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TESIS DOCTORAL

EL IMPACTO DE LA EDUCACIÓN EN EMPRENDIMIENTO EN LA AUTO-EFICACIA EMPRENDEDORA, LAS INTENCIONES EMPRENDEDORAS, EL CAPITAL SOCIAL Y LOS EMPRENDEDORES NACIENTES: EVIDENCIA DE UNA ESCUELA DE NEGOCIOS

THE IMPACT OF ENTREPRENEURSHIP EDUCATION ON ENTREPRENEURIAL SELF-EFFICACY, ENTREPRENEURIAL INTENTIONS, SOCIAL CAPITAL AND NASCENT ENTREPRENEURS: EVIDENCE FROM A TOP BUSINESS SCHOOL

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“A man does what he must, in spite of personal consequences, in spite of obstacles, dangers and pressures, and that is the basis of all human morality. To be courageous…requires no exceptional qualifications, no magic formula, no special combination of time, place and circumstance. It’s an opportunity that, sooner or later, is presented to us all…In whatever arena of life one may meet the challenge of courage, whatever may be the sacrifices he faces if he follows his conscience (the loss of his friends, his fortune, his contentment, even the esteem of his fellow men) each man must decide for himself the course he will follow. The stories of past courage can define the ingredient, they can teach, they can offer hope, they can provide inspiration. But, they cannot supply courage itself. For this each man must look into his own soul”

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CHAPTER 1:
INTRODUCTION
Introduction
It would probably be wise at the beginning of any research project to reflect about a question: What conditions set the stage for scientific advancement? According to Rammert (2006) we can say that science advances by the processes of integration and specialization. These can be described respectively as connecting diverse bodies of knowledge and digging deeper into specific areas of study. As with all science, the healthy advancement of management as a field requires both integration and specialization (Okhuysen and Bonardi, 2011).

Integration underpins the multi-paradigmatic approach of a field that combines tenets of key foundational disciplines to develop unique findings of its own. Specialization in its mother disciplines ensures academic rigor so the new field does more than merely serve as a communication conduit between fields, and so the whole is more than the sum of the parts. Typically, major scientific advances and new disciplines are born of integration. In a new discipline's early years, scholars originate from one or another of its foundational or "mother" disciplines. Over time, for the new discipline to advance, it must develop paradigms of its own, reaching Kuhn's (1996) revolutionary phase. For this to occur, scholars must be trained in an intellectual tradition. In other words, for specialization to occur, scholars in the new discipline must be able to stand, in Isaac Newton's oft-quoted phrase, "on' the shoulders of giants": the cumulative theoretical base of at least one of the foundational disciplines. This is a crucial aspect of theory development. Management theory grows on the knife's edge, balancing specialist expertise with integrative insights. Too much integration risks failing to fully harness the deep knowledge bases of the foundational disciplines, while too much specialization can raise barriers between disciplinary factions (Mudambi, Hannigan and Kline, 2012). Having these ideas as a “mental framework” that underpins our whole research, we intend to make an advancement of the science of management by using the same two tools: integration and specialization.

Several constructs such as: entrepreneurship, entrepreneurship education, self-efficacy and entrepreneurial self-efficacy, entrepreneurial intentions, social capital or nascent entrepreneurs, have been studied in the literature (Ajzen, 1987; Krueger and Brazeal, 1994; Bandura, 1997; Brannback, Carsrud, Elfving, Kickul and Krueger, 2006; Li, 2007; Nelson, Poms and Wolf, 2012). Not all of them have been developed to the same point of specialization. At the same time the relationships (integration) among those constructs are not studied to the same level of detail. We intend to make a different integration of the constructs above mentioned in order to gain a deeper knowledge (deeper understanding, deeper insights) of the different impacts among them and, therefore, get a deeper specialization on the field of entrepreneurial education. In order to reach our goal, this research studies some relationships among entrepreneurship education and other above mentioned constructs.

The methodological approach we follow in order to fulfill our aim consist on a general introduction in which we study 1) the concept and relevance of entrepreneurship (what it is
and why it is important) and 2) the concept and relevance of entrepreneurship education (again, what it is and why it is important). If we can state that entrepreneurship is good for society and that entrepreneurial education is a means to potentiate entrepreneurship in society, then, our next step should be to study different ways by which entrepreneurship education can have a positive impact in society. A way do so is to study entrepreneurship education and then the impact it can have on different constructs like: entrepreneurial self-efficacy, entrepreneurial intentions, social capital and nascent entrepreneurs.

Therefore we study in the first place entrepreneurship and then entrepreneurship education. Having done that, we tackle different objectives addressing the impact of entrepreneurship education on entrepreneurial self-efficacy, entrepreneurial intentions, social capital and nascent entrepreneurs.

1.2. Entrepreneurship and entrepreneurship education

Entrepreneurship is important for the economy of any country. The creation of wealth and economic dynamism depends upon the competitiveness of firms. This competitiveness relies fundamentally on the capabilities of entrepreneurs and managers (Cuervo, Ribeiro and Roig, 2007). Entrepreneurship processes are essentially driven by the desire to start a new venture, or to reinvent or radically transform an existing company. Entrepreneurs and entrepreneurial managers seek to shape the future of their businesses by visualizing and implementing new imaginative ventures and models. The desired outcome is organizational genesis, growth and rejuvenation underpinned by new competitive advantages leading to new profitable opportunities (Audrestch, Dagnino, Faraci and Hoskisson, 2010). Entrepreneurship then has emerged as one of the most potent economic forces in the world. With that emergence has come a strong increase in the field of entrepreneurship education. The recent growth and development in the curricula and programs devoted to entrepreneurship and new-venture creation have been remarkable (Kuratko, 2005).

