

THE ENTREPRENEURIAL PROCESS: THE LINK BETWEEN INTENTIONS AND BEHAVIOR

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ABSTRACT

Entrepreneurship has been widely studied in recent decades, and it has been linked to other research areas such as social psychology. Remarkable contributions have combined these fields to explore how to predict entrepreneurial intentions. Building on previous research on the factors that predict students' intentions to start a business, this study explores the link between intentions and behavior. The aim is to ascertain whether university students have genuine intentions to start a business and see themselves as capable of doing so. This study draws upon Ajzen's theory of planned behavior to examine the role of students' and/or prospective entrepreneurs' skills and capabilities. Structural equation modeling is used to empirically test the hypotheses. This study makes a unique contribution, extending the model described by the theory of planned behavior by adding entrepreneurial skills and addressing a gap in the literature on the link between entrepreneurial intentions and entrepreneurial behavior.

1. INTRODUCTION

For years, entrepreneurship has been garnering increasing attention because of its critical impact on the economy. Entrepreneurship is a global practice and global phenomenon (Acs & Audretsch, 2006), helping reduce unemployment and contributing to social development and economic growth.

Today's society constantly experiences change. Accordingly, entrepreneurship research has also undergone a number of changes. A novel yet consolidated research stream has explored the link between intentions and behavior, contributing to a better understanding of the business creation process. Entrepreneurship research has successfully incorporated theories from social psychology. Numerous studies have recognized the potential of the intention approach, which focuses on how to predict planned behavior to understand the antecedents of intentions (Krueger, Reilly, & Carsrud, 2000).

One of the first, if not the very first, steps in the entrepreneurial process is intention (Lee & Wong, 2004)—in other words, feeling ready to start a business. The last step in the process is transforming an idea into a business—in other words, taking action and engaging in entrepreneurial activities. Numerous authors have investigated the nature and antecedents of intentions, but the literature still has a gap in regard to the link between intentions and action. Fayolle and Liñán (2014) highlighted a pressing need to examine the

link between intentions and behavior because, as other scholars have affirmed (Kautonen, Van Gelderen, & Tornikoski, 2013; Laspita, Breugst, Heblich, & Patzelt, 2012), there is very little information about how entrepreneurial intentions lead to behaviors. In a previous study, the validity of the theory of planned behavior (TPB) was tested (Gieure, Benavides-Espinosa, & Roig-Dobón, 2019). That study focused solely on intentions, considering two additional variables to extend the model: university environment and entrepreneurial skills. The study did not consider behavior but found that entrepreneurial skills play an important role in the formation of entrepreneurial intentions. Following Lortie and Castogiovanni (2015) and Fayolle and Liñán (2014) recommendations and reflecting recent findings, this study goes further, testing the TPB model by considering the entrepreneurial process and the link between intentions and behavior. An additional factor, entrepreneurial skills, is also included in the model. The present study has two objectives: first, to analyze the link between intentions and behavior using a sample of would-be entrepreneurs; and, second, to test whether entrepreneurial skills exert a notable influence on intentions to start a business. Thus, this empirical study explores whether individuals, through the acquisition of knowledge in the form of skills and capacities in a university environment, can moderate the intention-behavior link. In other words, this study investigates whether acquiring certain entrepreneurial knowledge and having certain intentions to start a business can positively lead students to become entrepreneurs.

The rest of this paper continues as follows. Section 2 presents the theoretical concepts and research hypotheses. Sections 3 and 4 describe the method and discuss the results. Section 5 presents the main conclusions. Finally, Section 6 discusses the implications and future lines of research.

2. THEORETICAL UNDERPINNINGS

2.1. Antecedents of entrepreneurial intentions

Intentions to become an entrepreneur have long been studied by entrepreneurship scholars. This study adopts the TPB model proposed by Ajzen (1985, 1991) to study the link between intentions and behavior. The TPB is one of the most prominent and widely used psychological theories in this context because it theoretically and empirically explains and predicts human planned behaviors (Kolvereid, 1996). According to Lortie and Castogiovanni (2015, p. 937), “the basic premise of the Theory of Planned Behavior is that some type of intentionality towards the behavior ... precedes any planned behavior.” The majority of human behaviors are planned. Becoming an entrepreneur involves engaging in an intentional process to bring an idea to fruition by creating and developing that idea.

