrepreneurial intention. This result means that undergraduate students in Abaha province, Saudi Arabia showed a lack of the perceived ability to carry out a new business and the perceptions of what important people in participants' lives think about carrying out a new business. Therefore, an entrepreneurial culture that is not supportive in a starting new business should be eliminated, e.g., fear of failure. An entrepreneurial culture that should be fostered not only for those student, but also for the whole society so that their perceptions about carrying out a new business are most likely to change. Innovativeness, internal locus of control, and risk taking dimensions of a positive culture have a strong impact on society as a whole in a starting new business. Along

with that, the status of the entrepreneurship ecosystem from access to finance to government policies and programs, and physical and professional infrastructures should be taking into account as a key driver of enhancing an entrepreneurial culture, which in turn encourage entrepreneurial activities.

Moreover, attitude toward behavior and subjective norm were not associated with some demographic characteristics. Accordingly, individual attributes and societal values of entrepreneurship i.e., how the society values entrepreneurship as a good career choice, whether an entrepreneur has a high societal status, and the degree to which the media positively represent entrepreneurship in an economy are very important elements to governmental officers and policy makers that require their special attention in order to promote the entrepreneurial mindset among the Saudi society including undergraduate students, stimulate small and medium enterprises (SMEs) activity and growth, and attract more international investment into Saudi Arabia. In sum, harnessing the vigor of undergraduate students to entrepreneurship would make a significant contribution toward the economic progress of Saudi Arabia.

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