The entrepreneurial function implies the discovery, assessment and exploitation of opportunities. In other words, it is about: new products, services or production processes; new strategies and organizational forms and new markets for products and inputs that did not previously exist (Shane and Venkataraman, 2000).

We have to say that the definition of entrepreneurship in academia remains controversial. A wide definition establishes that “Entrepreneurship is a dynamic process of vision, change, and creation. It requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. Essential ingredients include the willingness to take calculated risks—in terms of time, equity, or career; the ability to formulate an effective venture team; the creative skill to marshal needed resources; and fundamental skill of building solid business plan; and finally, the vision to recognize
opportunity where others see chaos, contradiction, and confusion” (Kuratko and Hodgetts, 2004: 30).

More “precise” approaches to the concept of entrepreneurship can be: Entrepreneurship as the mobilization of resources in pursuit of opportunity (Kirzner, 1985); Entrepreneurship as the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated and exploited (Shane and Venkataraman, 2000); Entrepreneurship is shaped to focus primarily on the dimensions of opportunity obsession, a holistic nature, and leadership balance (Timmons and Spinelli, 2004) or, Entrepreneurship as a mindset and skills set that can be applied to any type of organization (Greene and Rice, 2007).

As we see, entrepreneurship is described in different ways. Entrepreneurial opportunities exist because different agents have differing ideas of the relative value of resources or when resources are turned from inputs to outputs. Entrepreneurship can be also conceptualized as the discovery of opportunities and the subsequent creation of new economic activity, often via the creation of a new organization (Reynolds, 2005).

From a different perspective we can look at the business process. This includes the identification and assessment of opportunities, the decision to exploit or sell them oneself, efforts to obtain resources and the development of the strategy and organization of the new business project (Eckhardt and Shane, 2003). In this sense, entrepreneurship has also been defined as “a process by which individuals, either on their own or within organizations, pursue opportunities” (Stevenson and Jarillo, 1990:23).

If we take a look at entrepreneurship from a different angle we have to say, according to the literature, that entrepreneurial firms make two indispensable contributions to the market economies:

- First, they are an integral part of the renewal process that pervades and defines market economies. Entrepreneurial firms play a crucial role in the innovations that lead to technological change and productivity growth. They are about change and competition because they change market structure. The market economies are dynamic organic entities always in the process of “becoming,” rather than an established one that has already arrived. They are about prospects for the future, not about the inheritance of the past (Kuratko and Hodgetts, 2004).
- Second, entrepreneurial firms are the essential mechanism by which millions enter the economic mainstream. Entrepreneurial firms enable millions of people, including women, minorities, and immigrants, to access the pursuit of economic success. In this evolutionary process, entrepreneurship plays the crucial and indispensable role of providing the “social glue” that binds together both high-tech and “Main Street” activities (Small Business Administration, SBA, 1998).

In this light, entrepreneurship is more than the mere creation of business. Although that is certainly an important facet, it is not the complete picture. The characteristics of seeking opportunities, taking risks beyond security, and having the tenacity to push an idea through
to reality combine into a special perspective that permeates entrepreneurs. An “entrepreneurial perspective” can be developed in individuals. This perspective can be exhibited inside or outside an organization, in profit or not-for-profit enterprises, and in business or nonbusiness activities for the purpose of bringing forth creative ideas. Thus, entrepreneurship is an integrated concept that permeates an individual’s business in an innovative manner. It is this perspective that has revolutionized the way business is conducted at every level and in every country (Kuratko, 2005).

A key issue in the literature is the development of entrepreneurial behavior. Entrepreneurial behavior in all kinds of organizations and contexts is becoming more important. A basic assumption is that entrepreneurial behavior should not be exclusively located in a business or even a market economy context. Societies of very different ideologies can embrace a culture that values such behavior, and organizations of all kinds can be designed to facilitate effective entrepreneurial behavior. Effective entrepreneurial behavior is posited as that which is morally and ethically acceptable within the conventions of society and which enables individuals and organizations to fulfill their objectives more wholesomely (Gibb, 2002).

The issue of entrepreneurial behavior has been discussed extensively elsewhere. Governments, almost throughout the world, have been increasingly extolling the virtues of the ‘enterprise culture’ as a means of meeting the demands for flexibility and dynamism created by the globalization phenomenon (Blair, 1998; European Commission, 1998). Almost universally, the boundaries between the state and the individual have been redrawn. Public expenditure has been reduced and individuals and local communities have been urged to develop a stronger capacity for ‘self-help’. Large organizations have downsized and restructured themselves creating the called ‘flexible labor market’ both inside and outside the firm (Rajan, Eupen and Jaspers, 1997). At the same time there has been an associated growth of small enterprises. The market paradigm has been introduced into all kinds of public services. Individuals as consumers, workers and as members of families therefore face greater levels of uncertainty and complexity in their lives. Mobility, geographical, occupational and even relational (in the personal sense), is a key contributing component.

The environment in which individuals are living their lives is one of greater uncertainty and complexity. The challenge to education and training organizations is to equip individuals and organizations to deal with this. Acceptance of this challenge creates an imperative to redesign approaches to learning and the organization of knowledge (beginning by really knowing the impact that education actually has) in a manner that builds confidence and capacity to deal with uncertainty and complexity. It will be argued that to achieve this there is a need to move away from the current narrow paradigm of entrepreneurship to a wider notion of entrepreneurial behavior. Acceptance of this has implications for the way we seek to ‘bring forward’ the environment in which entrepreneurial people operate, as part of the learning process (Gibb, 2002).
In this context and in order to get an accurate state of the question about entrepreneurship education a reliable approach consists on studying the revisions of the field of entrepreneurship education published by academics. This is the approach we’re going to follow to get a thorough idea of the state of the field so we can have a better idea of the significance of our research.

