

## Entrepreneurial and intrapreneurial intentions of sports science students: what are their determinant variables?

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### Abstract:

Entrepreneurship is a key factor in sports due to the globalization and increase in competitiveness in the actual labour market. Therefore, it is important to understand entrepreneurial behaviour and distinguish between the two possible types, intrapreneurship and entrepreneurship, because both should be promoted. However, while studies on the entrepreneurial intentions of university students are a consolidated area of study, little is still known about intrapreneurial intentions. Therefore, the main aim of this study is to discover the determinant variables of entrepreneurial and intrapreneurial intentions of sports science students. For that reason, a sample of 183 senior-level sports science students, 23.60% female and 76.40% male with ages ranging between 20 and 41 years old ( $M = 22.56$ ;  $SD = 2.70$ ) was analysed. The results showed that the determinant variables of these two types of entrepreneurial behaviour are totally different. In the case of entrepreneurial intentions, the attitude towards behaviour and the perceived behaviour control were the significant determinants, while in the case of intrapreneurial intentions, the entrepreneurial abilities, subjective norm and age were the main determinants. To summarise, the educational university policies used to enhance the entrepreneurial and intrapreneurial intentions of sports science students should be different. Finally, to address this issue, some practical implications were presented.

**Key words:** entrepreneurial intentions, intrapreneurial intentions, sports science students, theory of planned behaviour, entrepreneurial abilities.

### Introduction

Entrepreneurship generates jobs, increases competition in markets and stimulates innovation, which generates a great impact on the economy (Contin, Larraza & Mas, 2007). According to Douglas and Fitzsimmons (2013), there are two different ways to act entrepreneurially: entrepreneurship and intrapreneurship. Entrepreneurship is related to entrepreneurs who independently assume the risk of creating and managing a company, but it is also a concept related to intrapreneurs, sometimes dubbed corporate entrepreneurship (Burgers & Covin, 2016; Parker, 2011), which is related to employees of existing companies who actively participate in the identification and exploitation of business ideas for the organization in which they work. (Bosma, Wennekers, Guerrero, Amorós, Martiarena & Singer, 2013). However, although they present different behaviours, intrapreneurs are equally as important as entrepreneurs for generating economic growth and global competitiveness (Nicholson, Shen & Nicholson, 2016).

In fact, the concept of intrapreneurship has received special attention in recent years as it has been considered an important skill that provides business growth and innovation (Sinha & Srivastava, 2013). Intrapreneurs have the capability to create, identify, and exploit new opportunities that let them add value to their organization (Ma, Liu & Karri, 2016). Intrapreneurship is a key aspect for the success and survival of companies (De Pablo 2015), and there is evidence that intrapreneurship helps managers revitalize their ventures, innovate, and improve their overall business performance (Antoncic & Hisrich, 2001). For that reason, there is an increasing global demand for intrapreneurs; thus, organizations are introducing training programmes to foster intrapreneurial behaviour within their employees (Ward & Baruah, 2014). However, to increase the likelihood that employees behave in this way within an organization, it is quite important to generate an environment that allows employees to think outside the box and to be rewarded for their efforts (Falola et al., 2018)

Moreover, there are some industries where entrepreneurship is of special importance, and the sports sector is one of them (Ball, 2005). The increasing growth of the sports industry in Europe ( $\square$ 2011-2016 = 2.60%) in recent years (Eurostat, 2018) creates a huge opportunity for young sports entrepreneurs between the

ages of 15–29 years old that have tertiary education levels. Ratten (2018) emphasises that, in this industry, there is a need to be innovative to cope with different leisure facilities, and the demand from consumers is of great importance to the sports industry as well. Moreover, according to González-Serrano, Crespo, Pérez-Campos and Calabuig (2017), the sports sector is a viable industry that is capable of creating new jobs and generating economic activity, and it currently presents an ideal scenario for university students in the field of sports to undertake and face the challenges of the current labour market. Given this fact, it is especially important for universities to ensure sports science students graduate with a mix of entrepreneurial skills that will equip them for their future profession.

