

Development and validation of an Entrepreneurial Intention Questionnaire (EIQ)

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Abstract

Entrepreneurship education quite often concentrates on business-plan and start-up courses. Higher education institutions -such as universities or colleges- do not differ significantly from this general trend. These courses do play a very important role in giving students technical knowledge about entrepreneurship and -through it- they also increase their self-efficacy perceptions.

However, the decision to create a firm not only depends on knowing how to do it and feeling able. There are other important elements that also have to be taken into account. According to the literature, the intention to be an entrepreneur would be the single best predictor of actual firm-creation behaviour. In this sense, an entrepreneur would make his decision based on three elements: his personal preference or attraction towards entrepreneurship; the perceived social valuation of that career option; and, thirdly, his perceived feasibility (self-efficacy perceptions).

Unfortunately, there is not a validated instrument to measure abilities, attitudes and intentions towards entrepreneurship. In this sense, we have developed an Entrepreneurial Intention Questionnaire (EIQ), based on an integration of psychology and entrepreneurship literature, as well as previous empirical research in this field. These items are designed as likert-type scales. It also includes other items about knowledge of the entrepreneurial world, family background, labour experience and business objectives, to test their relationships with entrepreneurial intention. This EIQ has been recently validated on a sample of 354 last-year university students of business and economics. In this paper we describe the main characteristics and psychometric properties of the EIQ. Traditional reliability measures, as Cronbach's α , confirm that items used in each construct are adequate. Besides, general results strongly support the validity of the entrepreneurial intention model.

Therefore, there would be a solid base for designing and implementing entrepreneurship courses trying to affect personal preferences and perceived social valuation of entrepreneurship. Only for those people that already show a sufficiently high level of these features, a business-plan course would achieve all its potential to increase entrepreneurial self-efficacy and the intention to become an entrepreneur.

1. INTRODUCTION

As entrepreneurship education keeps on spreading over all sorts of educational institutions, course contents tend to vary more and more widely, ranging from case materials, simulations, guest speakers, and so on. However, business plan elaboration is probably the most popular one (Gorman et al., 1997). In fact, a majority of courses are organized around the production of one such plan. Higher education institutions -universities, colleges, ...- do not differ significantly from this general trend. Honig (2004) found that 78 out of 100 top universities in the United States offered courses specifically centred on production of the business plan.

These courses play a very important role in giving students technical knowledge about entrepreneurship and -through it- they also increase their self-efficacy

perceptions. They typically include the development of a proposed new product or service, integrating diverse management knowledge such as finance, marketing or production into one single document. Students have to collect and summarise relevant information that may be very useful if the venture is to come into existence. Educators tend to feel very comfortable with business plans, as they provide «a specific project-oriented output that assists with student evaluation, and helps provide focus and structure in a field that is, by definition, without conventional borders» (Honig, 2004: 260).

However, the decision to create a firm does not depend only on knowing how to do it and feeling able. There are other important elements that also have to be taken into account. According to the literature, the intention to be an entrepreneur would be the single best predictor of actual firm-creation behaviour (Fayolle & Gailly, 2004). In this sense, an entrepreneurial intention model would argue that individuals make their firm-creation decision based on three elements (Liñán, 2004): his personal preference or attraction towards entrepreneurship; the perceived social norms regarding that career option; and, thirdly, his perceived feasibility (self-efficacy perceptions). Therefore, education should be concerned not only with increasing this latter element, but also with developing the other two. Only for those students that have previously achieved a sufficiently high level of personal attraction and perceived social norms, a business-plan course would achieve all its potential to increase entrepreneurial self-efficacy and the intention to become an entrepreneur.

These reflections lead, as a natural consequence, to the concern of how to measure attitudes and intentions towards entrepreneurship. A few noteworthy attempts have been made in this respect, such as those of Kolvereid (1996) and Krueger et al. (2000). In particular, the former developed and validated an instrument to measure career choice intentions. However, his questionnaire did not study the entrepreneurial intention as such, but forced participants to state their preferences and estimated likelihoods of pursuing a self-employment career “as opposed to organizational employment”. Nevertheless, Kolvereid’s (1996) work may be considered an essential step towards developing validated instruments to measure entrepreneurial intentions. As it will be explained in the following sections, much of our work is based on his contribution.