A number of studies have traced developments and the state of entrepreneurship education (Hills, 1988; Garavan and O’Cinneide, 1994a, b; Vesper and Gartner, 1997; Solomon, Duffy and Tarabishy, 2002; Kuratko, 2005; Pittway and Cope, 2007) and all have unearthed a remarkable progress made in this field. However there is a lack of consensus (Singh, 1990; Klapper, 2005; Pittway and Cope, 2007) within this field. Solomon et al. (2002) made some observations on the maturity of entrepreneurship as a field of study. Many scholars share the same opinion that there is remarkable progress made (Vesper and Gartner, 1997; Kuratko, 2005; Matley, 2005a, b; Johnson, 2006) and, as a field of study, it has achieved itself a place in the world of academics.

Such a level of progress is attributed to the growing support received from many stakeholders, including policymakers, academician, and students. Among these stakeholders there is a common belief that entrepreneurship education would help to influence culture and build enterprising economies (McMullan and Long, 1987; Kirby, 2004; Matley, 2005a, b; McKeown, Millman, Sursani, Smith and Martin, 2006). But, if looked at closely and within their individual groups of interest, these stakeholders are interested in entrepreneurship education due to the perceived socio-economic benefits, at both individual and societal level. This perception has contributed in fast-tracking most of its developmental stages. Stakeholders’ interest may somehow be explained by the use of the demand and supply relationship. For instance, policy makers, on the demand side, are charged with the economic development responsibilities and have a belief that enterprise culture is a key to more new ventures and job creation. Students, also on the demand side, are faced with changing job markets, which renders more graduates to either compete for few but challenging vacancies or opt for self-employment. On the supply side, the academicians, plus their usual interest in academic advancement, are to provide entrepreneurship education as an interventional tool to building enterprising societies (to satisfy the policy makers), and further to have more innovative training programs to satisfy the students (Mwasalwiba, 2010). Therefore, it is these combined shared interests that have contributed to the explosive growth within this field of study, plus a now tentative agreement that entrepreneurship or some of its aspects can be taught (Henry, Hill and Leitch, 2005a, b).

In spite the general consensus on the teachability and the progress so far made, Sexton and Bowman (1984) explained their concern on the persistent lack of consensus on some of the very basic issues in this field of study. There is still a strong disagreement in some of the crucial definitional issues, especially on the most pivotal terms like entrepreneurship itself, enterprise, and who is an entrepreneur (Hebert and Link, 1989; Gartner, 1990; Cunningham and Lischeron, 1991). Also, there is a confusing application of terms like “entrepreneurship education” and “enterprise education” (Gartner, 1990; Garavan and
O’Cinneide, 1994a, b; Pittway and Cope, 2007). The unresolved definitional terms make the progress seem fragmented. Different interpretations of entrepreneurship, enterprise, and an entrepreneur have far-reaching effects on the understanding of the objectives of entrepreneurship as field of study, the setting of specific course objectives, the choice of target audiences, the design of course content, the teaching methods applied, and ultimately on evaluating progress and on the design of impact assessment frameworks (Mwasalwiba, 2010). It is acknowledged that entrepreneurship education ought to vary somehow, mainly due to contextual issues. However the current state of variations (Matley, 2005a, b; Fayolle, Gailly and Lassas-Clecc, 2006) is mainly due to the lack of consensus on the definitive issues and the field’s conceptual fragmented state. As a body of knowledge, entrepreneurship education should be built on a foundation of a common theoretical framework. Departing from this view, we should try to take stock of the alignment (or the lack of) existing on the main components of entrepreneurship education. In other words: What are the generic objectives, teaching methods, and impact indicators in entrepreneurship education? (Mwasalwiba, 2010).

Katz (2003) developed a comprehensive chronology of entrepreneurship education. While he included economic and agricultural literature and experiences dating back to 1876, and others have touted the Harvard courses taught in 1947, the reality of entrepreneurship education as a force in business schools began in the early 1970s (Kuratko, 2005). The University of Southern California launched the first Master of Business Administration (MBA) concentration in entrepreneurship in 1971, followed by the first undergraduate concentration in 1972. From there, the field of entrepreneurship began to take root. By the early 1980s, over 300 universities were reporting courses in entrepreneurship and small business, and by the 1990s that number grew to 1,050 schools (Solomon, Weaver and Fernald, 1994).

A revision of some of the pioneering universities of entrepreneurship education in U.S. was made by Zeithaml and Rice (1987). They concluded with several suggestions for the future of education and research in the entrepreneurship domain, which include: First, the opportunity existed for entrepreneurship programs to evolve in a manner that is consistent with recent conceptualizations of entrepreneurship. A second, compatible direction, for some programs may involve a heavy commitment to research. A third direction would be research on the teaching methods commonly used in entrepreneurship programs. Finally, evidence existed that entrepreneurship courses, programs, and centers could be sources of funds for a university or college.

