THE INFLUENCE OF INDIVIDUAL'S PERCEPTION OF ENTREPRENEURIAL EDUCATION, START-UP BARRIER AND ENTREPRENEURIAL SOCIAL STATUS ONINDIVIDUAL ENTREPRENEURIAL APTITUDE

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Abstract

This paper investigates the antecedents of individual entrepreneurial aptitude (IEA). Since IEA is associated with the potential to gain entrepreneurial competencies and skills which in turn play crucial roles in the economic development of a country, we propose three antecedents related to the individual's perceptions, including entrepreneurial education, start-up barrier and entrepreneurial social status. Using the data from the survey Flash Eurobarometer No.283, we conduct structural equation modeling to test the hypotheses. The result indicates that entrepreneurial education and social status are positively related to IEA and support the hypotheses.

Keywords: Individual Entrepreneurial Aptitude, Start-up Barrier, Entrepreneurial Education and Social Status

1. Introduction

Entrepreneurs play a crucial role in the economic growth of a country, act as value creators who innovate and introduce new activities into the market (Schumpeter, 1934), formulate new ideas and exploit market opportunities (Alvarez & Barney, 2005). Prior studies noted that certain individual characteristics, both psychological and non-psychological,

influence the decision to engage in entrepreneurial activities (Shane, 2003) but do not examine the influence within these factors. Furthermore, since the domain of entrepreneurship primarily focuses on the opportunity's exploration and exploitation (Shane & Venkataraman, 2000), scholars may overlook the antecedents of the entrepreneurial aptitude embedded at the individual level which is a key success factor that integrates human and economic resources to generate products and services.

In general, aptitude is a capacity or potential to gain competency or ability through training (Association, 2009). As such, entrepreneurial aptitude is associated with the potential to gain entrepreneurial ability. Bönte, Heblich, and Piegeler (2012) suggested eight personality traits, including autonomy, risk taking, innovativeness, proactiveness, competitiveness, general optimism, general self-efficacy and internal locus of control, that can be aligned to entrepreneurial ability. Further, we include luck dependency as the ninth personality trait. Each personality trait is associated with self-employment and capacity to become an entrepreneur. Our primary research question is what influences these personality traits which we refer to as individual entrepreneurial aptitude (IEA). Our research questions are *"What are the antecedents of IEA, and what are the relationships between the antecedents and IEA?"* We examined three antecedents of IEA, including entrepreneurial education, individual's perceptions of start-up barrier and social status of entrepreneurs.

First, distinguished from general education that individuals in society acquire in their childhood, entrepreneurial education may have some distinct effect on IEA. National policy makers pay close attention to entrepreneurial education since entrepreneurs are considered to be the key conductors of new venture formation and creators of economic growth. Prior studies provided contradictory findings on whether entrepreneurial education has a positive effect on entrepreneurial activity which in turn can lead to national economic growth (Von Graevenitz, Harhoff, & Weber, 2010). Shane (2003) suggested that *general* education increases a person's competency and skill to engage in entrepreneurial activities. Distinct from *general* education, *entrepreneurial* education has two concurrent motivations which are to produce entrepreneurs per se and to create entrepreneurial personalities (Kozlinska, 2011). Hence, whether IEA is influenced by entrepreneurial education is examined in this study.

Second, individuals' perceptions of start-up barrier could influence IEA. These perceptions may vary by an individual. The barrier to start-up a business may be associated with limited financial resources, complex business procedures, or insufficient information. Davidsson (1995) suggested the term perceived "know-how" to establish that individuals recognize their own capabilities which in turn determines the strength of their entrepreneurial intentions. When individuals perceive that starting up a business is difficult, individuals may not believe in their own ability to perform an entrepreneurial activity. Self-efficacy allows this study to describe this phenomenon. Bandura (1997) mentioned that self-efficacy is the belief of an individual's ability to perform certain tasks and reach goals. Perceptions of start-up barriers may decrease the belief of the individual's ability to create a new venture. As such, we investigate whether IEA is influenced by individuals' perceptions of start-up barrier.

Lastly, the social status of entrepreneurs could influence the willingness to be an entrepreneur. Social position refers to an individual's relationship to other individuals within the

social community in which he or she lives or works (Shane, 2003). As Shane (2003) suggested that researchers look at two aspects of individual's social position, these are social status and social ties. We focus on the social status aspect of social position in this study. In the entrepreneurial context, the aspect of status in terms of social position may refer to how others perceive that entrepreneur's rank in the social order within their community. Prior research found that people of higher social classes were more likely to become self-employed than people from lower social classes (Dolton & Makepeace, 1990). These positions may enhance individual willingness to increase their entrepreneurial ability.

Our objectives of this study are three folds. First, we aim to explore individual-level entrepreneurial which can help researchers understand and theorize the drivers of IEA. We propose three antecedents of IEA, namely entrepreneurial education, individual's perceptions of start-up barrier and social status of entrepreneurs. In addition, we explain the mechanism and logic behind each antecedents. Second, we aim to provide suggestions to both academic institutions and government agencies on how to develop entrepreneurial capabilities and skills. Given that entrepreneurs have a major role to play in driving economic growth, it is necessary to understand what and how to develop such entrepreneurial aptitude. Lastly, we aim to empirically test these antecedents by using individual-level data. Our empirical findings do confirm the existence of the phenomenon of IEA and its antecedents as highlighted in our hypothesis section.