In this sense, we have developed an Entrepreneurial Intention Questionnaire (EIQ), based on an integration of psychology and entrepreneurship literature, as well as previous empirical research in this field. The EIQ is based mainly on semantic differential scales to measure each of the theoretical constructs. In particular, intention is measured as indicating the effort people are planning to exert to perform the entrepreneurial behaviour (Ajzen, 1991). Validation of the EIQ has been recently carried out on a sample of university students of business and economics. In this paper we describe the main characteristics and psychometric properties of the EIQ. Traditional reliability measures, as Cronbach’s α , confirm that items used in each construct are adequate. Besides, general results strongly support the validity of the entrepreneurial intention model.

The paper is divided in five sections. After this introduction, section two presents the entrepreneurial intention model in which the EIQ is based. The third section describes how the questionnaire was developed. The validation process and regression results are presented in section four. Finally, in section five we discuss those results, together with some possible implications for entrepreneurship education.

2. ENTREPRENEURIAL INTENTION MODEL

Methodologies used so far to study the entrepreneur have been changing along the years (Liñán & Rodríguez, 2004). In the beginning, many authors looked for the existence of certain personality features or traits that could be associated with the entrepreneurial activity (McClelland, 1961). Later on, other works have been carried out remarking the importance of different characteristics such as age, gender, origin, religion, level of studies, labour experience, etc. (Reynolds et al., 1994; Storey, 1994), which are usually called “demographic” variables (Robinson et al., 1991). Both lines of analysis have allowed the identification of significant relationships among certain traits or demographic characteristics of the individual, and the fulfilment of entrepreneurial behaviours. However, the predictive capacity has been very limited (Reynolds, 1997). On the theoretical side, many authors have criticized those approaches (Ajzen, 1991; Shapero & Sokol, 1982; Gartner, 1989; Santos, 2001; Veciana et al., 2000), so much for their methodological and conceptual limitations as for their low explanatory capacity.

From a third perspective, since the decision to become an entrepreneur may be plausibly considered as voluntary and conscious (Krueger et al., 2000), it seems reasonable to analyze how that decision is taken. In this sense, the entrepreneurial intention would be a previous and determinant element towards performing entrepreneurial behaviours (Fayolle & Gailly, 2004; Kolvereid, 1996). In turn, the intention of carrying out a given behaviour will depend on the person's attitudes towards that behaviour (Ajzen, 1991). More favourable attitudes would make more feasible the intention of carrying it out, and the other way round. In this sense, this “attitude approach” would be preferable to those used traditionally in the analysis of the entrepreneur, such as the traits or the demographic approaches (Robinson et al., 1991; Krueger et al., 2000). Thus, attitudes would measure the extent to which an individual values positively or negatively some behaviour (Liñán, 2004).

In this paper, two contributions will be specially considered as a reference, due to their influence on other recent works: In the first place, the theory of the “entrepreneurial event” (Shapero & Sokol, 1982) and, secondly, the much more highly structured theory of “planned behaviour” (Ajzen, 1991). Both models present a high level of mutual compatibility (Krueger et al., 2000). Therefore, our work is based on an integration of both.

The theory of the entrepreneurial event considers firm creation as the result of the interaction among contextual factors, which would act through their influence on the individual's perceptions. The consideration of the entrepreneurial option would take place as a consequence of some external change -a precipitating event- (Peterman & Kennedy, 2003). People's answers to that external event will depend on their perceptions about the available alternatives. There are two basic kinds of perceptions:

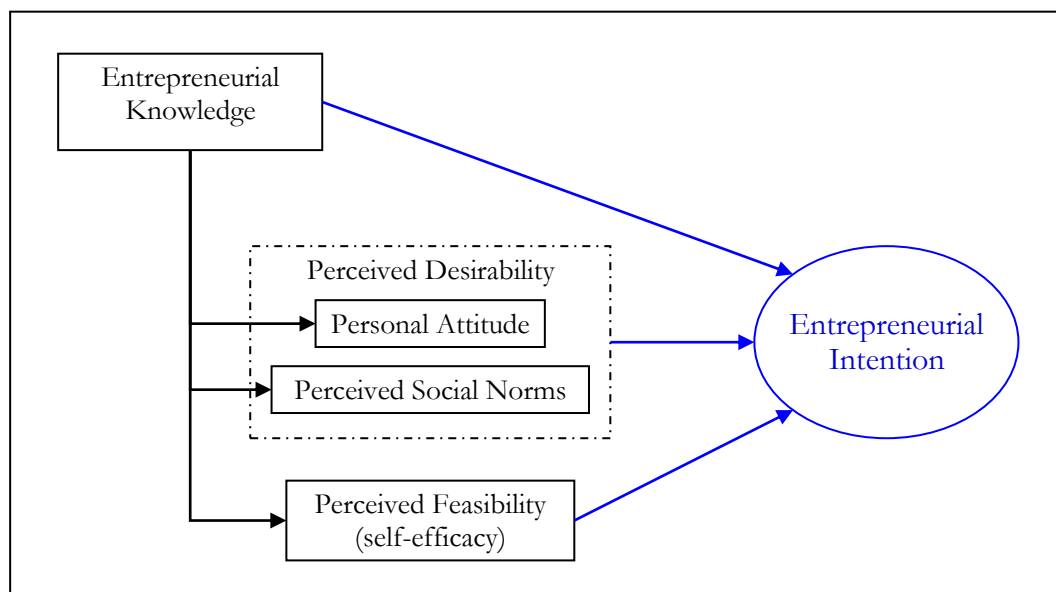
- *Perceived desirability* refers to the degree to which he/she feels attraction for a given behaviour (to become an entrepreneur).
- *Perceived feasibility* is defined as the degree to which people consider themselves personally able to carry out certain behaviour. The presence of role models, mentors or partners would be a decisive element in establishing the individual's entrepreneurial feasibility level.

In turn, both types of perceptions are determined by cultural and social factors, through their influence on the individual's values system (Shapero & Sokol, 1982). Therefore, external circumstances would not determine firm-creation behaviours directly, but rather they would be the result of the (conscious or unconscious) analysis carried out by the person about the desirability and feasibility of the different possible alternatives in that situation.

Along the same line, but much more detailed, Ajzen (1991) develops a psychological model of “planned behaviour”. It is a theory that may be applied to nearly all voluntary behaviours and it provides quite good results in very diverse fields, including the choice of professional career (Ajzen, 2001; Kolvereid, 1996). According to it, a narrow relationship would exist between the intention to be an entrepreneur, and its effective performance. Intention becomes the fundamental element towards explaining behaviour. It indicates the effort that the person will make to carry out that entrepreneurial behaviour (Liñán, 2004). And so, it captures the three motivational factors that influence behaviour, which are the following (Ajzen, 1991):

- *Perceived behavioural control* would be defined as the perception of the easiness or difficulty in the fulfilment of the behaviour of interest (becoming an entrepreneur). It is, therefore, a concept quite similar to perceived self-efficacy (Bandura, 1997). In the same way, it is also very similar to Shapero & Sokol's (1982) vision about perceived feasibility. In all three instances, the important thing is the sense of capacity regarding the fulfilment of firm creation behaviours.
- *Attitude towards the behaviour* refers to the degree to which the individual holds a positive or negative personal valuation about being an entrepreneur.
- *Perceived social norms* would measure the perceived social pressure to carry out -or not to carry out- that entrepreneurial behaviour.

Figure 1
Entrepreneurial intention model



Source: Liñán (2004: 15), Figure 2.

These three elements would constitute the explanatory variables of intention. Their relative contributions to the configuration of intention are not established in the model, as they may change from case to case. In particular, in the sixteen empirical works analyzed by Ajzen (1991), subjective norms tended to contribute very weakly to the intention of carrying out different behaviours. Finally, the model assumes the existence of interactions among the three explanatory elements.