The above mentioned authors contended that education in entrepreneurship covered the entire scope of business administration, and as such, was the closest approach to the original concept of management education available in universities at that time. With the continued increasing fragmentation of business education into narrow specializations, they believed that a field of study that takes a broad, integrative, pragmatic, and rational approach to business would find itself increasingly popular with those who aspire to be entrepreneurs, managers, and top executives.
A different proposition was that entrepreneurial programs should be designed so that potential entrepreneurs are aware of barriers to initiating their entrepreneurial careers and can devise ways to overcome them (Ronstadt, 1987). This author proposed a two-continuum model of curricular design for entrepreneurship education. His “structured–unstructured” continuum addressed various methods of transferring information and expertise. Among the methods he discussed were lectures, case studies, and feasibility plans. He labeled his second continuum “entrepreneurial know-how/entrepreneurial know-who.” This continuum represented the belief that success in entrepreneurship is dependent not only on knowledge but the network of individuals with whom an entrepreneur is connected. This author contended that an effective program must show students “how” to entrepreneurially behave and should also introduce them to people who might be able to facilitate their success.

A different study conducted by Robinson and Hayes (1991) surveyed universities with enrollments of at least 10,000 students to determine the extent of the growth in entrepreneurship education. While significant growth was cited, two specific challenges were pointed out: 1) The challenge in developing existing programs and personnel, thus improving the quality of the field. There are several obstacles that need to be overcome to facilitate the development of quality in the field. At the heart may be the lack of good solid theoretical bases upon which to build pedagogical models and methods. 2) The lack of formal academic programs, representing a lack of commitment on the part of institutions.

These authors believed that entrepreneurship education had come a long way in the past 20 years, yet there were several weak points in the field that were identified through their research. Of primary concern was the lack of depth of most of the programs that were then started. Further growth would depend upon how new programs were integrated with and nurtured by the established entrepreneurship education system.

Kuratko (2005) stated that the field of entrepreneurship education has had important increases in the last decades. The recent growth and development in the curricula and programs devoted to entrepreneurship and new-venture creation have been remarkable. For example, entrepreneurship education in U.S. has exploded to more than 2,200 courses at over 1,600 schools; 277 endowed positions; 44 refereed academic journals, mainstream management journals devoting more issues (some special issues) to entrepreneurship; and over 100 established and funded centers (Katz, 2003).

Nowadays, for instance, we can see how 100% of the top world business schools (according to several widely recognized rankings, such as Financial Times, The Economist and the like) both in US and Europe, offer entrepreneurship courses. In the particular case of Spain, in 2013 is taking place a novel iniciative by the Government. The Ministry of Education, Culture and Sports and the one of Industry, Energy and Tourism have set a new program of entrepreneurship courses that will be offered in an extra-curricular and free manner to master degree students in all Spanish universities. According to the Education Ministry “the goal is to provide this segment of students some notions about entrepreneurship as a career option in their respective professional fields”. This proposal is
founded by the General Secretariat of Small Business and Industry and the European Social Fund in some eligible regions. The General Secretaries of Universities (Federico Moran) and Small Businesses (Luis Valero) have stated in a letter sent to the Presidents of Spanish Universities that: “the actual economic situation and the high rates of youth unemployment demand to make an additional effort form the government to foster entrepreneurial activities”. They also state that “being entrepreneur is a good career option specially in activities related to knowledge that are the ones that can add value and help our economy to grow and to be more competitive” (CincoDias.com. EFE-Madrid, January, 14th, 2013. 17:31h).

From a different point of view, according to the literature it is clear that entrepreneurship, or certain facets of it, can be taught. Business educators and professionals have evolved beyond the myth that entrepreneurs are born, not made. Peter Drucker has said, “The entrepreneurial mystique? It’s not magic, it’s not mysterious, and it has nothing to do with the genes. It’s a discipline. And, like any discipline, it can be learned” (Drucker, 1985). Different authors support this line of thought. For instance: “…most of the empirical studies surveyed indicated that entrepreneurship can be taught, or at least encouraged, by entrepreneurship education” (Gorman, Hanlon, and King, 1997, p. 63). Given the widely accepted notion that entrepreneurial ventures are the key to innovation, productivity, and effective competition (Plaschka and Welsch, 1990), the question of whether entrepreneurship can be taught is obsolete. The relevant question regarding entrepreneurship education is: What should be taught and how should it be taught? (Ronstadt, 1987).

Regarding to what should be taught, according to Kuratko (2005), there have been certain major themes that characterized entrepreneurs and new-venture creation. The following list summarizes some of the most significant themes that are now part of entrepreneurship research and education:

- The entrepreneurial and managerial domains are not mutually exclusive but overlap to a certain extent. The former is more opportunity-driven, and the latter is more resource- and “conversation”-driven (Ireland, Hitt and Sirmon, 2003).

- Venture financing, including venture capital and angel capital financing as well as other innovative financing techniques, emerged in the 1990s with unprecedented strength, fueling another decade of entrepreneurship (Shepherd and Zacharakis, 2001, 2002; Dimov and Shepherd, 2005).

- Corporate entrepreneurship and the need for internal corporate venturing have gained much attention during the past few years (Kuratko, Ireland, and Hornsby, 2001; Miles and Covin, 2002; Morris and Kuratko, 2002; Kuratko, Ireland, Covin, and Hornsby, 2005).

- Entrepreneurial strategies have been identified that show some important common denominators, issues, and trade-offs between entrepreneurship and strategy (Hitt, Ireland, Camp and Sexton, 2001).
• The great variety among types of entrepreneurs and the methods they have used to achieve success have motivated research on the psychological aspects that can predict future success (Kickul and Gundry, 2002).

• The risks and trade-offs of an entrepreneurial career—particularly its demanding and stressful nature—have been subject of keen research interest relevant to would-be and practicing entrepreneurs alike (McGrath, MacMillan and Scheinbert, 1992).

• Women and minority entrepreneurs have emerged in unprecedented numbers. They appear to face obstacles and difficulties different from those that other entrepreneurs face (Gundry and Welsch, 2001; Greene, Hart, Gatewood, Brush and Carter, 2003).