This study highlights the importance of IEA and its antecedents. IEA represents the individual's competencies and skills to explore and exploit entrepreneurial activities which in turn are crucial for economic growth. The findings of this paper will allow national policy makers to engage and change the policy to promote IEA. To develop a more complete picture of entrepreneurship, we further extend prior literature by examining the source of entrepreneurial competencies and skills. In doing so, we propose the antecedents of IEA as well as examine their relationship. The remainder of this paper is ordered as follows. First, we discuss the literature background and develop hypotheses. Next, our method section describes our sources of data, variables, and methodology. To simultaneously test the hypotheses, we employ structural equation model by using data from Flash EB Entrepreneurship (2009). In the last section, we provide discussions, implications, and a conclusion for this study.

2. The Oretical Background and Hypotheses Development

2.1 Individual Entrepreneurial Aptitude (IEA)

Entrepreneurship is a complex process that is carried out by individuals living in specific cultural and social conditions. An individual is considered to be an entrepreneur when he or she plays a vital role in economic development and acts as a value creator by innovating and introducing new products and services into markets (Schumpeter, 1934). Remarkably, entrepreneurs formulate new ideas, explore and exploit market opportunities as well as create economic value (Alvarez & Barney, 2005). Hence, an entrepreneur, as an individual person, integrates human and economic resource to create product and services that generate value.

There are two perspectives to examine entrepreneurs. First, scholars focus on the personal characteristics of entrepreneurs. Shaver and Scott (1991) believe that to study any phenomenon, it is useful to describe the essential ingredient of a psychological approach which concentrates on the individual or person. Entrepreneurs are different from other people because entrepreneurs have particular personalities or traits which are distinct. For example, it has been assumed that entrepreneurs are committed and determined, courageous, leaders, opportunity obsessed, risk-takers, comfortable with ambiguity and uncertainty, creative, self-reliant and adaptable, and motivated to excel (Sexton & Bowman, 1985; Timmons, 1999). However, since different entrepreneurs have different personalities and success rates, it is quite difficult for scholars to provide a clear-cut difference between entrepreneurs and other people. Moreover, Shaver and Scott (1991) recommended that cognitive processes that arise within the individual are related to a psychological approach of new venture creation.

Another perspective that attempts to answer the questions employs cognitive mechanisms (Baron, 1998). This perspective was provoked by two studies. First, by using cognitive theory, Palich and Ray Bagby (1995) found that entrepreneurs didn't take more risks than non-entrepreneurs. They also found that entrepreneurs tend to have more strengths, opportunities, and competency to improve performance than non-entrepreneurs. Second, Rumelt, Schendel, and Teece (1994) investigated how managers and entrepreneurs tend to focus, make decisions and forecasts differently. As entrepreneurs usually confront situations that are uncertain, emotionally-charged, and time constrained, their cognitive mechanisms are required and this could be one of the reasons for the difference between entrepreneurs and non-entrepreneurs. Moreover, Busenitz and Barney (1997) pointed out that entrepreneurs manifest biases and heuristics in strategic decision making more than managers do. Entrepreneurs can enhance competitive advantage through their cognitive abilities as individual-specific resources that enable them to recognize opportunities and assemble resources (Alvarez & Busenitz, 2001; Arthurs & Busenitz, 2003). In the strategic management literature, recent empirical studies have found that the managerial cognition is a source of heterogeneity in firms which leads to better decision rules and superior performance (Gary & Wood, 2011).

However, in this study, we focus on entrepreneurial aptitude which contains the group of personality traits that can be matched to the tasks of entrepreneurs. American Psychological Association (APA, 2009, p.34) defines aptitude as: "The capacity to acquire competence or skill through training". Aptitude may be categorized into two dimensions. First, specific aptitude is referred to potential in a particular area such as musical, artistic, or mathematical aptitude. Second, general aptitude is referred to potential in several fields and does not distinguish outstanding talent or gift in any one particular field. As such, we define individual entrepreneurial aptitude (IEA) as the individual efficacy and competency to explore and exploit opportunities and new ideas to create new products and services that generate economic value. Bönte et al. (2012) suggested that prior studies identified eight personality traits including autonomy, risk-taking, innovativeness, proactiveness, competitiveness, general optimism, general self-efficacy, and internal locus of control. As mentioned above, we add one more trait called luck dependency to these eight personality traits. This group of nine personality traits is named individual entrepreneurial aptitude (IEA).

While psychological research focuses on the role of individual-environment interaction, this study examines the influence of environment perception such as entrepreneurial education, start-up barrier and entrepreneurial social status on IEA (Figure 1).

Insert Figure 1 about here

2.2 Entrepreneurial Education and IEA

Shane (2003) mentioned that it is more likely that a person who has more education will explore and exploit opportunities because of capabilities and skills that education provides. Education not only provides individual's stock of information but also allows individuals to process information and tap into opportunities. Empirical evidence has illustrated that education influences exploitation of opportunities, failure rates, and the profitability of new ventures (Shane, 2003). However, Kozlinska (2011) suggested that general and entrepreneurial education are different. Interestingly, the study on effects of entrepreneurial education still has a huge gap (Von Graevenitz et al., 2010). Several scholars attempt to examine whether entrepreneurial education can influence entrepreneurial perception, intentions and aptitude (Kuratko, 2005). Entrepreneurial education could provide an insight and enhance the entrepreneurial competency and potential at the individual level. Each entrepreneurial course may allow students to engage in entrepreneurial activities. Von Graevenitz et al. (2010) suggested that entrepreneurial education may not significantly shift entrepreneurial intentions but affects, adjusts and refines an entrepreneur's assessment of his or her entrepreneurial aptitude. Intuitively, the more entrepreneurial education that students receive, the more competency of entrepreneurial task is acquired by students. Thus, we hypothesize that