The concept of entrepreneurship applied to sports, according to Ratten (2010), involves any kind of sports activity that is innovative, opportunity-driven, and competitively aggressive. In this way, Ratten (2011, p.767) defined sports entrepreneurs as “people or organizations involved in sport that apply innovation to solve business issues”. Therefore, taking into account this definition, entrepreneurs in the field of sports can either be people who discover a necessity or opportunity and then innovate to create a business (entrepreneur) or people who innovate and develop new products or services within the boundaries of an established business (intrapreneurs). The table below illustrates the different characteristics between entrepreneurs and intrapreneurs.

Table 1. Differences between entrepreneurs and intrapreneurs.

<b>Entrepreneur</b>	<b>Intrapreneur</b>
He or she creates a new company or business.	He or she develops innovative projects within an existing company.
He or she is the owner of the business.	He or she is a worker of the company.
He or she has greater control of their environment, especially the indoors.	He or she has to inform their superiors, and they have to seek backup.
He or she has great financial responsibility.	He or she has no financial responsibility.

Source: Calabuig & González-Serrano (2017).

Once these two types of entrepreneurs have been defined, it is important to spotlight that the university is an important focus for the generation of entrepreneurs (Pinillos, 2001; Wilson, Kickul, & Marlino, 2007), which is the reason why, in recent years, the study of entrepreneurship of university students has deepened. The entrepreneurial intention of individuals has been proven to be a fundamental, lasting and frequently used element in entrepreneurial research (Bird, 1988; Krueger, Reilly, & Carsrud, 2000; Wilson, Kickul & Marlino, 2007). The entrepreneurial intention is considered to be a consolidated area of research that has experienced rapid evolution and a growing number of studies in recent years (Valencia, Montoya, & Montoya, 2016). In fact, there are many studies that have analysed the entrepreneurial intention of university students (e.g., Marín, Rubio, & Sánchez-Mora, 2015; Gonzalez-Serrano, Calabuig, García- Fernández, Crespo & Pérez-Campos, 2017; Roy, Akhtar, & Das, 2017; Ubierna, 2015).

Nevertheless, the literature encompassing the entrepreneurial intentions of university students has focused mainly on the entrepreneurial intention of an individual and their intentions to create or start their own business (e.g., Bird 1988; Krueger and Brazeal, 1994; Liñán and Chen, 2009; Thompson, 2009); these studies did not take into account entrepreneurial intentions within an established business (intrapreneurship). Entrepreneurial intention describes the intention of an individual to become self-employed or to create their own business, while intrapreneurial intention describes the intention of an individual to be an intrapreneur—an employee who innovates and participates in the creation of new products or services within the boundaries of an existing enterprise (Martíarena 2013). Identifying how intrapreneurial intention develops can lead to a better understanding of intrapreneurial-related behaviours (Fitzsimmons y Douglas, 2011).

This research is important because the labour market is showing a growing interest in entrepreneurial people—so-called intrapreneurs (Wiethe-Körprich, Weber, Bley & Kreuzer, 2017). An innovation culture based on intrapreneurial initiatives can add a competitive advantage to organizations (Nicolaidis & Kosta, 2011). Several authors (Seshadri and Tripathy, 2006; Deprez, Leroy and Euwema, 2018) believe that intrapreneurial behaviour is one of the key factors for companies and organizations that are looking to succeed in the actual society that is characterized by these turbulent times. Therefore, the identification of intrapreneurs among students becomes especially important, and universities must motivate and support them to produce future workers for the sports sector who are able to create a high-performance work environment that strengthens the competitiveness of the company. In addition, within the sports sector, the special need for both entrepreneurs and intrapreneurs has been highlighted (Calabuig and González-Serrano, 2017).