• The entrepreneurial spirit is universal, judging by the enormous growth of interest in entrepreneurship around the world in the past few years (Zahra, Hayton, Marcel and O’Neil, 2001; McDougall and Oviatt, 2003).

• The economic and social contributions of entrepreneurs, new companies, and family businesses have been shown to make immensely disproportionate contributions to job creation, innovation, and economic renewal, compared with the contributions that the 500 or so largest companies make (Upton, Teal and Felan, 2001).

• Ethics and entrepreneurship have become a fast growing area of research due to the more recent scandals found in corporations (Morris, Schindehutte, Walton and Allen, 2002; Kuratko and Goldsby, 2004).

Regarding to entrepreneurial education pedagogy, Solomon, Duffy, and Tarabishy (2002) conducted one of the most comprehensive empirical analyses on entrepreneurship education. In their review of entrepreneurship pedagogy, they stated that a core objective of entrepreneurship education is that it differentiates from typical business education. Business entry is fundamentally a different activity than managing a business (Gartner and Vesper, 1994); entrepreneurial education must address the equivocal nature of business entry (Gartner, Bird and Starr, 1992). To this end, entrepreneurial education must include skill-building courses in negotiation, leadership, new product development, creative thinking, and exposure to technological innovation (McMullan and Long, 1987; Vesper & McMullen, 1988). Other areas identified as important for entrepreneurial education included awareness of entrepreneur career options (Hills, 1988), sources of venture capital (Zeithaml and Rice, 1987; Vesper and McMullen, 1988), idea protection (Vesper and McMullen, 1988), ambiguity tolerance (Ronstadt, 1987), the characteristics that define the entrepreneurial personality (Hills, 1988; Hood and Young, 1993; Scott and Twomey, 1998), and the challenges associated with each stage of venture development (McMullan and Long, 1987; Plaschka and Welsch, 1990).

Generally speaking, Katz (2008) paints a picture of the field of entrepreneurship education as mature but not stagnant, marginally legitimate but with a long way to go to full legitimacy and increasingly central to the new burst of entrepreneurship education and practice on campuses. According to this author, “maturity is a good thing. It is the ability
to juggle multiple inconsistencies as people worked through their lives. The more mature one was the more inconsistencies the person could juggle. Entrepreneurship as a discipline is mature. There is benefit in being mature. The hallmark of maturity as a field might be greater comfort with ourselves, and through that, perhaps having a greater comfort with the inclusion of different people, different ideas, and new mixes of rigor and insight. With the explosive growth of cross-campus entrepreneurship, those people, ideas, and mixes are on the horizon”.

From a different perspective and with a different and very comprehensive methodological approach, the research of Mwasalwiba (2010) constitutes the most comprehensive and updated review of the entrepreneurship education field. This author reviewed 108 published articles and grouped them in different categories: 1) Definition and objectives: 20 articles, 2) Target groups: 19 articles, 3) Course contents: 21 articles, 4) Community role: 10 articles, 5) Teaching methods: 21 articles, and 6) Evaluation and impact indicators: 17 articles.

Regarding to the objectives and also following the findings of Mwasalwiba (2010) we see that some authors have given a concise categorization of these objectives into what they termed as educating for, about, in or through entrepreneurship (Hytti and O’Gorman, 2004; Kirby, 2004; Co and Mitchell, 2006). Objectives are narrowed in terms of what educators (or/and students) intend to achieve and hence a determinant for the choice of pedagogical approaches:

- **To educate for entrepreneurship** means to create an entrepreneur; that is, an individual who is destined to starting a new venture. Co and Mitchell (2006) explain that educating for entrepreneurship addresses both the present and potential entrepreneurs with the aim of stimulating the entrepreneurial process, providing them with the tools to starting a business. In actual fact, this is the most desired outcome and yet highly debated – hence the question in Henry et al. (2005a, b): “Can entrepreneurship be taught?”

- **To learn about entrepreneurship** is to obtain a general understanding about entrepreneurship as a phenomenon (Hytti and O’Gorman, 2004). This objective may also include sensitization activities to different stakeholders including policy-makers, financers and the general public on the role of entrepreneurs in the community. Lastly, some scholars have added as an objective, that we can also train individuals in entrepreneurship.

- **Educating in entrepreneurship** is said to aim at making individuals become more entrepreneurial (innovative) in their existing firms or place of work (Dreisler, Blenker and Nielsen, 2003; Kirby, 2004; Henry et al., 2005a, b). Hytti and O’Gorman (2004) clarify that this objective aims at making individuals to take more responsibility of their learning and career life.

- **Educating through enterprise** according to Kirby (2004) is when educators use new venture creation to help students acquire a range of both business understanding and skills or competences. It seems that educating through entrepreneurship is more of a teaching approach in educating for entrepreneurship than an objective in itself.
Regarding the issue of types of programs, it is possible to group entrepreneurship programs in terms of their focus, level of education, and target audience (Charney and Libecap, 2000; Laukkanen, 2000; Finkle and Deeds, 2001; Honig, 2004; Kirby, 2004). Kirby (2004) reviewed 205 entrepreneurship programs and found that they have three main focuses: 1) Programs that are for giving an orientation and awareness about entrepreneurship. 2) Programs that develop competences for new enterprise formation, self-employment, or economic self-sufficiency and 3) Programs that focus on small business survival and growth.

