



Factors That Influence Entrepreneurial Intention within University Students in Egypt

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Abstract

The current research aims to propose a framework of the effects of behavioral factors of theory of planned behavior and psychological traits factors on students' entrepreneurial intention, measuring the size of effect, the circumstances under which the effect is clearly observed and studying the weighted effect of each of the behavior and traits elements. A questionnaire was adopted from previous studies and directed to students in the Egyptian universities. A total number of 430 respondents were considered and data were analyzed using AMOS through conducting SEM models for examining the effect of behavior and traits. Results showed that there is a significant effect of attitude toward behavior on students' entrepreneurial intention, while there is an insignificant effect of traits.

Subject Areas

Entrepreneurship, Socioeconomics

Keywords

Behavior, Psychological Traits, Entrepreneurial Intention, Theory of Planned Behavior, Entrepreneurship Education, Perceived Behavior Control

1. Introduction

Entrepreneurship is increasingly recognized as an important generator of growth, innovation and especially new job creation. As a result of that, there is progressively academic, political and corporate interest in entrepreneurship enhancing. The importance of entrepreneurship education has increased due to the need to prepare students for coping in the contemporary work and living environment. In addition to entrepreneurship courses taught for business students. This paper aims to advance an understanding of the impact of behavioral and

psychological factors that influence Entrepreneurial Intention (EI) to become an entrepreneur within university students in the Egyptian context.

The paper has several objectives which are: identifying to what extent do the selected variables (attitude toward being an entrepreneur, perceived behavioral control, subjective norms and social valuation, propensity to take risk, self-confidence, need for achievement, tolerance for ambiguity, innovativeness, locus of control) correlate with students' entrepreneurial intention; and, finally, exploring which of these variables can best predict students' entrepreneurial intention to become an entrepreneur.

2. Literature Review

This section provides a review of the salient literature relating to the following constructs pertinent to this study within the published research areas of Entrepreneurial Intention, entrepreneurial behavioral antecedents, entrepreneurial psychological characteristics and entrepreneurial education. There are many options, opinions and ideas regarding teaching entrepreneurship within university business schools as well as many challenges in determining successful techniques that achieve outcomes in this venue.

2.1. Entrepreneurial Intention

Intention was identified as a Mental state that inspire a person to a specific goal or a path Bird and West [1]. Moreover, Fayole *et al.* [2] believed that intention as a cognitive representation of a human's will toward a certain behavior. According to Maresch *et al.* [3], the stronger a person's intention to execute a given behavior, the more likely that this behavior will be implemented. Further, Krueger and Brazeal [4] specified entrepreneurial intention as the person adherence towards future behavior that is estimated as the intention toward starting a new business or an organization. They also assure the importance of intentions key factors in predicting planned behavior.

Entrepreneurial Intention plays a vital role in the progression of becoming an entrepreneur. It is one of the key elements that contributes to the formation and growth of entrepreneurship, fosters autonomy and leads to initiatives as explained by Al-Shammari and Waleed [5]. Entrepreneurship literature shows that concrete intentions play a crucial role in making decisions to start a new business as argued by Krueger *et al.* [6]. Entrepreneurship is considered to be an intentionally planned behavior. Consequently, observing intentions towards the entrepreneurial behavior can help in predicting this behavior. Prior research indicates that specific behaviors such as entrepreneurship can be predicted with considerable accuracy from intentions to engage in the behaviors under consideration such as Souitaris *et al.* [7].

It was also found that greater growth aspiration was significantly associated with higher business growth by Wiklund and Shepherd [8] and entrepreneurial intentions are significantly related to entrepreneurial behavior as found by

Zhang and Yang [9]. As a result, the study of entrepreneurial intention is vital to understand how to encourage entrepreneurial activity and behavior to emerge, Grid and Bargraim [10]. As an important phenomenon, entrepreneurial intention has attracted important cognitive research supporting a framework that underlies entrepreneurship as intentional behavior. Entrepreneurship literature shows that concrete intentions play a crucial role in making decisions to start a new business as declared by Kautonen *et al.* [11].