A number of theories from social psychology have been used to predict intentions. The TPB (Ajzen, 1991) is derived from the theory of reasoned action (TRA; Fishbein & Ajzen, 1975). Both have received considerable attention in the literature. The TRA predicts behavioral intentions and behavior and posits that behavioral intentions, the immediate antecedents to behavior, are (a) the behavioral beliefs that influence an individual's attitudes toward performing a behavior and (b) the normative beliefs that influence the individual's subjective norms regarding performing that behavior (Madden, Ellen, & Ajzen, 1992). The TPB differs from the TRA in that it includes perceived behavioral control, which, at least partially, accounts for the extent to which individuals have control over the actions that are necessary to perform a given behavior. It affects not only intentions but also the implementation of intentions.

In the domain of entrepreneurship, the TPB proposes three factors that account for variations in entrepreneurial intentions and that can thus be used to predict entrepreneurial

behavioral intentions. These are personal attitudes, subjective norms, and perceived behavioral control.

Personal attitudes are described by Ajzen (1991) as an individual's positive or negative evaluation of a particular behavior. If an individual's perception of the goal of starting a business is positive, attitudes toward that behavior should also be positive. Hence, the individual's intentions to achieve the goal should be stronger (Joensuu- Salo, Varamäki, & Viljamaa, 2015). Research has shown that "attitudes toward a behavior are highly predictive of intentions to engage in that behavior, explaining over 50% of the variance" (Wurthmann, 2014, p. 696).

Subjective norms—or perceived social pressure (Fishbein & Ajzen, 2010) to become or not to become an entrepreneur—are founded on beliefs of whether important people or groups (model individuals) support or fail to support the creation of a business and the degree to which this support or lack of support matters to individuals (Ajzen, 1991). Social norms comprise perceived social pressure from peers, family, and, because of its importance to entrepreneurs, society (Ajzen, 2011; Krueger et al., 2000). Pruet, Shinnar, Tonet, Llopis, and Fox (2009) described social norms as family support, experience, and knowing others who have started their own businesses. Therefore, stronger subjective norms regarding entrepreneurship mean stronger intentions to start a business.

Perceived behavioral control in the context of entrepreneurship refers to the perception of ease or difficulty in taking the necessary actions to become an entrepreneur. This would typically entail evaluations of skills, intellectual ability, and the ability to deal with setbacks or overcome barriers. Intentions mediate the relationship between these factors and behavior, even when attitudes are credited as accounting for variations in behavior (Ajzen, 1991; Bagozzi, Baumgartner, & Yi, 1989). Reported in the Entrepreneurial Event Model (SEE; Shapero, 1984) as perceived self-efficacy, perceived behavioral control in the TPB refers to the perceived ability to perform a target behavior (Ajzen, 1987; Bandura, 1986). Although in Ajzen's model, perceived behavioral control is an antecedent to intentions, a previous study failed to validate this construct (Gieure et al., 2019). It was therefore omitted from this study. Based on the literature, we propose the following hypotheses:

H1. Personal attitudes positively influence entrepreneurial intentions.

H2. Subjective norms positively influence entrepreneurial intentions.

2.1.1. External factors: The role of entrepreneurial skills

It is widely acknowledged in the literature that entrepreneurs are made, not born (Dana, 2001; Krueger & Brazeal, 1994). Thus, becoming an entrepreneur is also a learning process. In many cases, this process starts at university. Through education, students learn and acquire the necessary entrepreneurial skills to engage in entrepreneurial activities. Therefore, educational programs aimed at transferring knowledge and developing entrepreneurial skills are crucial for the development of prospective entrepreneurs (Elmuti, Khoury, & Omran, 2012). Many universities around the world have incorporated this form of education and training into their curricula because it helps students develop entrepreneurial spirit and many other entrepreneurial skills such as creativity, risk propensity, problem solving, and business networking. Thus, providing students with entrepreneurial training should increase their knowledge and skills.