As for the study of entrepreneurship, intention is considered the best predictor of any kind of planned behaviour, especially when this behaviour is unusual and difficult to observe (eg. Ajzen, 1991; Bird, 1988); thus, it is considered the best predictor of future entrepreneurial activity (Krueger, Reilly & Carsrud, 2000). The theory of planned behaviour (TPB) from Ajzen (1991) is one of the more commonly used theories in the study of

entrepreneurial intentions (eg. Fayolle & Gailly, 2015; Lortie & Castogiovanni, 2015). This theory is based on the intention of individuals who are the result of three variables (Ajzen, 1991):

- (1) Attitude towards the behaviour or personal attraction, which refers to the degree of attractiveness that one person presents regarding the valuation of being an entrepreneur.
- (2) Perceived behaviour control or self-efficacy, which is the perceived degree of difficulty or ease of becoming an entrepreneur.
- (3) Subjective norms, which are related to perceived social pressures from a close environment (family, friends or significant others) regarding the decision to be an entrepreneur in the future.

This same author explained that the more positive these variables are, the greater entrepreneurial intentions a person will have. Therefore, in this study, the theory of planned behaviour was the framework used to analyse the entrepreneurial and intrapreneurial intentions of sports science students; additionally, the variable of entrepreneurial skills or abilities that was considered in some previous studies (González-Serrano et al., 2017; Liñán, 2008) was also taken into account in this study. The entrepreneurial skills variable refers to the degree of confidence that a person presents when determining if she or he is in possession of a high-enough level of certain skills related to entrepreneurship (Liñán, 2008).

However, only a few studies have empirically analysed the difference between these two sorts of entrepreneurial behaviour or types of entrepreneurs. Douglas and Fitzsimmons (2013) studied the entrepreneurial and intrapreneurial intentions of students, and they found important cognitive differences between entrepreneurs and intrapreneurs. Intrapreneurs have lower self-efficacy levels and greater risk aversion in comparison with entrepreneurs. Similarly, Martiarena (2013) also found differences between intrapreneurship and entrepreneurship based on personal characteristics. Intrapreneurs are more risk averse than entrepreneurs, less confident about their entrepreneurial skills and have a lower preference for uncertain rewards.

The age of the entrepreneurs and intrapreneurs is another variable that has been an object of study. According to research conducted by Bosma et al. (2012) in 52 different countries, the highest rates of entrepreneurial activity were found in people that were 35-44 years old, which was slightly older than the age of the intrapreneurs. However, this study did not perform any regression analyses. In contrast, the research carried out by Douglas and Fitzsimmons (2012) accounted for age, but they did not find any statistically significant relationship between age and entrepreneurial or intrapreneurial intentions. Therefore, in this study, age will be taken into account to discover if it has an effect on entrepreneurial or intrapreneurial intentions.

Therefore, this paper seeks to fill the gap in the study of intrapreneurial intentions with university students in general, specifically with sports science students. To the best of our knowledge, there are no previous studies that analyse the intrapreneurial intentions of sports science students or studies that compare the predictive variables of entrepreneurial intentions with those of intrapreneurial intentions. Hence, the main objectives of this study are to better understand the relationships between entrepreneurship and intrapreneurship and to discover the predictive variables of the entrepreneurial and intrapreneurial intentions of sports science students. In this way, universities will be able to develop more effective policies to promote both entrepreneurs and intrapreneurs.

## **Material & methods**

### *Participants*

The sample was composed of 183 senior-level sports science students from one Spanish university during the 2015/2016 and 2016/2017 academic years. According to their genders, 23.60% of the sample was female while 76.40% was male, and their age range was between 20 and 41 years old ( $M = 22.56$ ;  $SD = 2.70$ ). The sample was selected by intentional or convenience sampling with a sampling error of 4.44% at a 95% confidence level.

### *Instruments*

To measure the different variables, a structured questionnaire composed of different scales was used.

- Entrepreneurial Intentions (EI).

The entrepreneurial intentions scale from the EIQ (Entrepreneurial Intentions Questionnaire) of Liñán and Chen (2009) was used. It is composed of six items that measure the level of agreement or disagreement with the propensity to create a new venture or business (e.g., "I'm determined to create a firm in the future."). The instrument was preceded by the heading "Indicate your level of agreement with the following statements...". Responses to this scale were closed and rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

- Intrapreneurial Intentions (II).