These entrepreneurial responsibilities may correspond to a range of psychological characteristics that define an individual's personality: locus of control; self-confidence and the need for achievement, Nitu-Antonie and Feder [12] describing the ability of the individual to control what happens in his/her life, Islam *et al.* [13]; inclination towards risk-taking, Nitu-Antonie *et al.* [14]. Personality is considered to have a strong influence on entrepreneurial intention and action to become an entrepreneur, Utsch and Rauch [15].

As declared by Raush and Ferse [16] that locus of control, propensity to take risk, self-efficacy, need for achievement, tolerance for ambiguity, and innovativeness are psychological characteristics associated with entrepreneurship would predict entrepreneurial attitudes. Entrepreneurial Intention would be a preceding and determining factor for engaging in business behaviors, Kolvereid [17]. Therefore, the intention to undertake a specific behavior will depend on the attitudes of persons to such behaviors, Ajzen [18]. More favorable attitudes will foster more viable intentions to implement a specific behavior and vice-versa, Linan and Chen [19]. Based on this latter approach, some entrepreneurship-based research models emerged and proposing cognitive premises for explaining such phenomena. Ajzen's theory of planned behavior (TPB) became one of the main theoretical models and adopted widely for research projects approaching EI, Linan [20].

2.2. Behavioral Approach: Theory of Planned Behavior

The TPB model has been identified within international research as one of the most promising approaches for understanding entrepreneurial intentions and decisions. According to the TPB model, entrepreneurial intention is conditioned by the attitudinal, normative and control type beliefs of individuals; however, in a holistic approach, it also considers individual variables (gender identity, entrepreneurship education, role models, etc.) and personality traits as argued by Raush and Hulsink [21] which may increase its relevance.

Empirical studies measuring behavioral characteristics construct through personal attitude, subjective norms and perceived behavioral control, considered them as antecedents of the entrepreneurial intention construct such as Schlaegel and Koenig [22]. Some studies emphasized that personal attitude and perceived behavioral control were positively and significantly related to entrepreneurial intentions and social norms had no significant influence, Robledo *et al.* [23], being considered a less relevant factor in substantiating entrepreneurial intent,

Fretschner and Weber [24]. In some recent empirical studies, subjective norms and perceived control over own behavior appear as determinants of entrepreneurial intention such as Awang *et al.* [25].

Subjective norms also had a positive significant impact on entrepreneurial intentions when the investigated sample included nascent entrepreneurs as found by [11]. Kautonen *et al.* [26] observed that subjective norms have the highest effect on entrepreneurial intentions of all behavioral characteristics, while Liñán *et al.* [27] did not achieved the same results.

Feder and Antonie [28] explored the antecedents of the entrepreneurial intentions in the case of youth beneficiaries of entrepreneurial higher education studies and/or entrepreneurial role models, being grounded in the theoretical framework of rational action and planned behavior (TPB). They found that entrepreneurial higher education training and behavioral characteristics are significant and direct predictors of entrepreneurial intentions; behavioral characteristics also mediates the influence of psychological characteristics and of parental or social environmental specific entrepreneurial role models on entrepreneurial intentions.

Fietze and Boyd [29] found that students prefer a career as employee showing a low EI. Henley *et al.* [30] argued that Leadership skills, indicative of bridging cognitive social capital, are found to be strongly and significantly associated with entrepreneurial intentions through the mediating role of the core TPB constructs. Shah and Soomro [31] explained that attitudes toward behavior and subjective norms have a positive and significant relationship with entrepreneurial intention. On the other hand, perceived behavioral control has no significant relationship with entrepreneurial intention.

Yaghoubi-Farani *et al.* [32] showed that entrepreneurial education is needed to improve students' skills and knowledge and enhance their EI and perceived behavioral control. In addition, it is important to expose students to entrepreneurial role models and their businesses and to promote entrepreneurial careers as desirable and feasible options that may bring more advantages than working in the government or private sector.