Three types of skills must be learned or acquired: (1) technical skills, which include written and oral communication, technical management, and organization; (2) business management skills, which include planning, decision-making, marketing, and accounting;

and (3) personal entrepreneurial skills, which include risk-taking and persistence (Elmuti et al., 2012). In this study, specific entrepreneurial skills are defined as the capacities that students believe they have (Liñán, 2008). Having skills such as opportunity recognition, creativity, entrepreneurial spirit, and a propensity toward being independent and not working for others may be closely related to certain personal attitudes and subjective norms regarding entrepreneurship (Boyd & Vozikis, 1994; Liñán, 2008). Thus, we propose the following hypotheses:

H3. An individual's entrepreneurial skills positively influence the development of personal attitudes toward entrepreneurship.

H4. An individual's entrepreneurial skills positively influence the development of subjective norms regarding entrepreneurship.

2.2. The entrepreneurial process: From intentions to behavior

Starting a new business is a process (Kessler & Frank, 2009). This process begins when an individual develops and is guided by intentions to engage in entrepreneurial activities (Lee & Wong, 2004; Shook, Priem, & McGee, 2003; Wurthmann, 2014) and ends when that individual creates and starts running a business. This business may take myriad forms, including self-employment or becoming a partner in a previously established business. In short, entrepreneurial behavior refers to starting a business as opposed to being employed by others (Kolvereid, 1996).

Notably, the literature lacks a common definition of entrepreneurial behavior. In this study, the concept of entrepreneurial behavior is taken to refer to the capacity or knowledge about a firm's constituent elements (Otani, 1996). It is the know-how or knowledge that individuals have that will enable them to perform certain actions. Therefore, it is the acquired ability that will drive an entrepreneur to the phase of planning and endeavoring to start a business (Kautonen et al., 2013). Finding oneself capable of performing certain entrepreneurial actions or even taking an interest in entrepreneurial activities involves showing the capacity to act upon intentions and engage in entrepreneurial activities. These activities take place prior to starting a venture. Ajzen (1991) suggested that intentions link personal attitudes, subjective norms, and perceived behavioral control to subsequent behavior. Accordingly, stronger intentions toward becoming an entrepreneur should mean a stronger likelihood to take action. Also, other external factors such as family background, experience, education, and so on may influence the decision to become an entrepreneur.

Knowledge acquisition is regarded as a primary weapon for the prosperity of a firm (Matlay, 2008; Studdard, 2006). There is a consensus in existing empirical research that entrepreneurship can be taught (Drucker, 1985; Gorman, Hanlon, & King, 1997; Kuratko, 2005) and that entrepreneurial attributes can be acquired through educational programs. Galloway and Brown (2002), Miller, Bell, Palmer, and Gonzalez (2009), and Klapper (2004) have studied the direct link between entrepreneurial education and entrepreneurial intentions. They have shown that students who are exposed to entrepreneurial education develop stronger intentionality toward entrepreneurship and report more positive attitudes toward entrepreneurs than students who do not receive such an education. In essence, having knowledge about starting and managing a business should have a positive impact on students' intentions.

Research exploring the link between intentions and behavior has shown a strong correlation of 0.90 to 0.96 between the two (Ajzen, Czasch, & Flood, 2009). However, a meta-analysis found that intentions toward entrepreneurship describe 27% of the variance in behavior

(Armitage & Conner, 2001). Thus, given the strong link between intentions to start a business and the behavior or capacity that an individual shows to start a business, we propose the following hypothesis:

H5. Entrepreneurial intentions positively influence entrepreneurial behavior.

3. METHOD

We now describe the empirical method followed in this study. We conducted analysis to validate the proposed model and test the hypotheses, which we based on theoretical arguments from the literature. We used multivariate analysis to validate the model and test the hypotheses. The analysis was based on structural equation modeling using the partial least squares algorithm in EQS 6.1 software.

3.1. Research design

The questionnaire was developed based on the measurement scales used by Liñán and Chen (2009), Liñán, Nabi, and Krueger (2013), Lortie and Castogiovanni (2015), McGee, Peterson, Mueller, and Sequeira (2009), Pruet et al. (2009), Rotefoss and Kolvereid (2005), Spreitzer (1995), and Zhao, Seibert, and Hills (2005). The questionnaire items (see Appendix A) were evaluated on a 5-point Likert scale. The questionnaire comprised scales for entrepreneurial intentions, personal attitudes, subjective norms, entrepreneurial skills, and entrepreneurial behavior. The questionnaire was written in English and Spanish and was completed by the students in both electronic and printed formats. The sample comprised 300 valid questionnaires completed by students enrolled in 74 universities across 34 countries. The students were enrolled in the fourth year of a business and management degree or in a master's degree in business and management.