If we compare these explanatory variables with those considered by Shapero & Sokol (1982), we can see that perceived feasibility -as it has been mentioned above- corresponds quite well with perceived behavioural control. On the other hand, the willingness to carry out entrepreneurial behaviours (perceived desirability) could be understood as composed by the personal attitude and perceived social norms. In this sense, it may be remembered that Shapero & Sokol (1982) considered desirability as a result of social and cultural influences.

Additionally, as shown in Figure 1, a greater knowledge of the entrepreneurial environment will surely contribute to more realistic perceptions about the entrepreneurial activity and would help identify adequate role models. This latter element would have an influence on perceived feasibility and possibly on desirability as well (Scherer et al., 1991). In general, greater knowledge will also directly provide a greater awareness about the existence of that professional career option, and will make the intention to become an entrepreneur more credible.

3. DEVELOPMENT OF THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE (EIQ)

In this paper, the entrepreneurial intention model is considered as an adequate model to analyse the intention to become an entrepreneur. Therefore, an instrument to measure intentions and the other variables in the model was needed. In a first stage of this research project, we used a preliminary version of the questionnaire which contained mostly yes/no questions or items with up to four different response options (Liñán & Rodríguez, 2004). Results were clearly encouraging and tended to support the entrepreneurial intention model developed. However, validation of the questionnaire was not possible under such conditions. Therefore, the robustness of results could not be confirmed.

For those reasons, a second version of the questionnaire was developed, specifically designed to allow full validation of the research instrument. That first version was used as the basis for this EIQ, but it has been carefully cross-checked with those instruments used by other researchers, such as Kolvereid (1996), Krueger et al. (2000) or Veciana et al. (2000). Along the whole construction process, Ajzen's (1991, 2001, 2002) work has been carefully revised to solve any discrepancy that might have arisen between the different instruments. The EIQ is available from the author upon request.

Whenever possible, items have been built as 7-point likert-type scales. In particular, this has been true for the part of the EIQ measuring those latent variables that are central to the entrepreneurial intention model: i.e., entrepreneurial knowledge, personal attraction, social norms, self-efficacy and intention. The EIQ has been divided in ten sections. Sections two to six corresponds with the elements in the entrepreneurial intention model (see Figure 1). Within them, all items adjust to the likert-type sort of question.

The first (education and experience) and ninth (personal data) sections ask for demographic variables that should not affect intention directly, but could be very useful in identifying their effect on perceived control, attitudes, social norms, and knowledge. Besides, in section three we have also asked interviewees to rate their knowledge of entrepreneurs and their perceptions about how good those entrepreneurs are. As Scherer et al. (1991) point out, having access to role models is one key element in explaining entrepreneurship. However, it cannot be seen in isolation from the other key aspect regarding the valuation made about how successful those entrepreneurs are. In this paper, interviewees' evaluations of their role models have been included in the analysis together with demographic variables.

The questionnaire also includes a seventh section centred on entrepreneurial objectives. Its purpose is to analyse students' concept of "success" and the importance they attach to business development and growth. Guzmán & Santos (2001) defined entrepreneurial quality as the behaviours performed to develop the firm and make it dynamic. This section tries to measure the intention to perform such behaviours. The eighth section asked about participation in entrepreneurship education courses and the extent to which it has helped increase entrepreneurial intention of interviewees, or any of the antecedents of intention. Finally, in section ten, we asked students to voluntarily provide contact data so as they may be studied again after some time. This follow-up will hopefully allow for future analysis of the intention-behaviour relationship.

Going back into the central intention-model elements, the section on personal attraction includes important differences with the most comprehensive previous attempt to develop a validated intention measure. In Kolvereid's (1996) questionnaire, a belief-based measure of personal attraction was used, consisting of interviewee's valuation of different reasons for choosing one career option (entrepreneurship) instead of the other (organizational employment). However, Ajzen's (1991, 2001) states that beliefs are the antecedents of attitudes, and suggests using an aggregate measure for attitudes (beliefs would explain that attitude, while attitude would explain intention). In this sense, Krueger et al. (2000) use such a design, with beliefs explaining an aggregate measure of attitude, while this latter variable was used to explain intention. Semantic differentials scales could be used to measure aggregate personal attitude towards entrepreneurship. Correlations between the aggregate and belief-based measures are sometimes disappointing (Ajzen, 1991: 192). For this reason, we have chosen an aggregate measure of attitude in the EIQ.