To measure the entrepreneurial intentions, an adaptation of the intrapreneurial behaviour scale of Stull and Singh (2005) was created. This scale is composed of seven items, four of them related to innovation (e.g., "I would try to generate new useful ideas within the company") and the other three related to taking risk (e.g., "I would get involved in activities that might not work well within the company"). Factor loads ranged between .69 and .89. The items are preceded by this phrase: "If you worked as an employee of an established company, indicate the degree of agreement or disagreement with the following statements..." The questions were answered using a Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). A confirmatory factor analysis

(CFA) was previously performed, and it showed an adequate adjustment for a two-factor structure (NFI = 0.95; NNFI = 0.96; CFI = 0.97; RMSEA = 0.07 (0.026 – 0.118); S-BX2 = 24.90/13; X2 = 45.39/13).

- Perceived Behaviour Control (PBC)

The perceived behaviour scale from the EIQ of Liñán and Chen (2009) was used. It was composed of six items that referred to the entrepreneurship capacity needed to create a successful business (e.g., “I know the necessary practical details to start a firm”). The items were preceded by this heading: “To what extent do you agree with the following statements regarding your entrepreneurial capacity?” The items were answered using a Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree).

-Attitude Towards the Behaviour (ATB)

The scale of attitude towards the behaviour from the EIQ of Liñán and Chen (2009) was used. It was composed of five items that measured the level according to the professional career as an entrepreneur (e.g., “Being an entrepreneur implies more advantages than disadvantages to me”). The items were preceded by the phrase: “Indicate your level of agreement with the following sentences”. Responses to this scale were rated on a 7-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree).

-Subjective Norm (SN)

The scale of subjective norm was extracted from the EIQ of Liñán and Chen (2009). It was composed of three items that measured the approval of the decision to create a company by the people in the closest environment (e.g., family, colleagues). The scale was preceded by the heading: “If you decided to create a firm, people in your close environment would approve of that decision?” Responses to this scale were rated on a 7-point Likert scale ranging from 1 (total disapproval) to 7 (total approval).

- Entrepreneurial Abilities (EA)

The scale of entrepreneurial abilities was taken from Liñán (2008). It was comprised by six items that referred to the level of the capacities to behave as an entrepreneur (e.g., creativity, opportunity recognition). The items were preceded by the heading: “Do you think you have a satisfactory level of the following abilities to be an entrepreneur?” The questions were answered using a Likert scale that ranged from 1 (no ability at all) to 7 (very high ability).

### *Procedure and data collection*

To collect the data, the questionnaires were administered to senior-level sports science students during the final lessons in the month of December. We decided to administer the questionnaires during this month because it was when the students finished their lessons; thus, they have received all their training. To administer the questionnaires, we made appointments with the lecturers in advance. The questionnaires were administered in a paper format during the month of December in both 2015 and 2016. The amount of time spent by the students to complete the questionnaire was approximately 10-15 minutes.

### *Statistical analysis*

The data collected by the questionnaires were prepared for analysis in the software SPSS version 23. First, a reliability analysis of the scales was performed taking into account Cronbach's alpha statistic. Cronbach and Shavelson (2004), for internal consistency, categorise Cronbach's alpha coefficient ( $\alpha$ ) as follows:  $\geq .70$  high values,  $\geq .60$  suitable and  $< .60$  low. Therefore, in this paper, these values have been taken into account to evaluate the internal consistency of the scales used.

Following the reliability analysis, a descriptive analysis of the variables (mean and standard deviation) was performed. Then, a correlation analysis was performed using the Pearson correlation test with the aim of verifying the relationship between the variables under study with the entrepreneurial and intrapreneurial intentions. Once verified, two hierarchical linear regression analyses for each dependent variable were performed in order to determine which of these variables were the best predictors of entrepreneurial intentions (dependent variable) and intrapreneurial intentions (dependent variable).

## **Results**

This section presents the main results obtained in this study. As seen in Table 1, all scales presented a Cronbach's alpha value above .70. Therefore, according to Cronbach and Shavelson (2004), the internal consistency of these scales is high, which indicates that they are reliable measurement scales.