3.2. Measurement instrument

The aim of our study was to examine the influence of entrepreneurial intentions on entrepreneurial behavior and explore the variables that influence entrepreneurial intentions. We identified studies by Fayolle, Gailly, and Lassa-Clerc (2006), Guerrero and Urbano (2012), Liñán et al. (2013), Lortie and Castogiovanni (2015), McGee et al. (2009), Pittaway and Cope (2007), Rotefoss and Kolvereid (2005), and Zhang, Duysters, and Cloudt (2014) that have examined entrepreneurial behavior as a result of entrepreneurial intentions.

We therefore employed existing scales to measure entrepreneurial intentions, personal attitudes, subjective norms, and perceived behavioral control, using those presented by Liñán and Chen (2009), Liñán et al. (2013), Liñán, Rodríguez-Cohard, and Rueda-Cantuche (2011), and Pruet et al. (2009). For entrepreneurial behavior, we used the items proposed by Lortie and Castogiovanni (2015), McGee et al. (2009), and Rotefoss and Kolvereid (2005). For entrepreneurial skills, we developed our own scale based on a review of the pertinent literature.

Measurement scales should have the psychometric properties of reliability and validity. Chin and Marcolin (1995) argued that the psychometric properties of scales should be confirmed for each specific model because the reliability and validity of the constructs may vary according to the model in which they are employed. We analyzed these properties. However, we first refined the items. We calculated the reliability of the proposed scales using Cronbach's alpha.

3.2.1. Reliability of the measurement instruments

The most commonly used measure of reliability is the Cronbach's alpha coefficient (1951). This analysis is used to assess the level of internal consistency (The value of this coefficient ranges from 0 to 1. A Cronbach's alpha value greater than or equal to 0.7 is acceptable in preliminary or experimental stages of development. In basic research, this threshold is 0.8. In applied research, it is 0.9.). Calculating the separate Cronbach's alpha for each factor fails to capture the influence of the other constructs on reliability. Therefore, Fornell and Larcker (1981) proposed the use of the composite reliability index and average variance extracted (AVE), which should be greater than or equal to 0.5 (Table 1), this minimum value is usually very conservative, and the literature contains numerous examples of scales that have been accepted with lower AVE scores (Uriel & Aldás, 2005).

Table 1
Values of Cronbach's alpha for the factors.

Factors	No. items	Cronbach's alpha	Items
Entrepreneurial intentions	4	0.853	A04, A06, A13, A17
Personal attitudes	2	0.746	A10, A15
Subjective norms	2	0.781	A03, A08
Entrepreneurial skills	11	0.805	B01, B02, B03, B04, B05, B06, B08, B09, B10, B11, B12
Entrepreneurial behavior	7	0.774	G01, G02, G03, G04, G05, G06, G07

Cronbach's alpha was greater than 0.7 for all scales. Prior confirmatory factor analysis was necessary before the composite reliability index and convergent validity could be calculated. The confirmatory factor analysis was performed in EQS 6.1 using the maximum likelihood procedure. Analysis of goodness of fit revealed the need to eliminate certain items to achieve a good fit. We calculated the composite reliability based on the remaining items. Table 2 shows the results for the reliability of the different scales.

Table 2
Comparison between composite reliability index and average variance extracted.

Factors	No. items	Cronbach's alpha	No. items	CRI	AVE	Items
F1 - Entrepreneurial intentions	4	0.853	2	0.738	0.586	A06, A13
F2 - Personal attitudes	2	0.746	2	0.674	0.437	A10, A15
F3 - Subjective norms	2	0.781	2	0.620	0.455	A03, A08
F5 - Entrepreneurial skills	11	0.805	4	0.835	0.563	B08, B09, B10, B11
F6 - Entrepreneurial behavior	7	0.774	3	0.801	0.579	G02, G03, G04

Note: CRI – composite reliability index; AVE – average variance extracted.

Three values for the composite reliability index were greater than 0.7. The exceptions were the scales for subjective norms and personal attitudes, which were nonetheless close to this value. The composite reliability was also tested used the AVE measure proposed by Fornell and Larcker (1981). Entrepreneurial intentions, entrepreneurial skills, and entrepreneurial behavior had values greater than 0.5. Subjective norms and personal attitudes did not. Their values were nonetheless close to this threshold, which was proposed by Bagozzi (1981). These results indicate that more than half of the variation of the construct was due to its indicators.