H1: Entrepreneurial education is positively associated with Individual Entrepreneurial Aptitude (IEA)

2.3 Individual's Perception of Start-up Barrier and IEA

Perception of start-up barrier refers to the information that an individual perceives regarding the barrier to starting up a new venture. National policy makers take actions designed to stimulate the growth of new businesses and aid in their survival by mitigating any barriers for entrepreneurs (Robertson, Collins, Medeira, & Slater, 2003). Unfortunately, individual perceptions regarding barriers are distinguished and could distort the competency of entrepreneurs. Previous literature found that individual's perception of entrepreneurial barriers play a mediating role in entrepreneurship (Van der Zwan, Zuurhout, & Hessels, 2013). However, in this study, individual's perception of start-up barrier comprises of five issues, including perceived financial barrier, perceived administrative complexities, perceived start-up informative barrier, an individual's fear of business failure and an individual's opportunities of second chance. Each dimension appears on the item in this construct. These five dimensions of barrier diminish entrepreneurial aptitude. For instance, an individual may perceive more informative barrier which in turn means individuals cannot access crucial information that can further develop their entrepreneurial aptitude. As such, the individual's perception of start-up barrier is mitigated by the willingness of that person to develop entrepreneurial competency. Therefore, we hypothesize that

H2: Individual's perception of start-up barrier is negatively associated with Individual Entrepreneurial Aptitude (IEA)

2.4 Social Status of Entrepreneurs and IEA

Societal perception about entrepreneurship as a career choice influences the attractiveness of entrepreneurship (Kelley, Singer, & Herrington, 2013). Shane (2003) suggested that social status increases a person's likelihood of exploiting an entrepreneurial opportunity. Social status also enhances social capital which plays a vital role in the creation of new ventures (Davidsson & Honig, 2003). For instance, social status and reputation of entrepreneurs can positively impact how effectively entrepreneurs can raising capital in the public market through Initial public offerings (IPOs) (Higgins & Gulati, 2006). Juasrikul, Sahaym, Arthurs, Lee, and Lee (2014) also found that entrepreneurs who tie with former government agents have a higher propensity of success in IPO. This coevolution interchangeably occurs within social impression of entrepreneurs, social status of entrepreneurs and entrepreneurial opportunities. In the present study, social status of entrepreneurs refers to the perception of individuals on entrepreneurship in the society. High social status not only enhances opportunities to engage in entrepreneurship but also increases the willingness to be an entrepreneur. Individuals with high social status are more likely to engage themselves to have entrepreneurial aptitude. Thus, we hypothesize that

H3: Social status of entrepreneurs is positively associated with Individual Entrepreneurial Aptitude (IEA)

3. Methodology

3.1 Sample and Procedure

Data for this study was collected from the survey Flash Eurobarometer No.283 "Entrepreneurship in the EU and beyond". Conducted by the Gallup Organization Hungary upon the request of Directorate-General for Enterprise and Industry, this survey data includes 36 countries and collected data from 2009. For each country, interviewers randomly selected samples of 500 or 1000 individuals who are representative of the national population from the age of fifteen years or older. Overall samples from the dataset include over 26,000 participants across EU nations and other nations. However, to avoid cultural differences, we select only one nation to test our hypotheses. Belgium is selected since the data provides the highest value of construct reliability, for each of the constructs of interest. Furthermore, the number of participants from Belgium is 1,007 individuals which allows us to conduct structural equation modeling. This survey has been accepted and used in entrepreneurship literature (Gohmann, 2012) and psychological literature (Verheul, Thurik, Grilo, & van der Zwan, 2012). As such, this survey data has legitimacy to be employed in this study.

This survey contains questions that can be used in the research topic such as the development of entrepreneurship, how entrepreneurial mindsets are being fuelled and what encourages individuals to become entrepreneurs. It includes data about public attitudes on issues such as entrepreneurship, entrepreneurial education, risk-taking, obstacles to entrepreneurship

and business failures. In this study, we selected scales from the questionnaire, including individual entrepreneurial aptitude (IEA), entrepreneurial education, individual's perception of start-up barriers, social position of entrepreneur, and demographic variables. As proposed by Bönte et al. (2012), IEA contains eight items of latent entrepreneurship variables. For this study, we introduced an additional question to this eight item scale: "*When confronted with difficult tasks I can count on luck and the help of others"* since luck and the help of others play a role in strategic management and entrepreneurship to some degree (Alvarez & Barney, 2007; Barney, 1986a). In fact, successful entrepreneurs must rely, at least partially, on their good fortune and luck (Barney, 1986b). Entrepreneurial education was measured using a four-item scale which had been used by Van der Zwan et al. (2013). Individual's perception of start-up barriers was measured by using the five-item scale which includes questions related to individual's perceived barriers to entrepreneurship through administrative complexity, insufficient information, limited access to finance, failure risk, and second chance opportunity. Prior literature has used this scale (Verheul et al., 2012). Social position of entrepreneur is reflected by the image of entrepreneurs which is measured by using a four-item scale. This scale measures how entrepreneurs are viewed in society. Lastly, demographics variables include gender, age, and living zone of respondents as shown in table 1.