Second, a descriptive analysis of the variables was performed (see Table 2). It should be noted that the subjective norm variable had the highest mean ( $M = 5.85$ ;  $SD = 1.15$ ), followed by the intrapreneurial intentions variable ( $M = 5.11$ ;  $SD = 1.15$ ). On the other hand, the variable that presented the lowest average was the perceived behaviour control variable ( $M = 3.26$ ;  $SD = 1.34$ ), followed by the entrepreneurial intentions variable ( $M = 3.37$ ;  $SD = 1.70$ ).

Table 2. Correlations between entrepreneurial and intrapreneurial intentions with the variables of the theory of planned behaviour and entrepreneurial abilities.

	Mean (SD)	Cronbach's alpha	EI	II	PBC	ATB	SN	EA	AGE
<b>Entrepreneurial intentions</b>	3.37 (1.70)	.96	1						
<b>Intrapreneurial intentions</b>	5.11 (1.05)	.90	.36***	1					
<b>Perceived Behaviour Control</b>	3.26 (1.34)	.93	.60***	.21*	1				
<b>Attitude Towards Behaviour</b>	4.30 (1.59)	.93	.83***	.34***	.60***	1			
<b>Subjective Norm</b>	5.85 (1.15)	.86	.19**	.30***	-.03	.24**	1		
<b>Entrepreneurial abilities</b>	4.93 (1.00)	.85	.47***	.46***	.48***	.51***	.11	1	
<b>Age</b>	22.56 (2.70)	-	.21**	.32***	.25***	.17*	-.06	.10	1

Note:  $p < .001$  \*\*\*  $p < .01$  \*\*;  $p < .05$  \*; EI = entrepreneurial intentions; II = intrapreneurial intentions; PBC = perceived behaviour control; ATB = attitude towards behaviour; and EC = Entrepreneurial abilities.

In relation to the correlations between variables, all the variables in this study correlated significantly and positively with the entrepreneurial intention. The variable with the greatest correlation was the attitude towards behaviour ( $r = .83$ ;  $p < .001$ ) and the one with the least was the subjective norm ( $r = .19$ ;  $p < .01$ ). The variables correlated with intrapreneurial intentions, as in the previous case, were all significantly and positively related as well. In this case, the variable with the highest correlation was entrepreneurial abilities ( $r = .46$ ;  $p < .001$ ), and the one with the lowest correlation was perceived behaviour control ( $r = .21$ ;  $p < .04$ ).

Lastly, to verify the relationships between the entrepreneurial intentions and the intrapreneurial intentions with the variables of the TPB, entrepreneurial abilities, and age, a hierarchical multiple regression model was performed. In the first step, the variables of entrepreneurial abilities, attitude towards behaviour, perceived behaviour control and subjective norms were introduced. Then, in the second step, the variable age was introduced (see Table 3).

Table 3. Two-step hierarchical linear regression analysis according to the variables of the TPB, entrepreneurial abilities, and age regarding entrepreneurial and intrapreneurial intentions

Predictors	B standardized	
	Entrepreneurial intentions	Intrapreneurial Intentions
<b>Step 1</b>		
Perceived Behaviour Control	.16**	-.03
Attitude Towards Behaviour	.71***	.07
Subjective Norm	.02	.25**
Entrepreneurial abilities	.02	.42***
<b><math>\Delta R^2</math> step 1</b>	.69***	.26***
<b>F (4)</b>	94.307***	11.275***
<b>Step 2</b>		
Perceived Behaviour Control	.15**	-.10
Attitude Towards Behaviour	.71***	.08
Subjective Norm	.03	.24**
Entrepreneurial abilities	.03	.40***
Age	.05	.24**
<b>R</b>	.84	.58
<b><math>\Delta R^2</math> step 2</b>	.00	.05**
<b>R<sup>2</sup></b>	.82***	.58***
<b>R<sup>2</sup> adjusted</b>	.69***	.31***
<b>F (5)</b>	94.307***	8.783***

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ;  $\square R^2$  = increase of  $R^2$ ; B = regression coefficient.