Another main difference with Kolvereid's (1996) study is the consideration of salaried work. In our view, a person may be attracted towards both entrepreneurship and organizational employment, though maybe to different degrees. In this sense, some evidence suggests that individuals may simultaneously be part-time entrepreneurs and employees, and not necessarily for a short time (Carter et al., 1996). In the EIQ, this has been accounted for by asking respondents to rate their preference towards both options at different items. Besides, a third item (preference to being a liberal professional) was also included to stress the idea that the options are not opposed.

Perceived social valuation, according to Ajzen (1991), should be approached through an aggregate measure of the kind "what do important others think?" Therefore, we have used two such questions. Besides, we have also used an aggregate semantic differential scale of what we could call "social climate", asking

individuals to rate several items about the existence of social obstacles to becoming an entrepreneur.

Entrepreneurial perceived capacity have been measured by general self-efficacy and also by specific self-efficacies. The first of these two measures has been used as the reference for validation purposes. It includes general statements about the feeling of capacity regarding firm creation, and interviewee's are asked to rate their level of agreement. In more recent work Ajzen (2002) considers that perceived behavioural control is a concept somewhat wider than self-efficacy. It would also include a measure of controllability (the extent to which successfully performing the behaviour is up to the person). For this reason, we have included an item in the general self-efficacy measure in this sense. Specific abilities, on the other hand, have been used to measure the different domains in which respondents feel more able. These six abilities have been extracted from the literature (De Noble et al., 1999; Kirby, 2003; Gibb, 1998).

Regarding intention, it has been measured through a semantic differential scale with general sentences indicating different aspects of intention. However, as it is very common to find other studies that use a "have you considered" question (Krueger et al., 2000; Veciana et al. 2000), additionally to the scale, the following yes/no question has been included: "Have you ever seriously considered becoming an entrepreneur?". Answers to this question will not be used to validate the questionnaire, but might be useful for comparison purposes.

4. VALIDATION OF THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE

Validation of the EIQ has been carried out on a sample of last year university students of business and economics. Selection of this sample has been made on three grounds. Firstly, it is very common to find empirical literature using these students. In particular, regarding research on entrepreneurial intentions, some papers using this kind of samples may be: Autio et al. (1997), Tkachev & Kolvereid (1999), Fayolle & Gailly (2004), together with the above-mentioned Kolvereid (1996), Krueger et al. (2000) or Veciana et al. (2000). Secondly, last year university students are about to enter the segment of the population showing highest tendency towards becoming an entrepreneur; i.e., those belonging to the 25-34 age-group, and with university studies (Reynolds et al., 2002). Finally, they are about to face their professional career choice, so they me answer the EIQ more consciously.

The sample was obtained from the two public universities in Seville. This is the largest metropolitan area in southern Spain, with 1.3 million inhabitants. University of Seville is quite large and old. On the other hand, Pablo Olavide University is only ten years old and much smaller. The field-work was carried out in October and November 2004. We contacted core-module coordinators asking them some of their class-time to carry out the survey. Before completion of the questionnaire, students were given an explanation about the main purpose of the research and were reminded that completion was completely optional. Thus, only those students not enrolled in the modules (having already passed them) or not attending classes that particular day were left out.

In this manner, we collected 354 questionnaires, 31 of them from Pablo Olavide University, and the 323 remaining ones from University of Seville. 69.2% of the sample corresponds to Business Science students, the rest being Economics. In this sense, all of the students from Pablo Olavide University are studying business, as the

degree in economics is not on offer there. 55% of the interviewees are female, while the average age is 23.7 years old.

Validation of the EIQ was carried out for the five constructs used in the entrepreneurial intention model (see Figure 1). In particular, questions 7 and 8 were included to account for knowledge of the business institutional framework. They ask students about their familiarity with associations, public assistance bodies and support measures.