With regard to the content of entrepreneurship programs Mwasalwiba (2010) found in the 21 articles reviewed about this subject that the most “popular” subjects were: Resources marshaling and finance (16 per cent), Marketing and salesmanship (14 per cent), Idea generation and opportunity discovery (13 per cent), Business planning (12 per cent), Managing growth (12 per cent), Organization and team building (10 per cent), New venture creation (9 per cent), SME management (8 per cent) and Risk and rationality (6 per cent). Other subjects that ranked lower were: Legal issues, Management of innovations and technology, Franchising, Family business, Negotiation skills and Communication skills.

When it comes to teaching methods it seems that most authors categorize them into two groups, which are termed “traditional methods” (comprising normal lectures) and “innovative methods” (which are more action-based), also known as “passive methods” and “active methods”, respectively. Compared with passive methods, active methods according to Bennett (2006) are those that require the instructor to facilitate learning, not to control and apply methods that enable students’ self-discovery. In order of importance, the three most used methods are: Lectures, Case Studies and Group Discussions.

These are actually the same methods used in other business-related courses, which according to Bennett (2006) are passive and less effective in influencing entrepreneurial attributes. Fiet (2000 a, b) explains that instructors rely on lecture-based methods because they can be easily accomplished, and also because they require less investment. Other methods used, but not as common as the previous group, include: Business/computer or game simulations (Hindle, 2002), Video and filming (Verduyn, Wakkee and Kleijn, 2009), Role models or guest speakers (Hegarty, 2006; Fiet, 2000 a, b), Business plan creation and Project works.

An especially relevant issue for our research is the field of evaluation and impact indicators of entrepreneurship programs. It has been observed that impact assessment in entrepreneurship education is currently receiving increasing attention from various stakeholders. Donors, policy-makers, students and scholars in entrepreneurship are keen to find out if it is truly worth investing more efforts and money in entrepreneurship education (Charney and Libecap, 2000; Matley, 2005a, b). Now and then, scholarly doubts on the teachability of entrepreneurship keep on resurfacing, mainly due to the absence of coherent proof of its impact. Charney and Libecap (2000) point out that many still wonder if
students from these courses will have the ability to compete in the job market as well as in the business arena.

A main challenge in impact assessment is the choice of generally accepted success indicators. This is because, at the moment, entrepreneurship education, as a developing field of study, is characterized with debates from stakeholders that have differing interests and theoretical orientations with regard to entrepreneurship. Henry et al. (2005a, b) observe that each of the contributors to this field of study does so from its own perspective, hence making the field more fragmented. For example, while on the one hand entrepreneurship theoreticians are still debating whether entrepreneurship is an acquired behaviour or an inborn trait (Herron and Sapienza, 1992) and questioning its teachability, on the other hand politicians and policy-makers continue to advocate entrepreneurship education because they think of it in terms of its perceived economic role (e.g. more new ventures and more jobs). Also, employers would probably think that hiring a graduate from an entrepreneurial course will lead to more innovative ways of doing business, and the discovery of new competitive products/services and new ways of marketing. Students, meanwhile, would like to see favorable examination scores, satisfaction with course delivery, competence in the job market, and the realization of their career and financial aspirations. Therefore, the diversity of these views presents a challenge in choosing impact indicators, and even methodological arguments (Mwasalwiba, 2010).

According to the above mentioned author, there are two types of studies: 1) Studies that have attempted to measure the general progress in entrepreneurship education as a field of study (Vesper and Gartner, 1997; Dana, 2001; Matley, 2006; McKeown et al., 2006) and 2) Studies that attempted to measure a change in some pre-determined variables among students as a result of attending a course in entrepreneurship (Charney and Libecap, 2000; Henry, 2004; Fayolle, Gailly and Lassas-Clerc, 2006).

Mwasalwiba (2010) concentrated on the second group of studies: those that measure the impact on students as a result of attending a course in entrepreneurship. The results of his research showed that:

- Graduate start-ups were the highest ranked success indicator. This means that in order to measure the success of an entrepreneurship course, one needs to establish the number of graduates who have started their own ventures as a result of attending a course in entrepreneurship. This finding is in line with the views of scholars who associate entrepreneurship with the creation of new ventures, but contrary to Kuratko’s (2005) remarks that entrepreneurship is more than the mere creation of business. Despite the three different educational objectives in entrepreneurship (i.e. to educate for, about, or in entrepreneurship), many stakeholders do generally associate entrepreneurial courses with the creation of individuals who are destined to start businesses (Charney and Libecap, 2000; Rosa, 2003; Henry, 2004).

- Also, students’ academic standards (including examination scores and GPAs) were ranked the second most immediate impact indicator (Hynes, 1996; Vesper and Gartner, 1997; Charney and Libecap, 2000). Hynes (1996) argues that the use of formal
examinations is mainly aimed at testing students’ knowledge and aptitude (towards entrepreneurship).

- The third group of indicators (specially relevant for our research) originates from psychological constructs, for example change in students’ attitudes, perceptions, interest, self-efficacy, confidence, abilities and skills towards entrepreneurship (Peterman and Kennedy, 2003; Rosa, 2003; Veciana et al., 2005; Fayolle et al., 2006; Lee et al., 2006; Souitaris et al., 2007). What is interesting in this third group, however, is the formulation of attitudinal measuring questions. Most of the questions, if read closely, seem to focus on ascertaining students’ attitudes/intentions towards starting their own business; this gives the impression that venture creation is still the main preferred impact indicator, although addressed in a different way (the attitudinal way).

- Further, some scholars measure impact in terms of how much entrepreneurship programs contribute to the community, for example in terms of technology transfer, new jobs created, or assistance to local entrepreneurs (Vesper and Gartner, 1997; Henry, 2004). Others have used indicators like students’ satisfaction with the course, resulting innovations and graduates’ business performance (Charney and Libecap, 2000; Henry, 2004). Lastly, some scholars measured impact using a change on students’ need of achievement and locus of control (Hansemark, 1998).