In the first model using entrepreneurial intentions as the dependent variable, it can be observed in the first and second step that the variable attitude towards behaviour ( $\beta = .71$ ;  $p < .001$ ) and the perceived behaviour control variable ( $\beta = .16$ ;  $p < .01$ ) were significant predictors of entrepreneurial intentions. In this step, these

variables were able to predict 69% of the variance of the entrepreneurial intentions ( $F(4) = 94.307; p < .001$ ). In the second step, the variable attitude towards behaviour remained the most important predictor and its coefficient was unchanged; while the variable perceived behaviour control was still a significant predictor, it had a slight decrease in its coefficient ( $\beta = .15; p < .01$ ). Thus, in the second step, the model was not able to predict a higher variance of entrepreneurial intentions ( $p > .05$ ) than that predicted in the first step. The variable entrepreneurial abilities ( $\beta = .42; p < .001$ ) and variable subjective norms ( $\beta = .24; p < .01$ ) were significant predictors of intrapreneurial intentions. This model was able to explain 26% of the variance of the intrapreneurial intentions of sports science students ( $F(4) = 11.275; p < .001$ ). In the second step, with the inclusion of the age variable, the explanation of the model improved significantly ( $\Delta R^2 = .05; p < .01$ ), although it was by a small percentage. In this case, all the previous variables (entrepreneurial abilities and subjective norm) continued to be significant predictors in addition to age ( $\beta = .24; p < .01$ ). The variable entrepreneurial abilities remained a main predictor variable ( $\beta = .42; p < .001$ ), whereas the subjective norm and age presented the same regression coefficient, which indicated that they have the same importance. The results of the second model of the two dependent variables are summarized in the next figure.

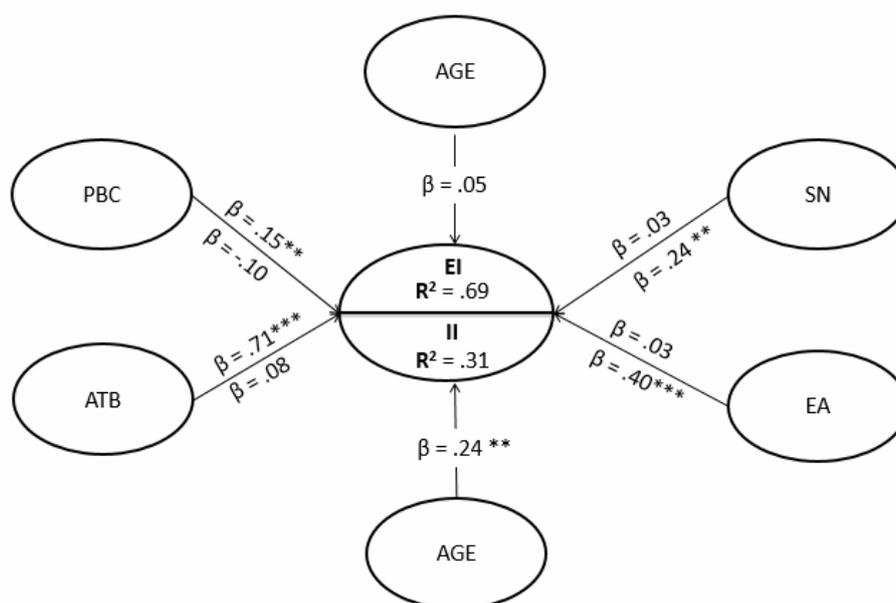


Fig 1. Regression model of the dependent variables of entrepreneurial intentions ( $\beta$  values are presented below the line) and intrapreneurial intentions ( $\beta$  are presented under the line). Note: EI = entrepreneurial intentions; II = intrapreneurial intentions; PBC = perceived behaviour control; ATB = attitude towards behaviour; EC = entrepreneurial abilities.

## Discussion

Although the entrepreneurial intentions of university students is a field of study that has grown in recent years, (Valencia et al., 2016) there is a lack of studies that analyse the intrapreneurial intentions of university students in general, and there are no studies that are focused on sports science students. In this paper, we seek the determinant variables of the entrepreneurial and intrapreneurial intentions of sports science students due to the fact that they are two different forms of entrepreneurial behaviour and both are important for the sports industry.