Table 1
Entrepreneurial Intention Questionnaire (EIQ) factor analysis^(a)

	Factor				
	1	2	3	4	5
7a Know association		,533			
7b Know support body		,660			
8a Know training		,790			
8b Know loans		,812			
8c Know assistance		,854			
8d Know centres		,684			
8e Know services		,756			
9b create firm	,492				
10c entrepreneur	,724				
11a personal attraction	,698				
11b personal attraction	,794				
11c personal attraction	,845				
11d personal attraction	,853				
11e personal attraction	,827				
13a family					,450
13b friends					1,015
13c peers					,686
15a self-efficacy			,691		
15b self-efficacy			,830		
15c self-efficacy			,916		
15d self-efficacy			,642		
15e self-efficacy			,741		
15f self-efficacy			,716		
18a intention				,646	
18b intention				,789	
18c intention				,795	
18d intention				,881	
18e intention				,677	
18f intention				,794	

Extraction method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization. Factors loadings 0.40 or smaller not shown.

(a) Convergence reached after 6 iterations.

The second construct was represented by two separate items plus a personal attraction scale. Question 9 asks “what would you like to do immediately after studies

-rate from 1 to 7?", and the second option (9b) is "creating a firm". Question 10 asks "in the long run, taking into account all advantages and disadvantages, how attracted would you be towards the following options?" with 10c being "entrepreneurship". Finally, question 11 is a 5-item scale with general sentences indicating attraction towards becoming an entrepreneur, and asking students about their level of agreement with them.

Question 13 -"If you were to create a firm, persons around you would approve that decision?"- was used to measure perceived social norms. The items to be rated were: closer family, friends and peers. Similarly, Question 15 includes six items to be rated regarding self-efficacy. Finally, question 18 is made up of other six items to measure intention.

We used factor analysis to examine the underlying factor structure of the EIQ. The extraction was carried out using Maximum Likelihood, as it is one of the most common and widespread methods. Regarding rotation, Pardo & Ruiz (2002) suggest the use of oblique rotation methods and, particularly, the Promax rotation. Oblique rotations -unlike orthogonal ones- assume the existence of correlations among the underlying factors, which is a much more realistic assumption in most cases. Based on an eigenvalue of 1 as a cut-off point for factor extraction, a five-factor initial solution was produced, which explained 69.1% of the total variance. After rotation, the final factor loadings greater than 0.40 are shown in Table 1.

Table 2
Reliability measures

Scale	Cronbach's α
Knowledge	0.890
Personal attraction	0.913
Social norms	0.762
Self-efficacy	0.890
Intention	0.944

As may be seen, the factor analysis offers quite satisfactory results, as they fully meet our *a priori* expectations. Similarly, reliabilities of those five scales are also notably high. As shown in Table 2, Cronbach's alphas range from 0.762 to 0.944, well above the usual 0.700 threshold level for newly created measures (Nunnally, 1978).

Table 3
Regression analysis of entrepreneurial intention

	r	β
Knowledge	0.120*	0.009
Personal attraction	0.774***	0.719***
Social Norms	0.193***	-0.091*
Self-efficacy	0.493***	0.208***
	R ²	0.636
F-value	141.544***	Adjusted R ²
		0.632

* p < 0.05

*** p < 0.001

Finally, we carried out a linear regression analysis to confirm that intentions are actually explained by those other four factors. Table 3 summarises results of the regression analysis, together with correlation coefficients. The high F-value would be

indicating that the proposed model is a good explanation of intentions, not showing signs of model misspecification. Similarly, R^2 and adjusted- R^2 indicate a reasonable goodness of fit. No evidence of collinearity or heteroskedasticity has been found.

Personal attraction and self-efficacy are highly significant and with the expected signs. On the other hand, contrary to expectations, knowledge is not significant in explaining intentions. Regarding social norms, its coefficient is significant, but negative. This result is not completely surprising, as Ajzen's (1991) review of empirical studies shows that some of them found a negative relationship between social norms and intention. Note, however, that the correlation between these two variables is positive and significant. Further analysis is needed here, but a possible interaction with other variables may be explaining this anomalous situation.