Insert Table 1 about here

To estimate the relationship among proposed constructs and their correlations , a four-step procedure was used in this study to assess the factors that were likely to be associated with individual entrepreneurial aptitude (IEA): 1) measurement items for each construct were determined; 2) underlying constructs were validated using a confirmatory factor analysis (CFA); 3) reliability of each construct or Cronbach alpha was calculated by using SPSS version 20.0 composited reliability was also obtained and 4) the proposed structural equation model (Figure 1) was tested to examine the relationships hypothesized in the model.

The properties of the items of the four constructs (one exogenous and three endogenous) in the proposed model and the hypotheses were tested using LISREL 8.72 structural equation analysis package with maximum likelihood (ML) method of estimation, in combination with the two-stage process recommended.

3.2 Measurement model

First, we test a confirmatory measurement model for each construct. As the unidimensionality of measurements play a vital role in theory testing and development (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988), the unidimensionality of each construct was evaluated individually (each construct contains at least four-items) (Sethi & King, 1994). To gain a better fit, social status of entrepreneurs and individual's perception of start-up barriers constructs were modified by correlating their items' error within the constructs. According to Figure 1, for individual's perception of entrepreneurs, we correlate item errors between items X8 and X9. For social position of entrepreneurs construct, we correlate items errors between items X11 and X13. Each construct achieves goodness of fit and an acceptable factor loading. Afterwards, the overall measurement model fit was tested (Anderson & Gerbing, 1988; Sethi & King, 1994).

To measure construct reliability and validity, we assessed individual items in each construct in the overall measurement model. For face validity, we reviewed the related literature and justified the content of the items which is consistent with the construct definition. As illustrated in Table 3, all construct reliability and Cronbach alpha are higher than 0.8, except entrepreneurial education construct which is higher than 0.7. For convergent validity, all items' factor loadings for each construct are .5 or higher (except item Y7 on IEA construct, the loading is 0.49 which we justified to be acceptable). Average variance extracted (AVE) is also greater than the square of the correlation between the factor and other factors which provides evidence of discriminant validity (See Table 4). To demonstrate nomological validity in the model, the construct correlations are assessed as shown in Table 5. As partially predicted by the theoretical framework, all correlations are positive and significant. As noted in hypotheses development, the correlation between individual's perception of start-up barriers and IEA should be negative. But the result of the construct correlation between these constructs is positive and significant. However, the overall fit indices of the final measurement model were chi-square $_{(201)}$ = 448.23 (p = 0.0); GFI = .96; AGFI = .95; NFI = .98; NNFI = .99; CFI = .99; IFI = .99; RFI = .97; PGFI = .76; PNFI = .85; and critical N = 563.36. In addition, the standardized root mean square residual (RMR) was .03 and the Root Mean Square Error of Approximation (RMSEA) was .035. Hence, the model provides a good fit.

Insert Table 2, 3, 4 and 5 about here

3.3. Structural equation model

The theoretical model was estimated with four constructs and three paths. The chi-square value with 201 degrees of freedom was 448.23. All of the other fit indices examined in this study indicated that the proposed theoretical model was acceptable (GFI = .96; AGFI = .95; NFI = .98; NNFI = .99; CFI = .99; IFI = .99; RFI = .97; PGFI = .76; PNFI = .85; and critical N = 563.36). In addition, the standardized root mean square residual (RMR) was .03 and the Root Mean Square Error of Approximation (RMSEA) was .035.

4. Results

Table 1 illustrates the demographic variables of the respondents. Respondents comprise of 35.6 percent males and 64.4 percent females. Approximately 50 percent of the respondents are living in the rural areas and are over 55 years old. Table 2 contains descriptive statistics and a correlations matrix for all observable variables utilized in this study. None of the correlations are over .80 which indicates non multi-collinearity. In Figure 2, we illustrated the estimated path coefficients and significant links between the exogenous constructs and the one endogenous construct. Our study proposes that entrepreneurial education, individual's perception of start-up barrier and social position of entrepreneurs are the antecedents of individual entrepreneurial aptitude (IEA).

Insert Figure 2 about here

As illustrated in Table 3, two of our three hypotheses were supported. The first hypothesis proposed that entrepreneurial education is positively associated with IEA. This hypothesis was supported (completely standardized b = 0.17; t-value = 5.52). In the third hypothesis, we proposed that social status of entrepreneurs has a positive effect on IEA. The result supports this hypothesis (completely standardized b = 0.20; t-value = 5.66). However, for the second hypothesis, we proposed that individual's perception of start-up barrier has a negative effect on IEA. The result indicates an opposite but significant ($p<.05$) relationship, which does not support the second hypothesis (completely standardized b = 0.03; t-value = 2.14). This finding may indicate that the perception of start-up barriers may challenge rather than frighten individuals to become entrepreneurs. Since the entrepreneurial path partially consists of barriers, individuals who have high IEA may already accept the barriers.

Insert Table 6 about here
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5. Discussion and Conclusion

5.1 Discussion

This study investigates the latent factor of entrepreneurship, namely individual entrepreneurial aptitude (IEA), given that entrepreneurs assemble resources and formulate new ideas and opportunities (Alvarez & Barney, 2005) Since IEA improves the national level of entrepreneurial activities which is crucial to economic growth, a primary research question in this study is what are antecedents of IEA. We propose three antecedents of IEA, including entrepreneurial education, individual's perception of start-up barrier and social status of entrepreneurs. By emphasizing individual level analysis, we focus on the perception of each antecedent and their influence on IEA by using the IEA measurement proposed by Bönte et al. (2012)