Our first finding is that sports science students presented higher levels of intrapreneurial intentions than entrepreneurial intentions. This fact can be explained by the ages of the entrepreneurs, which were slightly higher than the ages of the intrapreneurs (Bosma et al., 2012); as the majority of the sample was in their twenties, it is possible that they have not had much work experience or the money necessary to run a company. Moreover, this tendency towards intrapreneurial behaviour could be because, during their degree, the curriculum enhanced more of the variables related to intrapreneurial intentions than the variables related to entrepreneurial intentions through the contents and methodology that were used. This fact can be observed because the two determinant variables of the intrapreneurial intentions (entrepreneurial abilities and subjective norms) were the two independent variables that presented higher scores.

Taking into account the determinant variables of the entrepreneurial and intrapreneurial intentions, the results of our study highlight that the variables are different. Nyström (2012) showed that there were important differences between entrepreneurs and intrapreneurs in relation to their perceptions of their capabilities. Our results found a significant relationship between the perceived behaviour control and entrepreneurial and intrapreneurial intention; however, this relationship was stronger with the EI. These results are in line with Douglas and Fitzsimmons (2013), who also found a relationship between entrepreneurial self-efficacy (a similar

construct to the perceived behaviour control) and both entrepreneurial and intrapreneurial intentions; the variable was a significant determinant in both cases (Douglas & Fitzsimmons, 2013).

However, in the regression model, this variable was only significantly determinant of the entrepreneurial intentions. This could be because the majority of the items of this scale measure the self-efficacy related to the behaviour to create an enterprise.

The most important variable for entrepreneurial intentions was the attitude towards the behaviour, while it was not significant for intrapreneurial intention. These results are in line with Douglas and Fitzsimmons (2013) who also found that being in an ownership or being the owner of a business was the main predictor of entrepreneurial intentions, but this was not significant for intrapreneurial intentions. This could be because this variable is more related to creating an enterprise; thus, it is more related and important for entrepreneurial behaviour than intrapreneurial behaviour. Bosma et al. (2012) found a negative correlation between the attitude towards behaviour and involvement in intrapreneurial activity. However, it is interesting that our results did not present a negative correlation with intrapreneurial intentions; instead, the attitude towards behaviour had a significant positive correlation with intrapreneurial intentions, which is similar to the results reported by Douglas and Fitzsimmons (2013).

In relation to intrapreneurial intentions, the most important variable was entrepreneurial abilities, and this is in line with previous studies (González-Serrano et al., 2017), which highlighted that these abilities are more related to intrapreneurship. However, in this same study and some previous studies (e.g., Liñán, 2008; González-Serrano et al, 2017), some of the entrepreneurial abilities were predictors of entrepreneurial behaviour. However, this could be because the other variables are more important to the behaviour to develop an enterprise. Moreover, it is possible that the entrepreneurial abilities exert an indirect influence on entrepreneurial intentions through the antecedents of the theory of planned behaviour variables (Liñán, 2008).

The third antecedent of the theory of planned behaviour, the subjective norm, was determined to be a significant predictor of intrapreneurial behaviour but not entrepreneurial behaviour. Although the subjective norm was one of the weakness determinants of entrepreneurial behaviour, our results found that it is one of the most important determinants for intrapreneurial behaviour. It seems that the support of people in the close environment of students is more important to becoming an intrapreneur than it is to becoming an entrepreneur.

Finally, taking into account age, our results showed positive significant relationships between the age and both entrepreneurial and intrapreneurial intentions; however, the age variable was only a significant predictor of intrapreneurial intentions. These results are in line with Parker (2011), who pointed out that middle-aged people are more likely to create their own business (entrepreneur), and both younger and older people are significantly more likely to be nascent intrapreneurs. According to this same author, this fact might be because young people lack resources and old people lack motivation to create an enterprise, but they can be persuaded to do it within the boundaries of a corporate environment.