Methodologically, it is argued that there is still an inherent design problem in impact assessment studies and that most of the studies apply methods that bias the results in favor of entrepreneurship education (Matley, 2006). In Mwasalwiba’s (2010) review most impact assessment studies ranged from simple surveys of participants or/and trainers to longitudinal surveys of participants (i.e. a questionnaire administered at the start and at the end of the course).

1.3. Objective and Structure of the Dissertation

Although most studies on the field of entrepreneurship education vary in terms of approach and theoretical orientations (which also consequently influence the choice of indicators), their results seem to conclude that entrepreneurship education has some positive impact on students. For example, Fayolle et al. (2006) concluded that there was a strong measurable impact on entrepreneurial intentions, but less on perceived behavioral control. Lee et al. (2005) found that there was an increased level of confidence, knowledge and ability of venture creation among students. Souitaris et al. (2007) concluded that entrepreneurship education did raise students’ attitudes and the overall intention towards entrepreneurship. Also, Henry (2004) found that there was a significant impact on the level of business skills, knowledge and confidence in enterprising capabilities. Peterman and Kennedy (2003) also reported that there was an increase in participants’ perception of desirability and feasibility of starting a venture. Hansemark (1998) proved that an entrepreneurship program had an impact on students’ need for achievement and locus of control.
Having said that, according to many authors, we have to admit the impact of entrepreneurship courses is still poorly known. Research about the effects of entrepreneurship education is still in its infancy (Gorman, Hanlon and King, 1997). Many studies to date simply describe entrepreneurship courses (Vesper and Gartner, 1997), discuss the content of good entrepreneurship education (Fiet, 2001) or evaluate the economic impact of courses by comparing takers and non-takers (Chrisman, 1997). Baumol argues for more experimentation and government support of research on ways to improve the teaching of innovative entrepreneurship, since there is little evidence on what works and what does not (Griffiths, Kickul, Bacc and Tejersen, 2012). There are studies that find a positive impact of entrepreneurship education on perceived attractiveness and feasibility of new venture creation an entrepreneurial activity (Fayolle et al, 2006; Souitaris et al, 2007). Some studies tend to have methodological limitations (Graevenitz et al. 2010), for example, studies rarely involve control groups or a form of stochastic matching (Block and Stumpf, 1992), basic controls as pre and post-testing are not employed and most studies survey participants with an existing predisposition towards entrepreneurship, biasing the results in favor of educational interventions (Gorman et al., 1997). Entrepreneurship research requires the development of an encompassing paradigm, appropriate educational methods, and study of the institutions that provide the most desirable incentives (Griffiths et al, 2012). Maybe, a good statement to summarize the state of the question about the impact of entrepreneurship programs is the one of Alberti et al (2004, pp 20) when they say that the first and most important area for further investigation should lie on the effectiveness of entrepreneurship education, for instance, the extent to which different learning and behavioral objectives are met. This would require longitudinal studies and relevant methodologies to evaluate a program’s effectiveness (Matlay, 2005, Harte and Stewart, 2010).

We can say that the premise that underpins education in general and the design of entrepreneurship courses in particular, is the belief that students can be motivated to start new projects by enhancing their levels of self-confidence in entrepreneurial skills (Cooper and Lucas, 2006). In the entrepreneurship literature there is a long history of investigating career choice intentions of students (Zellweger, Sieger and Halter, 2011). Entrepreneurship must be studied in context, from a multidisciplinary perspective and using multiple levels of analysis (Griffiths et al, 2012). Therefore, it is in this theoretical context that we can study entrepreneurial intentionality taking into account the concept of self-efficacy defined as a person’s belief in his or her capability to perform a task (Gist, 1987). Self-efficacy can have a profound influence on the complex process of new venture creation. Bandura (1977, 1982) suggested that self-efficacy influences the development of entrepreneurial intentions and actions. Self-efficacy can be a predictor of an individual’s behavior and performance in a variety of contexts, not only entrepreneurship, and can result in some effects that, in a majority of cases, can endure for years (Stajkovic and Luthans, 1998). When a project is achieved successfully it potentiates the feeling of self-efficacy (or self-competence) which in turn enhances the individual’s belief in their ability to undertake, in a successful manner, complicated and difficult tasks. Self-efficacy can also be studied in its relationship with career paths since it can enhance the confidence of an individual
towards being able to succeed along a specific professional choice. According to some authors, expectations of self-efficacy can be identified as influencing career choice (Betz, 2004; Hmieleski and Baron, 2008; Nelson, Poms and Wolf, 2012).

According to the literature, understanding self-efficacy and the implications it has on intentions can help researchers and theoreticians to better define special abilities that are necessary to succeed as entrepreneur such as opportunity scanning or the mastering of the process of putting an idea into practice. The study of how entrepreneurial intentions are formed helps to understand how training can mold intentions and, ultimately, venture creation (Krueger, Reilly and Carsrud, 2000). Self-efficacy beliefs have been found to be sensitive to subtle changes in students’ performance context, to interact with self-regulated learning processes, and to mediate students’ academic achievement (Zimmerman, 2000).