3.2.2. *Validity of the measurement instruments*

Content validity is defined as the degree to which a scale covers all the dimensions of the concept it is supposed to measure based on the items that form that scale (Vila, Küster, & Aldás, 2000). Sánchez and Sarabia (1999) indicate a lack of consensus regarding the criteria that should be used to determine when a measure has content validity, noting that it largely depends on the literature review and the researcher's judgment. After reviewing numerous previous studies, referred to earlier, we focused on convergent validity.

Convergent validity is determined by revising the t statistics of the factor loadings. If all factor loadings measure the same construct, they are considered statistically significant (Anderson & Gerbing, 1988). After eliminating the non-significant items from the confirmatory factor analysis, we observed that the estimates were good with a high level of significance (Table 3). All t statistics were greater than 3.291 and were therefore significant for $p < 0.001$. The standardized values were high (> 0.5) for all items, except V5, which took the value 0.418. We nonetheless kept this item because its value was close to 0.5.

Table 3
Confirmatory factor analysis for the model.

	Variable	Standardized λ
A06	V2 F1	0.736
A13	V3 F1	0.794
A10	V5 F2	0.418
A15	V6 F2	0.661
A03	V7 F3	0.767
A08	V8 F3	0.567
B08	V18 F5	0.836
B09	V19 F5	0.850
B10	V20 F5	0.598
B11	V21 F5	0.689
G02	V24 F6	0.731
G03	V25 F6	0.905
G04	V26 F6	0.619
Goodness-of-fit indices		
	Bentler-Bonett normed fit index	0.929
	Bentler-Bonett non-normed fit index	0.917
	Comparative fit index (CFI)	0.952
	Goodness-of-fit index (GFI)	0.936
	Adjusted goodness-of-fit index (AGFI)	0.870
	Standardized root mean square residual (SRMR)	0.052
	Root mean square error of approximation (RMSEA)	0.079
	χ^2 (45 degrees of freedom) = 126.78	

All goodness-of-fit indices had values greater than 0.8 and close to 0.9. The value of the standardized root mean square residual (SRMR) was close to 0.05, and the value of the root mean square error of approximation (RMSEA) was 0.079, which fell within the interval that is considered acceptable in academic research (i.e., 0.05–0.08).

Discriminant validity indicates the extent to which a given construct differs from others in the same model. For a construct to have discriminant validity, it must be weakly correlated with other latent variables that measure different underlying phenomena (Sánchez & Sarabia, 1999). A scale therefore has discriminant validity when it does not measure a construct it is not supposed to measure.

There are three criteria to assess discriminant validity. One of these is the confidence interval test (Anderson & Gerbing, 1988). We analyzed the correlations between factors (variables) and observed a high correlation between F3 (SN) and F5 (SK) (0.617). We used two times the standard error (0.039) to calculate the confidence interval:

lower limit = $0.617 - (2 * 0.039) = 0.539$;
upper limit = $0.617 + (2 * 0.039) = 0.695$.

The value 1 did not lie in the interval. Therefore, discriminant validity was confirmed. Finally, a scale has nomological validity when the construct it measures is capable of shedding light on relationships with other constructs that, conceptually and theoretically, should exist. This análisis could not be performed for the measurement model. It was performed for the structural model derived from the theoretical foundations described earlier to capture the causal relationships between the variables. The theoretical model has nomological validity if there are no significant differences between the measurement model and the theoretical model.