2.3. Entrepreneurial Psychological Traits Approach

Regarding Psychological characteristics, they have been considered in this study because they are the most often mentioned characteristics for the study of entrepreneurship success and relationship between them and entrepreneurship has been evident in literatures such as Chatterjee and Das [33]. The literature has identified many characteristics as associated to entrepreneurship and including: the locus of control, the propensity to risk, self-confidence, the need for achievement, the tolerance for ambiguity and the capacity to innovate see for example Srivastava and Misra [34].

As stressed by Obschonka and Stuetzer [35], even though some limitations that have been pointed out are significant, “*understanding the psychological na-*

ture and development of the individual entrepreneur is at the core of contemporary entrepreneurship research". Çolakoğlu and Gözükar, [36] explained in their study to compare personality traits (need for achievement, innovativeness, propensity to risk-taking, tolerance to ambiguity and internal locus of Control) based on the attitudes of university students toward entrepreneurship, that students with entrepreneurial intention are more innovative, have higher need for achievement and greater internal locus of control than those who do not have such intention.

Karabulut [37], explored in his research the effects of the personality Traits namely; Internal locus of control, need for achievement, risk tolerance, and entrepreneurial alertness, on the entrepreneurial intention, that the personality traits had a positive effect on the entrepreneurial intention. Khuong and An [38], examined the effects of personal traits (internal locus of control, risk-taking propensity, autonomy, tolerance of ambiguity, the need for autonomy, energy level, creativity and need for achievement), prior entrepreneurial experience, external environment, social norm and perceived feasibility on entrepreneurship intention through the positive and negative perception toward entrepreneurship.

Chaudhary [39] investigated in a study the influence of social and personal dispositional factors on determining the entrepreneurial inclination. The result shows that the traits of locus of control, tolerance for ambiguity, self-confidence and innovativeness were significant in differentiating entrepreneurs from non-entrepreneurs. At the same time, it was also observed that need for achievement and risk-taking propensity were not found to be significantly different for these two groups which was contradictory to the expectations. Nasip *et al.*, [40] stated that innovativeness, self-confidence, propensity to take risk, need for achievement and tolerance for ambiguity are positively related to entrepreneurial intention among undergraduate students. However, locus of control is not significantly related to entrepreneurial intention.

This paper is designed to fill the gap in literature by examining the effect of behavior and traits in the Egyptian context. The following section presents the research framework and hypotheses tested in this study.

3. Research Framework

This research framework is identified as in **Figure 1**, where the relationship is examined through the hypotheses shown. A questionnaire was adopted from the studies of Alshammari and Waleed [5] and Nasip *et al.* [40] to test the assigned relations. This study will use a convenience sampling technique. As its name implies, convenience sampling refers to the collection of information from members of the population who are conveniently available to provide it as stated by Sekaran and Bougie [41]. In the questionnaire assigned, the questions were adopted to measure the dimensions under study by implementing a 5-point Likert -scale used for all responses with (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