The findings indicate that the perception of individuals with entrepreneurial education is positively associated with IEA. An individual who perceives that his or her school provides education related to entrepreneurship has competency in entrepreneurial tasks. While much of the entrepreneurial education literature focuses on which course should be taught in the entrepreneurship department, we believe that the initial knowledge of entrepreneurship is very important and leads to IEA. An individual could extend his or her knowledge later after receiving an initial start from school. We highlight the difference between *general* education and *entrepreneurial* education which exists in the literature (Von Graevenitz et al, 2010; Kozlinska, 2011). *The* result also suggests that social status of entrepreneurs has a positive influence on IEA. Our result also extends prior literature which examines whether entrepreneurial education positively impacts entrepreneurial perceptions and aptitude (Kuratko, 2005). Social status not only promotes the opportunities' of exploitation but also enhances IEA. The attractiveness of entrepreneurship is derived from impressions of entrepreneurship within the society (Kelly et al, 2013). Each society's perceptions and impressions of an entrepreneurial job or self-employment will be different. This paper, which uses an individual-level sample, provides an insight into individual's perception of social status of entrepreneurs and how this is positively associated with the competency of entrepreneurial task.

Interestingly, the result indicates an opposite direction for our second hypothesis. We proposed that the perception of start-up barriers is negatively related to IEA. Logically, when individuals perceive many barriers in the creation of a new venture, it dampens the willingness to enhance their competency in entrepreneurial task (Robertson et al, 2003). Conversely, the finding shows that the individual's perception of start-up barrier is positively associated with IEA. The reason for this result may imply that if the individual perceives higher start-up barriers, he or she is more likely to develop his or her competency in entrepreneurship tasks and skills. Entrepreneurs faced with start-up barriers may have more hunger to make it work and to overcome these perceived barriers. Furthermore, start-up barriers may ignite individuals in society to explore entrepreneurial knowledge to overcome the barriers. This is done by enhancing their IEA. This can therefore explain the positive and significant relationship at the individual level between start-up barriers and IEA.

5.2 Contribution and Limitation

This paper contributes to extend the entrepreneurship literature, which primary focuses on the opportunity's exploration and exploitation (Shane & Venkataraman, 2000) by investigating the antecedents of individual entrepreneurial aptitude. Entrepreneurial aptitude also plays a vital role since it is the competence to integrate the existing resources to generate new products and services which then has an impact on economic growth. As policy makers attempt to develop this competency, this study may provide an implication in terms of policy direction. For instance, policy makers may pay attention to the entrepreneurial education by raising the importance of entrepreneurial education at the school or university levels rather than at the department level. A focus on entrepreneurship knowledge could be stressed in all departments not just the business department. In addition, to develop entrepreneurial aptitude, policy makers may promote the social status of entrepreneurs which will impact the individual perceptions of entrepreneurs.

We offer several benefits to both academic institutions and government agencies in this study. First, our empirical results significantly supports our proposal that entrepreneurial education is one of the antecedents of IEA. Although many business schools already initiate and offer entrepreneurship programs, the lack of capable professors and knowledge of entrepreneurship are required to enhance, maintain and broaden such existing programs. To create a new young generation of entrepreneurs in society, business schools need to improve their entrepreneurship programs which requires vast skillsets different from other business disciplines. The government also plays a prominent role in the dissemination and enhancement of entrepreneurial knowledge. Government agencies can create entrepreneurial incubators and hold conference meetings to train young entrepreneurs. Second, the result for our second hypothesis is quite intriguing. As researchers believe that perceiving start-up barriers can impede entrepreneurial aptitude, our results show that such barriers catalyze individuals to gain entrepreneurial skills and knowledge rather than discouraging them from gaining such skills and abilities. This is an important finding from our empirical test of the model. Lastly, we demonstrate the importance of entrepreneurial social status on IEA. Both academic institutions and government agencies can enlighten the young generation and society in their positive perceptions of societal status of entrepreneurs. The more a society perceives the social status of entrepreneurs to be positive, the more likely both venture creation and economic activity in that society will be increased.

This present study is not without limitations. First, even though the survey data covered countries all across Europe as well as some other countries such as the USA and China, we were only able to select the data from Belgium as it showed good reliability within the constructs. Moreover, due to the limitations of the dataset used, we were only able to examine one year of the data point. A panel study could be conducted for future research which would greatly increase our understanding of any dynamic nature of IEA. Secondly, we used secondary data which may limit the ability to design the model in this study. Additional constructs can be included in this model such as entrepreneurial attitude, entrepreneurial aspiration and entrepreneurial intention. Future research could investigate the relationship among entrepreneurial attitude, aspiration, aptitude and intention at the individual level.