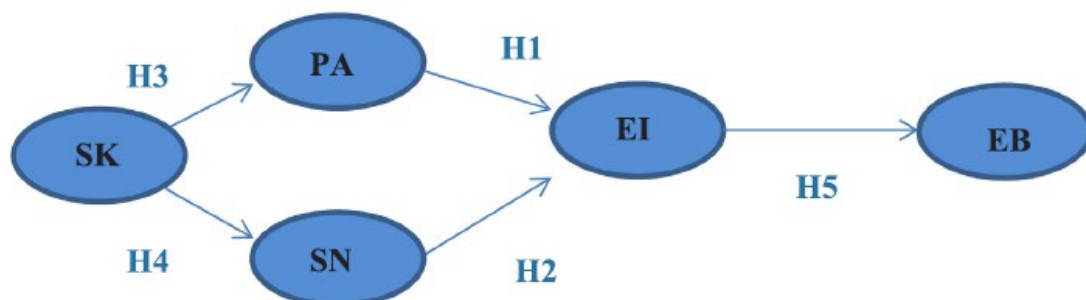
4. RESULTS

For the structural model, we analyzed the causal relationships described in the hypotheses. We used structural equation modeling (SEM) for this purpose. Our aim was to study entrepreneurial intentions. We used a set of variables consistent with the TPB, including the additional variable of entrepreneurial skills and incorporating entrepreneurial behavior, as suggested by Ajzen (1991). Table 4 summarizes the hypotheses, and Fig. 1 illustrates the proposed relationships.

Table 4
Hypotheses regarding variables that influence entrepreneurial intentions.

Hypotheses of the model	
H1: Personal attitudes positively influence entrepreneurial intentions	x
H2: Subjective norms positively influence entrepreneurial intentions	ok
H3: An individual's entrepreneurial skills positively influence the development of personal attitudes toward entrepreneurship	ok
H4: An individual's entrepreneurial skills positively influence the development of subjective norms regarding entrepreneurship	ok
H5: Entrepreneurial intentions positively influence entrepreneurial behavior	ok

Figure 1 Model of entrepreneurial behavior and hypotheses



We estimated and statistically tested the parameters of the specified model. We first evaluated the goodness of fit to observe whether the model fit the data (Luque, 1999). The two most commonly used measures or statistics are the chi-square (χ^2) statistic, or the likelihood ratio, and the goodness-of-fit index (GFI). The χ^2 only indicates the overall statistical significance of the model. A significance of $p < 0.05$ of the χ^2 value indicates that the observed covariance matrix and the estimated covariance matrix differ significantly, thereby implying that the model should be rejected. Given the limitations of the chi-square (χ^2), the most common recommendation is not to restrict the analysis to this overall fit index (Cea, 2002). It is therefore advisable to complement it with other statistics. As shown in Table 5, the goodness-of-fit indices were acceptable (see Table 6).

Table 5

Comparison of the goodness-of-fit indices for the two models.

	χ^2	df	p	GFI	AGFI	RMSEA
Theoretical model	151.76	55	0.001	0.924	0.875	0.077

GFI close to 0.9.

AGFI close to 0.9.

RMSEA lower than 0.08.

Note: GFI – Goodness-of-fit index; AGFI – Adjusted goodness-of-fit index; RMSEA – root mean square error of approximation; df – degrees of freedom.

Table 6

Hypothesis testing results.

Hypothesis	Standardized loadings	t
H1	0.343	1.348
H2	0.655**	2.652
H3	0.897***	11.474
H4	0.932***	9.332
H5	0.463***	5.994

$p^* < 0.05$; $t > 1.964$.

$p^{**} < 0.01$; $t > 2.585$.

$p^{***} < 0.001$; $t > 3.291$.

In this section, we present the results of the model. The first hypothesis (H1) was not significant. The t value was 1.348 and the standardized loading was 0.343. Therefore, the results indicate that personal attitudes do not directly and positively influence entrepreneurial intentions.

The second hypothesis (H2) had a high level of significance, with a t value of 2.652 and a standardized loading of 0.655. These results thereby support H2, namely that subjective norms directly and positively influence entrepreneurial intentions, as justified by our theoretical framework.

With respect to the third hypothesis (H3), we obtained a highly significant *t* value of 11.474, with a standardized loading of 0.897. This result indicates that entrepreneurial skills have a substantial influence on personal attitudes.

We also confirmed that H4 had a significant *t* value of 9.332, with a loading of 0.932. Accordingly, entrepreneurial skills strongly and significantly influence subjective norms. We can therefore affirm that entrepreneurial capacities and knowledge acquired by individuals with entrepreneurial intentions have a great importance in this model because they directly and positively influence personal attitudes and subjective norms and indirectly influence entrepreneurial intentions.

The final hypothesis (H5) in our model was also significant, with a *t* value of 5.994 and a standardized loading of 0.463. This result suggests that intentions have a positive effect on individuals' behavior of starting a business and that intentions may lead individuals to start their own businesses.