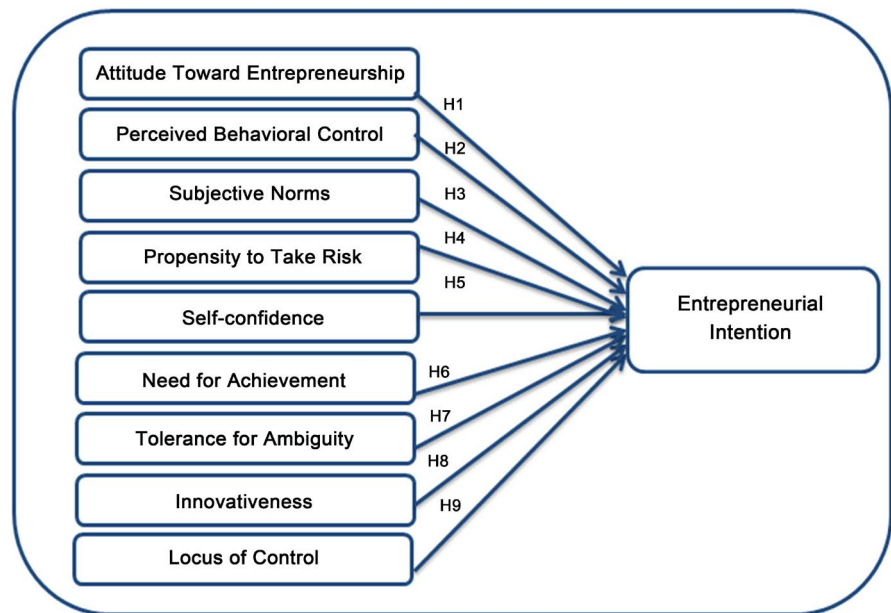


Figure 1. Research framework for the current study.

The following hypotheses were developed from theoretical framework, as follows:

H₁: There is a significant relationship between Attitude toward entrepreneurship and Entrepreneurial Intention.

H₂: There is a significant relationship between Perceived Behavioral Control and Entrepreneurial Intention.

H₃: There is a significant relationship between Subjective Norms and Entrepreneurial Intention.

H₄: There is a significant relationship between Propensity to take risk and Entrepreneurial Intention.

H₅: There is a significant relationship between Self-confidence and Entrepreneurial Intention.

H₆: There is a significant relationship between Need for achievement and Entrepreneurial Intention.

H₇: There is a significant relationship between Tolerance for ambiguity and Entrepreneurial Intention.

H₈: There is a significant relationship between Innovativeness and Entrepreneurial Intention.

H₉: There is a significant relationship between Locus of Control and Entrepreneurial Intention.

4. Results and Findings

To test the hypotheses mentioned above, the current research used regression analysis and structural equation modeling (SEM). This requires testing the validity and reliability of the research variables as well as presenting a descriptive analysis of the research variables under study. After that, the researcher will

present the hypotheses testing through the model constructed. As a preliminary step, the frequency tables are computed for the research variables. To test the validity of the research variables, confirmatory factor analysis was used to calculate the Average Variance Extracted (AVE) and Factor Loading (FL) of each construct. Therefore, confirmatory factor analysis using the principal component method was used to examine the convergent validity of the research dimensions. Reliability test is an assessment of the degree of consistency between multiple measurements of a variable. Cronbach's alpha is the most widely used measurement tool with a generally agreed lower limit of 0.7. **Table 1** provides an overview of the validity and reliability scores.

Table 2 shows the frequency tables for the research variables, where it could be observed that responses vary between Neutral and Agree, which means that not all responses are in the zone of agreement. In other words, the sample under study faces a problem as the respondents' reactions were not all in the agreement zone thus, in this study testing of hypothesis will be observed to identify which variables direct customers to be in the disagreement zone.

Table 3 shows the SEM analysis of the impact of Behavioral Antecedents; Attitude toward entrepreneurship, Perceived behavior control and Subjective Norms on Entrepreneurial Intention. It could be observed that there is a positive significant impact of Attitude toward entrepreneurship on Entrepreneurial Intention, as the estimate is 0.879, as well as P-value is less than 0.05. On the other hand, Perceived behavior control and Subjective Norms show insignificant effect on Entrepreneurial Intention as P-value is more than 0.05. However, the R square is 0.833, which means that the model explains 83.3% of the variation in Entrepreneurial Intention.

The model fit indices; CMIN/DF = 2.807, GFI = 0.951, CFI = 0.958, AGFI = 0.916, and RMSEA = 0.065 are all within their acceptable levels. The SEM model conducted for the effect of Behavioral Antecedents on Entrepreneurial Intention is illustrated in **Figure 2**.

Table 4 shows the SEM analysis of the impact of Entrepreneurial Psychological Traits; Need for achievement, Locus of control, Self-confidence, Propensity to take risk, Need for achievement, Locus of control and Tolerance for ambiguity, Tolerance for ambiguity and Innovativeness. It could be observed that there is an insignificant effect on Entrepreneurial Intention as P-values are more than 0.05. However, the R square is 0.363, which means that the model explains 36.3% of the variation in Entrepreneurial Intention.