Therefore, educational policies, given the potential significance of the entrepreneurial activity of employees in organizations, should develop conditions to encourage this type of entrepreneurial behaviour (Hargaden, Cronin & Hanley, 2017). Our results present some insights to enhance both types of entrepreneurial intentions and enhance the entrepreneurial behaviours of sports science students. The findings presented in this study could be of concern for education policy makers in sport, because according to Ratten and Jones (2018), entrepreneurship education could aid the development of employability skills of sport science students.

## Conclusions

In conclusion, this study was intended to fill the gap in the literature on the intrapreneurial intentions of university students in general and, particularly, within the sports sector. It is important to know the antecedents of intrapreneurial intentions of sports science students due to the characteristics of this sector. These university students will soon finish their educational training, and they will have to join the labour market. Therefore, it is important to discover the determinant variables of these two types of entrepreneurial behaviours to provide well-prepared students that can survive in the actual, changing labour market.

This study addressed the fact that the determinant variables of entrepreneurial and intrapreneurial intentions are different. Therefore, the educational policies that promote these two types of entrepreneurs must be different. In the case of intrapreneurial intentions, entrepreneurial abilities such as creativity, problem-solving and the discovery of opportunities should be promoted, and strategic plans are a good tool for this. However, in the case of entrepreneurial intentions, activities should be carried out to promote an attitude towards entrepreneurship and perceived behaviour control, and knowledge of the experiences of entrepreneurs in the sports sector and the development of business plans are two good strategies for these purposes. In this way, universities could contribute to the training of the two types of entrepreneurs that the sports sector is demanding: entrepreneurs and intrapreneurs.

The present study provides some theoretical implications for the scarce existing literature regarding the intrapreneurial intentions of university students in general and sports science students in particular. It helps to elucidate the two different types of entrepreneurial behaviours and their determinants. Conclusively, it has been found how the determinant variables are different for the different types of entrepreneurs and how both

entrepreneurial and intrapreneurial intentions are correlated with all the variables of the theory of planned behaviour, age and entrepreneurial abilities. Therefore, this study has provided a theoretical basis to better understand both types of behaviour through the study of entrepreneurial and intrapreneurial intentions.

Moreover, these results provide some practical implications for the development of entrepreneurs and intrapreneurs in the sports sector through the promotion of intrapreneurial and entrepreneurial intentions at universities, which can be sources for improving the employability of sports science students. Therefore, our findings will help policy makers in education design relevant interventions to develop intrapreneurship and entrepreneurship in sports science students in a different way. First, the results of this study show that the variables that predict the intention to be an entrepreneur or intrapreneur are completely different; therefore, depending on the aim of the entrepreneurial courses (to develop entrepreneurial intentions or intrapreneurial intentions), the educational policies should focus on fostering different variables, which means that the content must be different. Second, our findings provide empirical insights for the preparation of measures to elaborate these trainings. It is necessary to pay attention to the results because, although the study of the entrepreneurial intentions of university students is in an advanced stage (Valencia et al, 2016), the study of intrapreneurial intentions of university students is still limited. The study of intrapreneurship has been focused mainly on the study of intrapreneurship orientation of employees within an organization or enterprise. However, in line with Koen, Klehe & Van Vianen, 2012, career adaptability can be addressed through training; thus, a university could take advantage of this and prepare the students before they join the labour market.

Finally, some limitations should be pointed out. First, this study has been carried out with a specific sample of university students from one Spanish university; therefore, the results are not generalizable to the whole population of university students. Second, the students belong only to one country, so the results might differ for students from another country. Third, it was not possible to study a high percentage of the variance of the intrapreneurial intentions with these variables. Therefore, in future research, it could be interesting to analyse the entrepreneurial and intrapreneurial intentions with a larger sample of sports science students and other populations of students. Moreover, it would be interesting to replicate this study with sports science students from other countries in order to discover if the determinant variables differ between students from different countries. Finally, it would be interesting to introduce another variable to try to explain a greater percentage of the variance of intrapreneurial intentions.

#### **Conflicts of interest**

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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