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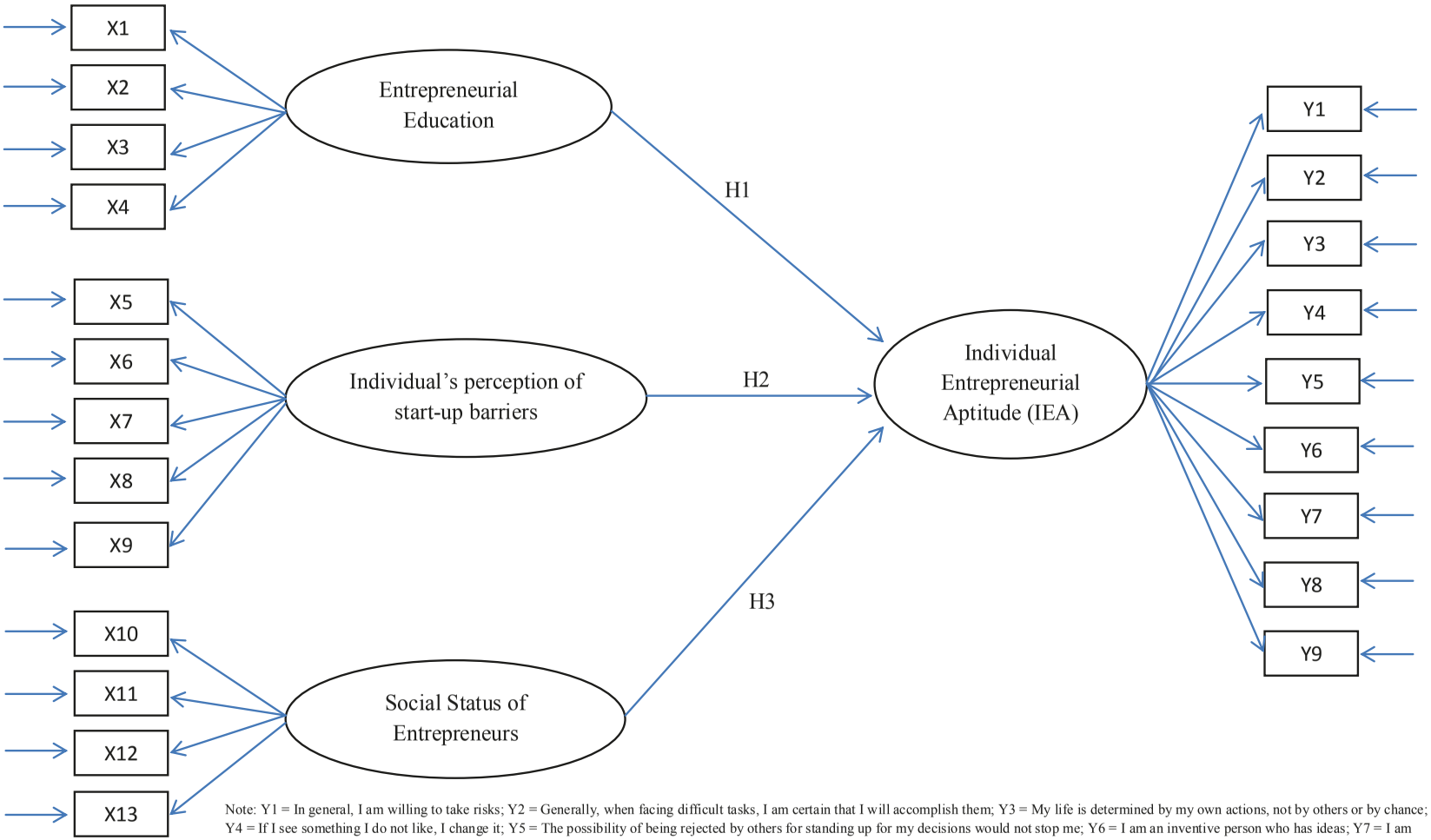
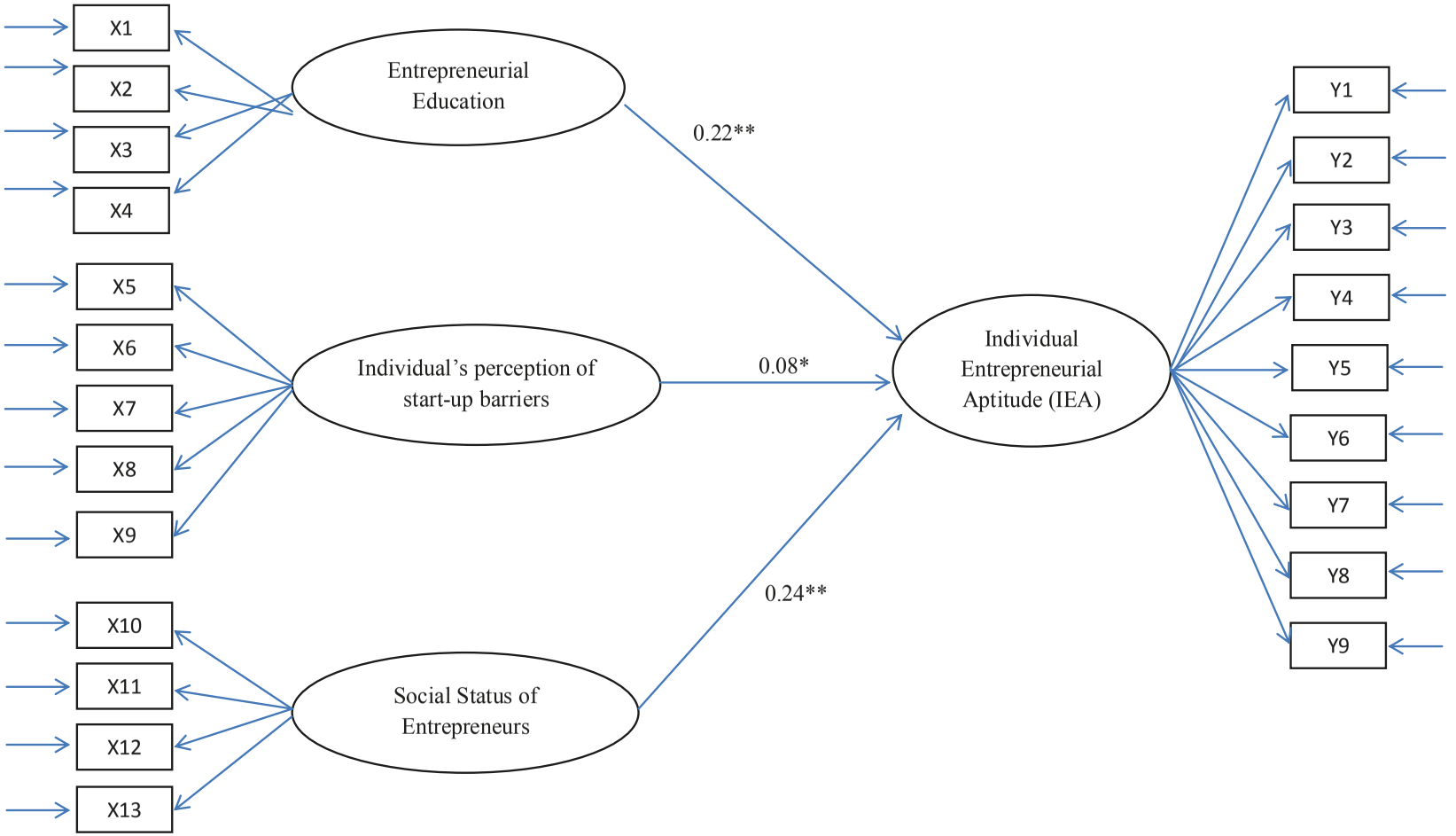
Figure 1 Proposed Model of relationships among Individual Entrepreneurial Aptitude (IEA) and its correlates