The model fit indices; CMIN/DF = 1.940, GFI = 0.952, CFI = 0.966, AGFI = 0.925, and RMSEA = 0.047 are all within their acceptable levels (**Table 5**). The SEM model conducted for the effect of Behavior Dimensions on Entrepreneurial Intention is illustrated in **Figure 3**.

5. Conclusion

This study seeks to fill the gap by empirically examining university students' EIs,

Table 1. Validity and reliability tests.

Variables	KMO	AVE	Cronbach's Alpha	Items	Factor Loading
Attitude toward entrepreneurship	0.821	63.585%	0.842	Item 1	0.767
				Item 2	0.467
				Item 3	0.771
				Item 4	0.719
				Item 5	0.454
Perceived behavior control	0.836	56.628%	0.844	Item 1	0.543
				Item 2	0.638
				Item 3	Rephrased
				Item 4	Rephrased
				Item 5	0.492
				Item 6	0.588
				Item 7	0.533
				Item 8	0.604
Subjective norms	0.732	58.749%	0.821	Item 1	0.458
				Item 2	0.595
				Item 3	0.664
				Item 4	Rephrased
				Item 5	0.615
				Item 6	0.629
				Item 7	Rephrased
				Item 8	Rephrased
Locus of control	0.671	55.681%	0.731	Item 1	Rephrased
				Item 2	0.655
				Item 3	0.599
				Item 4	Rephrased
				Item 5	Rephrased
				Item 6	0.456
				Item 7	0.517
Propensity to take risk	0.645	55.282%	0.727	Item 1	Rephrased
				Item 2	0.562
				Item 3	0.514
				Item 4	0.565
				Item 5	0.570
				Item 6	Rephrased
Self confidence	0.617	61.107%	0.722	Item 1	0.525
				Item 2	0.687
				Item 3	Rephrased

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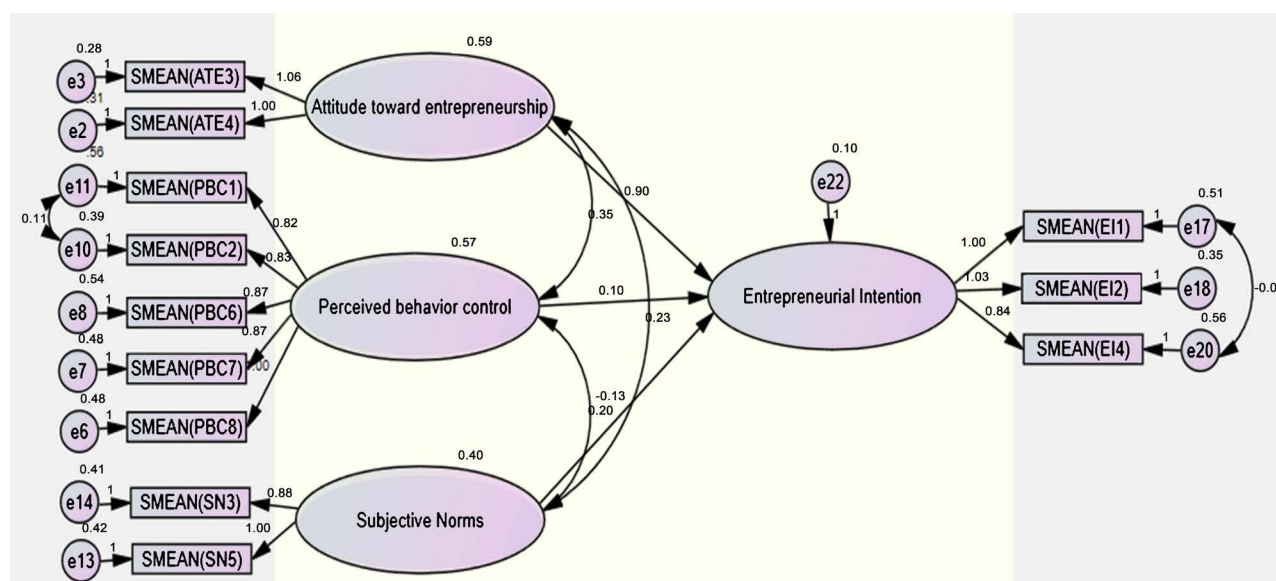
				Item 4	Rephrased
				Item 5	Rephrased
				Item 6	0.438
				Item 1	0.649
				Item 2	0.534
				Item 3	0.568
Need for achievement	0.748	55.779%	0.733	Item 4	Rephrased
				Item 5	0.480
				Item 6	Rephrased
				Item 1	0.590
				Item 2	0.749
				Item 3	Rephrased
Tolerance for ambiguity	0.564	58.779%	0.784	Item 4	Rephrased
				Item 5	0.424
				Item 6	Rephrased
				Item 1	Rephrased
				Item 2	0.720
Innovativeness	0.696	68.912%	0.774	Item 3	0.650
				Item 4	0.698
				Item 5	Rephrased
				Item 1	0.529
				Item 2	0.615
Entrepreneurial Intention	0.794	61.774%	0.843	Item 3	0.697
				Item 4	0.714
				Item 5	0.533