5. DISCUSSION

In this paper we have presented the development and validation of the Entrepreneurial Intention Questionnaire. It includes several items to try to measure the five elements in the entrepreneurial intention model adopted, which has been shown in Figure 1. The factor analysis carried out has offered quite satisfactory results, as the factors found fully correspond with our previous expectations. Besides, the scales obtained are to be deemed as reliable (the items in each scale are really and accurately measuring the same latent variable).

With those five factors, a regression analysis has been carried out with entrepreneurial intention as the dependent variable. The model is an adequate explanation of intention (according to the F-value) and accounts for over 63% of the total variance. The two stronger predictors of intention are personal attraction and self-efficacy.

Some of the most salient features of the Entrepreneurial Intention Questionnaire are the following:

- *Unconditional measure of intentions.* The intention to implement entrepreneurial behaviours is measured through a semantic differentials scale. Each item asks the individual's agreement with a general sentence stressing a specific aspect or characteristic of intention. Therefore, it is not opposed to any other career option such as salaried employment.
- *Aggregate measure of personal attraction.* The construct of personal attitude towards becoming an entrepreneur has been obtained using a similar scale to that of intention. Though it is generally accepted that attitude is determined by specific beliefs, a belief-based measure of attitude often correlates poorly with the aggregate measure (Ajzen, 1991). The measure thus obtained has provided highly satisfactory results both in the factor analysis and in the linear regression.
- *Knowledge of the entrepreneurial business framework.* The theoretical model considers general entrepreneurial knowledge as the most relevant variable to explain intention and its other antecedents. However, the items included in Questions 7 and 8 of the EIQ referred exclusively to the institutional framework (associations, support bodies and assistance measures). This is a limitation of the present study that we will try to overcome in the future. At the same time, this may explain why the regression coefficient for knowledge has failed to be significant. Analysis of partial correlations, however, showed that this knowledge

measure has a weakly positive and significant ($p < 0.05$) correlation with intention, not apparent in the regression. Similarly, the correlation is also positive and highly significant ($p < 0.001$) with the self-efficacy measure. A possible explanation that deserves closer attention is that institutional knowledge may increase perceived self-efficacy and this, in turn, increases intention.

The measure of perceived social norms has a weak positive but highly significant ($p < 0.001$) correlation with that of intention. However, the regression coefficient turned up to be negative (and significant, $p < 0.05$). This is, again, a contradictory result that needs to be investigated further. In this sense, Ajzen (1991) reviewed nineteen empirical studies of the theory of planned behaviour and found that this situation was relatively common. In fact, eleven of those nineteen regressions obtained a negative or non-significant coefficient for social norms. In our view, social norms may be acting primarily over personal attraction and (maybe) self-efficacy. If that is so, the positive correlation with intention may be indirect, through its effect on the other antecedents. As an indication in this sense, it may be noted that the correlation between social norms and both personal attraction and self-efficacy is positive, moderately strong (0.321 and 0.268, respectively), and highly significant ($p < 0.001$).

One possible limitation of this EIQ is the overlap that might have occurred between personal attraction and intention. In fact, an enlarged factor analysis was performed including additional items to measure other constructs that may also be relevant. In this second instance, though results were generally good, the factor corresponding to personal attraction also loaded high in some of the intention items. This would be indicating that both set of items are quite close to each other. Whether this situation is a mere reflection of their true position or measurement errors needs further analysis. In the first case, personal attraction and intention would theoretically be very similar concepts and this would be reflected in the analysis. In the second case, we may have failed to develop a measure sufficiently specific for each concept.

Another aspect that deserves further attention is the theoretical relationship between personal attraction and self-efficacy. The correlation coefficient between them is notably high (0.436) and very significant. However, in the literature we have not found indications on which should be the direction of the relationship. It may be argued that a greater attraction towards being an entrepreneur would make the individual more optimistic and, so, expressing a higher self-efficacy level. Similarly, feeling more confident in their abilities to satisfactorily create a firm could make people more interested in that behaviour and, as a consequence, more attracted towards it.

Finally, these results may have relevant consequences over entrepreneurship education. The present trend to base most courses on business-plan elaboration may be not an adequate strategy. Results obtained indicate that personal attitude is an even stronger antecedent of entrepreneurial intention. Therefore, courses design to increase the individual's attraction are, at least, as necessary as business plans.

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