Note: Y1 = In general, I am willing to take risks; Y2 = Generally, when facing difficult tasks, I am certain that I will accomplish them; Y3 = My life is determined by my own actions, not by others or by chance; Y4 = If I see something I do not like, I change it; Y5 = The possibility of being rejected by others for standing up for my decisions would not stop me; Y6 = I am an inventive person who has ideas; Y7 = I am optimistic about my future; Y8 = I like situations in which I compete with others; Y9 = When confronted with difficult tasks I can count on luck and the help of others; X1 = My school education helped me to develop my sense of initiative – a sort of entrepreneurial attitude; X2 = My school education helped me to better understand the role of entrepreneurs in society; X3 = My school education made me interested to become an Entrepreneur; X4 = My school education gave me skills and know how that enable me to run a business; X5 = It is difficult to start one's own business due to a lack of available financial support; X6 = It is difficult to start one's own business due to the complex administrative procedures; X7 = It is difficult to obtain sufficient information on how to start a business; X8 = One should not start a business if there is a risk it might failX9 = People who have started their own business and have failed should be given a second chance X10 = Entrepreneurs create new products and services and benefit us all X11 = Entrepreneurs think only about their own wallet X12 = Entrepreneurs are job creators X13 = Entrepreneurs exploit other people's work

Figure 2 Results of LISREL model test of relationships among Individual Entrepreneurial Aptitude (IEA) and its correlates



Note: *Significant p <.05, **Significant p<.01

Table 1 Demographic Variables of the respondents

Demographic Variables	Frequency	Percent
Gender		
Male	358	35.6
Female	649	64.4
Age		
15-24	47	4.7
25-39	103	10.2
40-54	294	29.2
55+	556	55.2
DK/NA	7	0.7
Living Zone		
Metropolitan zone	133	13.2
Other town/urban center	380	37.7
Rural zone	492	48.9
DK/NA	2	0.2

Table 2 Descriptive Statistics and Correlations Matrix

	Mean	S.D.	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12
Y1	2.74	1.583																					
Y2	2.32	1.621	.370**																				
Y3	2.28	1.635	.321**	.460**																			
Y4	2.34	1.725	.373**	.446**	.401**																		
Y5	2.45	1.87	.370**	.460**	.375**	.403**																	
Y6	2.33	1.606	.450**	.517**	.476**	.467**	.402**																
Y7	2.4	1.652	.291**	.344**	.355**	.313**	.279**	.323**															
Y8	2.74	1.702	.387**	.440**	.446**	.431**	.372**	.489**	.324**														
Y9	2.36	1.507	.394**	.486**	.451**	.529**	.383**	.464**	.368**	.482**													
X1	2.85	1.763	.149**	.214**	.242**	.156**	.194**	.253**	.161**	.202**	.191**												
X2	3.09	1.794	.140**	.184**	.175**	.186**	.168**	.221**	.117**	.214**	.206**	.719**											
X3	3.41	1.733	.092**	.149**	.156**	.137**	.165**	.209**	.131**	.171**	.148**	.607**	.633**										
X4	3.17	1.7	.149**	.177**	.201**	.175**	.186**	.238**	.129**	.203**	.201**	.701**	.662**	.670**									
X5	3.44	3.052	.130**	.115**	.105**	.125**	.104**	.136**	.002	.129**	.082**	.190**	.237**	.263**	.264**								
X6	3.38	3.016	.080*	.109**	.073*	.141**	.105**	.108**	.011	.138**	.099**	.187**	.224**	.215**	.242**	.726**							
X7	4.08	3.088	.135**	.123**	.088**	.124**	.105**	.101**	.018	.125**	.095**	.182**	.234**	.238**	.268**	.657**	.653**						
X8	3.6	2.763	.078*	.161**	.138**	.148**	.138**	.156**	.061	.166**	.139**	.271**	.269**	.234**	.254**	.649**	.623**	.552**					
X9	3.1	2.748	.097**	.100**	.132**	.173**	.130**	.156**	.089**	.150**	.140**	.248**	.262**	.228**	.241**	.654**	.649**	.592**	.710**				
X10	2.73	2.119	.078*	.183**	.172**	.140**	.117**	.225**	.093**	.154**	.160**	.230**	.189**	.203**	.205**	.105**	.060	.110**	.160**	.121**			
X11	2.87	2.024	.118**	.102**	.119**	.206**	.061	.154**	.057	.101**	.090**	.149**	.164**	.153**	.182**	.136**	.116**	.147**	.151**	.178**	.388**		
X12	2.17	1.713	.087**	.219**	.190**	.202**	.147**	.245**	.215**	.172**	.195**	.322**	.278**	.238**	.294**	.143**	.140**	.114**	.223**	.230**	.551**	.431**	
X13	3.1	2.032	.060	.125**	.085**	.171**	.075*	.124**	.035	.092**	.110**	.136**	.187**	.158**	.168**	.129**	.118**	.138**	.165**	.126**	.418**	.544**	.451**