Table 2. Descriptive analysis for the research variables.

	N	Mean	Std. Deviation	Frequency				
				1	2	3	4	5
Attitude toward entrepreneurship	430	3.7279	0.91499	8	25	131	178	88
Perceived behavior control	430	3.3209	0.76903	7	30	240	124	29
Subjective norms	430	3.5884	0.72282	1	31	138	234	26
Locus of control	430	3.3256	0.68690	5	20	254	132	19
Propensity to take risk	430	3.5233	0.73422	4	26	165	211	24
Self confidence	430	3.3651	0.72850	7	25	220	160	18
Need for achievement	430	3.4581	0.72057	4	22	201	179	24
Tolerance for ambiguity	430	3.4488	0.73914	8	11	220	162	29
Innovativeness	430	3.5326	0.71781	4	20	174	207	25
Entrepreneurial intention	430	3.8698	0.83444	9	16	79	244	82

Table 3. SEM analysis of behavior dimensions on entrepreneurial intention.

		Estimate	P-value	R Square
EI	<--- Attitude toward entrepreneurship	0.897	***	
EI	<--- Perceived behavior control	0.098	0.126	0.833
EI	<--- Subjective norms	-0.130	0.089	

**Figure 2.** SEM for behavioral antecedents on entrepreneurial intention.**Table 4.** SEM analysis of entrepreneurial psychological traits on entrepreneurial intention.

		Estimate	P-value	R Square
EI	<--- Need for achievement	-0.198	0.721	
EI	<--- Locus of control	-0.245	0.052	
EI	<--- Self confidence	0.239	0.170	
EI	<--- Propensity to take risk	0.176	0.050	0.363
EI	<--- Tolerance for ambiguity	-0.074	0.510	
EI	<--- Innovativeness	0.554	0.139	

Table 5. Summary of research hypotheses.

Hypothesis	Description	Results
H ₁	There is a significant relationship between Attitude toward entrepreneurship and EI	Supported
H ₂	There is a significant relationship between Perceived Behavioral Control and EI	Not Supported
H ₃	There is a significant relationship between Subjective Norms and EI	Not Supported
H ₄	There is a significant relationship between Propensity to take risk and EI	Not Supported
H ₅	There is a significant relationship between Self-confidence and EI	Not Supported
H ₆	There is a significant relationship between Need for achievement and EI	Not Supported
H ₇	There is a significant relationship between Tolerance for ambiguity and EI	Not Supported
H ₈	There is a significant relationship between Innovativeness and EI	Not Supported
H ₉	There is a significant relationship between Locus of Control and EI	Not Supported