After noting the parameters of each hypothesis, the software suggested a relationship (R1) that slightly improved the proposed model. This relationship indicates a direct link between subjective norms and entrepreneurial behavior. This result offers one of the most important findings in this research because, as mentioned before, subjective norms also exert a direct effect on intentions to start a business. Thus, it could be argued that subjective norms represent a critical factor of entrepreneurial behavior.

The results were satisfactory, although we were unable to confirm the first hypothesis regarding personal attitudes. Nevertheless, we did confirm all other hypotheses.

5. CONCLUSIONS AND DISCUSSION

Studying the process of becoming an entrepreneur is complex because it entails many internal and external factors ranging from intentions to business creation and development. Adopting the TPB framework, this study analyzed entrepreneurial intentions, the factors that influence these intentions, and the way in which these factors do so. The results confirm that subjective norms have a strong influence in the university environment. However, this is not the case for personal attitudes, whose relationship with entrepreneurial intentions was not confirmed. A number of studies (Ajzen & Cote, 2008; Krueger et al., 2000) have indicated that individual attitudes and personality traits are poor predictors of intentions. Kolvereid (1996) reported that attitudes do not directly predict behaviors, but it is thought that intentions fully or partially capture attitudes. Personal attitudes therefore exert little or no influence on intentions to start a business because, in this study, these attitudes are considered part of the students' skills. This finding indicates that individuals show an attitude toward starting a business when they have the skills. Attitudes toward starting a business are ultimately shown when students have the knowledge or capacity to start a business.

Subjective norms are shown to be crucial in this study because they have a twofold influence on entrepreneurial behavior. Students might decide to enroll in entrepreneurial education courses and learn how to start a business because of the norms that govern their lives and environment. This finding indicates that subjective norms play a key role in students' intentions and even students' subsequent decisions to start a business. Subjective norms are therefore strong predictors of entrepreneurial behavior and ultimately entrepreneurial actions.

In many cases, students acquire entrepreneurial skills while at university. However, other students have innate abilities or entrepreneurial skills that pull them toward the business world (Benavides, Sánchez, & Luna, 2004). In either case, universities play a key role in generating internal and external factors that drive students toward business creation.

Accordingly, entrepreneurial skills are a critical factor in the proposed model. The results are satisfactory. This finding also confirms the fundamental importance of skills because, first, the correlations are high and, second, the results are consistent with those reported by Liñán (2008), who also obtained satisfactory results when studying the TPB and entrepreneurial skills. Therefore, we may conclude that having entrepreneurial skills exerts a significant influence on the formation of intentions. In other words, having entrepreneurial skills increases entrepreneurial intentions through the antecedents (i.e., personal attitudes and subjective norms) of intentions to become an entrepreneur. Prospective entrepreneurs can acquire the necessary knowledge and skills to start their business in the university environment.

The literature has a notable gap in terms of both theoretical and empirical studies that test the relationship between intentions and behavior (Fayolle & Liñán, 2014; Liñán & Fayolle, 2015). This paper addresses this gap, contributing to the literature by extending the TPB through the inclusion of the entrepreneurial skills necessary to perform the tasks involved in starting a business. Following Fayolle and Liñán's call (2014), this paper also addresses this gap by studying the relationship between the intentions and behavior of university students.

University's role in the development of the entrepreneurial process is fundamental. University is where many students develop and foster an entrepreneurial spirit, which gives them a propensity to start a business. This spirit is ignited when students are surrounded by the right environmental factors such as access to knowledge, training, mentoring, advice, and work experience. In essence, university can foster students' vocation and transform them into future entrepreneurs.

Based on the TRA (Fishbein & Ajzen, 1975) and the TPB (Ajzen, 1991), our results show that the link between entrepreneurial intentions and entrepreneurial behavior relates not only to social situations but also to individuals' knowledge acquisition. In today's economy, knowledge plays a key role. Knowledge is considered an asset for both entrepreneurs and organizations as the most valuable weapon to succeed in increasingly competitive markets. Thus, having the capacity to perform certain actions will help predict actions that are first established by intentions to start a business.