Note: *Significant p <.05 (2-tailed), **Significant p<.01 (2-talied)
N = 1,007

Table 3 Measurement scale properties (N= 1,007)

Constructs and indicators	Mean	S.D.	Completely standardized loading	Indicators reliability	Error Variance
Individual Entrepreneurial Aptitude (IEA) (1 = Strongly agree, 4 = Strongly disagree) (α=0.86)				***0.862[a]***	***0.41[b]***
Y1) In general, I am willing to take risks	2.74	1.583	0.57	0.32	0.68
Y2) Generally, when facing difficult tasks, I am certain that I will accomplish them	2.32	1.621	0.70	0.49	0.51
Y3) My life is determined by my own actions, not by others or by chance	2.28	1.635	0.65	0.42	0.58
Y4) If I see something I do not like, I change it	2.34	1.725	0.66	0.44	0.56
Y5) The possibility of being rejected by others for standing up for my decisions would not stop me	2.45	1.870	0.59	0.35	0.65
Y6) I am an inventive person who has ideas	2.33	1.606	0.72	0.52	0.48
Y7) I am optimistic about my future	2.40	1.652	0.49	0.24	0.76
Y8) I like situations in which I compete with others	2.74	1.702	0.67	0.45	0.55
Y9) When confronted with difficult tasks I can count on luck and the help of others	2.36	1.507	0.70	0.49	0.51
Entrepreneurial Education (1 = Strongly agree, 4 = Strongly disagree) (α=0.89)				***0.888[a]***	***0.67[b]***
X1) My school education helped me to develop my sense of initiative – a sort of entrepreneurial attitude	2.85	1.763	0.84	0.71	0.29
X2) My school education helped me to better understand the role of entrepreneurs in society	3.09	1.794	0.83	0.69	0.31
X3) My school education made me interested to become an Entrepreneur	3.41	1.733	0.79	0.58	0.42
X4) My school education gave me skills and know-how that enable me to run a business	3.17	1.700	0.83	0.69	0.31
Individual's Perception of Start-up Barriers (1 = Strongly agree, 4 = Strongly disagree) (α=0.90)				***0.898[a]***	***0.64[b]***
X5) It is difficult to start one's own business due to a lack of available financial support	3.44	3.052	0.86	0.74	0.26
X6) It is difficult to start one's own business due to the complex administrative procedures	3.38	3.016	0.84	0.71	0.29
X7) It is difficult to obtain sufficient information on how to start a business	4.08	3.088	0.77	0.59	0.41
X8) One should not start a business if there is a risk it might Fail	3.60	2.763	0.75	0.56	0.44
X9) People who have started their own business and have failed should be given a second chance	3.10	2.748	0.77	0.59	0.41
Social Status of Entrepreneur (1 = Strongly agree, 4 = Strongly disagree) (α=0.77)				***0.748[a]***	***0.43[b]***
X10) Entrepreneurs create new products and services that benefit us all	2.73	2.119	0.69	0.48	0.52
X11) Entrepreneurs think only about their own wallet	2.87	2.024	0.54	0.29	0.71
X12) Entrepreneurs are job creators	2.17	1.713	0.80	0.64	0.63
X13) Entrepreneurs exploit other people's work	3.10	2.032	0.57	0.32	0.68

[a] Indicates each construct reliability (composited reliability)

[b] Indicates average variance extracted (AVE)

Table 4 Discriminant Validity Assessment

Construct	AVE	Square-Interconstruct Correlations (SIC)			
		IEA	Education	Start-up Barrier	Social Status
IEA	0.4132	1			
Education	0.6653	0.123	1		
Start-up Barrier	0.6387	0.044	0.123	1	
Social Status	0.4332	0.123	0.160	0.058	1

Table 5 Nomological Validity Assessment

Construct	IEA	Education	Start-up Barrier	Social Status
IEA	1			
Education	0.35 (0.03) 10.77	1		
Start-up Barrier	0.21 (0.03) 6.19	0.35 (0.03) 11.13	1	
Social Status	0.35 (0.03) 9.94	0.40 (0.03) 12.12	0.24 (0.04) 6.57	1

Table 6 Result of the hypothesized relationships

Hypothesized relationships	Standardized coefficients (t-values)	Results
H1: Entrepreneurial Education → Individual Entrepreneurial Aptitude (IEA)	0.22 (5.52)	Supported
H2: Individual's Perception of start-up Barrier → Individual Entrepreneurial Aptitude (IEA)	0.08 (2.14)	Not supported
H3: Social Status of Entrepreneurs → Individual Entrepreneurial Aptitude (IEA)	0.24 (5.66)	Supported