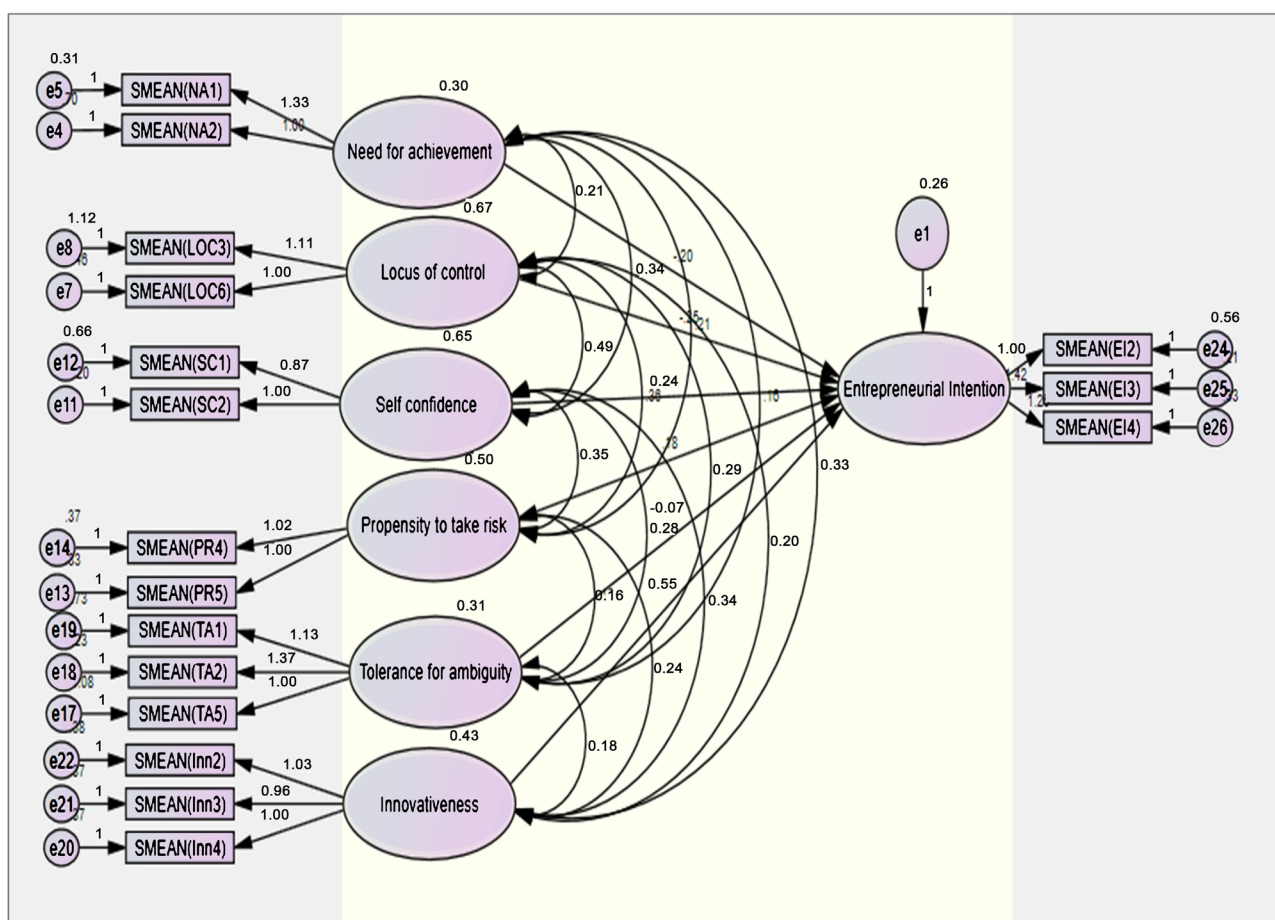


Figure 3. SEM for entrepreneurial psychological traits on entrepreneurial intention.

motivations and concerns about starting a business in Egypt. It was found that there is a significant effect of attitude toward entrepreneurship on entrepreneurial intention of students in the Egyptian context, while there is an insignificant effect of other variables on entrepreneurial intention.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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