As argued by Otani (1996), having entrepreneurial capacity (in this paper, displaying entrepreneurial behavior) has three potential benefits. First, it can help individuals who are willing to succeed in today's highly competitive markets become entrepreneurs. Second, it can act as one of the most valuable human capital assets of a firm. Third, it can help the economy of a region or a country because new-firm formation creates opportunities and value.

6. IMPLICATIONS, LIMITATIONS, AND FUTURE LINES OF RESEARCH

This study has implications for different actors within society. First, researchers can benefit from the results, which offer a new perspective regarding the link between intentions and behavior. Second, this study calls for policymakers to rethink university curricula and unanimously seek to integrate entrepreneurial education and training in the university context and in other higher education institutions. Finally, there are also implications for practitioners. Acquiring entrepreneurial skills might enable individuals to develop greater capacities, which may in turn increase the likelihood of success in future entrepreneurial ventures.

This study has several limitations that provide openings for future research. First, some of the items in the scale, particularly those referring to intentions, personal attitudes, subjective norms, and perceived behavioral control, did not determine these variables

sufficiently clearly. In future research, the items that are used must be determined more precisely, perhaps through the inclusion of other items to further examine the relationships between personal attitudes, subjective norms, perceived behavioral control, and entrepreneurial intentions. Given that we failed to validate the influence of perceived behavioral control, we could also test and confirm whether perceived behavioral control has a significant influence on intentions. Some of the other scale items were not relevant to business and management despite being relevant to research on psychological aspects. Future research must further examine subjective norms and explore whether they exert a powerful influence on entrepreneurial behavior. Our model suggests a new relationship that we did not consider but that we nonetheless believe merits further theoretical and empirical study. Lastly, our sample included students from 34 countries, but cultural differences were not considered in the study. In the future, it would be of interest to further examine cultural differences.

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Appendix A. Questionnaire items of the study

A. Indicate your level of agreement with the following statements about the entrepreneurial activity

(1) strongly disagree; (2) disagree; (3) indifferent; (4) agree; (5) strongly agree

A01.- Starting a firm and keeping it viable would be easy for me

A02.- A career as an entrepreneur is totally unattractive to me

A03.- My friends would approve of my decision to start a business

A04.- I am ready to do anything to be an entrepreneur

A05.- I believe I would be completely unable to start a business

A06.- I will make every effort to start and run my own business

A07.- I am able to control the creation process of a new business

A08.- My immediate family would approve of my decision to start a business

A09.- I have serious doubts about ever starting my own business

A10.- If I had the opportunity and resources, I would love to start a business

A11.- My colleagues would approve of my decision to start a business

A12.- Among various options, I would rather be anything but an entrepreneur

A13.- I am determined to create a business venture in the future

A14.- If I tried to start a business, I would have a high chance of being successful

A15.- Being an entrepreneur would give me great satisfaction

A16.- It would be very difficult for me to develop a business idea

A17.- My professional goal is to be an entrepreneur

A18.- Being an entrepreneur implies more advantages than disadvantages to me

A19.- I have a very low intention of ever starting a business

A20.- I know all about the practical details needed to start a business

B. How do you rate yourself on the following entrepreneurial ABILITIES/SKILLS?

Indicate:

(1) no aptitude; (2) some aptitude; (3) normal aptitude; (4) high aptitude; (5) very high aptitude

B1.- I am able to recognize a business opportunity

B2.- I have creativity for business

B3.- I have some abilities for problem solving

B4.- I have the capacity for leadership and communication skills

B5.- I know how to develop new products and services

B6.- I know how to make new professional contacts

B7.- In my family, there is a tradition of creating/starting new businesses

B8.- Creating my own business, is for me, a form of personal self-fulfillment -to fulfill my dreams

B9.- I have a high entrepreneurial spirit

B10.- My capacity to take risks has increased inasmuch as I have undertaken more training

B11.- I like being my own boss, being independent

B12.- Fear of failure does not prevent me from taking initiatives

G. Entrepreneurial behavior

(1) strongly disagree; (2) disagree; (3) indifferent; (4) agree; (5) strongly agree

G1.- I have experience in starting new projects or businesses

G2.- I am capable of developing a business plan

- G3.-. I know how to start a new business
- G4.-. I know how to do market research
- G5.-. I have invested in an informal manner in some business
- G6.-. I can save money to invest in a business
- G7.-. I belong to a social network that can promote my business