This dissertation gives support to the idea that it’s key to study the impact that entrepreneurship education can have on entrepreneurial self-efficacy and entrepreneurial intentions. If we understand how intentions are developed can offer an opportunity to further explain and predict entrepreneurial activities and actions (Adjjen, 1991). Exogenous influences (education is one of them) normally affect behavior in an indirect manner, through attitude changes. At the same time, some research has established that intentions have a predictive power over behavior and also are an unbiased predictor of action (Bagozzi, Baumgartner and Yi, 1989). It is also interesting to try to understand if higher levels of self-efficacy lead to higher levels of entrepreneurial intentions. According to the above mentioned authors, much of what we consider entrepreneurial activity is intentionally planned behavior. If the purpose of entrepreneurship education is to influence beliefs attitudes and intentions towards an entrepreneurial behavior it is very relevant to study how programs can bring about changes in the levels of self-efficacy of students so they can be challenged and motivated to try new activities and persist in the face of difficulty (Cooper and Lucas, 2006). Education is important in fostering innovative entrepreneurship and, according to Baumol’s thoughts expressed in his conversation with Griffisis et al (2012), the peculiarities of entrepreneurship necessitate specific methods of teaching. Therefore it is also the purpose of this research to add light into the field of entrepreneurship education to help scholars to try to avoid, as much as possible, the problem pointed out by Baumol when he says:” In the class of innovative entrepreneurship, students are the unfortunate attendees of the course in which the professor does not know what he is doing” (Griffins et al, 2012).

We also tackle the concept of social capital related to entrepreneurship education. Social Capital can be roughly understood as the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action (Adler and Kwon, 2002). It has informed the study of families, youth behavior problems, schooling and education, public health, community life, democracy and governance, economic development and general problems of collective action (Portes and Sensenbrenner, 1993; Jackman and Miller, 1998; Woolcock, 1998). Social capital is made up of the relationships, formal or informal, generated by individuals in their interaction with other individuals. In other words, social capital could be defined as capital captured in the form of social
relationships. Furthermore, social capital results from a process of investment in human relationships, which requires resources and time (Lin, 2003). Social capital makes it easier to access information, reduce transaction costs by allowing the coordination of activities and facilitate collective decision-making (Grootaert and Van Bastelaer, 2001). In addition to this, social capital allows access to other forms of capital, such as human capital (Coleman, 1988). Social capital may be accumulated with its use and also depreciated or even destroyed (Svendsen and Svendsen, 2004).

Finally, we find also pertinent to study the concept of nascent entrepreneurs and their relationship with entrepreneurship education. Nascent entrepreneurs can be defined as those individuals who have yet to start a new venture but, however, they possess the desire to start a new business and they are involved in specific activities that can bring those desires to fruition (Carter et al, 1996). They are individuals who engage in activities that are meant to result in a feasible business start-up (Aldrich and Matínez, 2001). McGee et al (2009) and Fitzsimmons and Douglas (2011) also contribute to the development of this concept as we thoroughly develop in the next chapters. It looks interesting then to try to explain the role that entrepreneurship education can have in those nascent entrepreneurs since these individuals are likely to be the ones starting new businesses in the near future.

It is the purpose of this research then to study the relationship among education in entrepreneurship and the development of entrepreneurial self-efficacy, entrepreneurial intentions and social capital with the innovative approach of taking into consideration the different character of being or not the participants nascent entrepreneurs. It is in this context (the impact of entrepreneurship education) where our research takes place.

The overall purpose of this research, then, is to study the impact of entrepreneurship education on participants and answer the next research question:

**What is the impact of entrepreneurship education on course’s participants?**

More precisely, this research intends to study the impact of higher education in entrepreneurship (in MBA programs) on participants. At a more operational level, this general purpose of our research breaks down into three more specific goals answering the next research sub-questions:

1. What is the impact of entrepreneurship education in the development of entrepreneurial self-efficacy and entrepreneurial intentions on participants, being them nascent or non-nascent entrepreneurs?
2. What is the impact of entrepreneurship education in the development of entrepreneurial self-efficacy of participants, being them nascent or non-nascent entrepreneurs, along the different phases of the dynamic entrepreneurial process?
3. What is the impact of entrepreneurship education in the development of social capital among the course’s participants, being them or not nascent entrepreneurs?

The empirical context in which our study examines entrepreneurial education is in MBA programs. This is because they are the key and more extended programs in the portfolio of
Business Schools. Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum. If we take, as a reference, different internationally recognized MBA rankings such as the Financial Times Global MBA Ranking 2012, The Economist, The Wall Street Journal and the like, to study the offer of entrepreneurial education that the best Business Schools in the world have in their MBA curriculum, we can see that all of them offer entrepreneurship education. This is a clear indicator that this education is really relevant. Paradoxically, up to date, we don’t really know what kind of real impact entrepreneurship education can have on participants. Furthermore, there is not relevant previous research studying these phenomena along the different phases of the entrepreneurial process as well as we don’t know, to date, studies addressing the problem of the impact of this education on nascent entrepreneurs or on social capital.

The general relationships that are developed in deeper detail in the following chapters are outlined in figure 1:

**Figure 1: General framework of the research**
We develop our empirical study at IE Business School in Madrid, and specifically at the entrepreneurship course that takes place at the International Master in Business Administration. At the moment we gathered data the total number of IMBA students at IE was of 971. From them, 757 developed the program in English and 214 in Spanish. These 971 students belong to three intakes that are in different moments of accomplishment of their IMBA. This will allow us to measure the impact of the course along a period of time of one year. We received a total number of responses of 300 which represents a rate of response of 30.89% with a sampling error of 2.91% with a statistical confidence level of 95%. A more detailed descriptive statistics of our data can be seen in the sample section of each chapter.

To better tackle its goals and after this general introduction chapter about the topic of our research, this dissertation is structured in three more different, independent but interrelated chapters, each of one dedicated to give answers to each of our research objectives. Specifically, this dissertation is structured as follows:

- Chapter 2 studies the impact of entrepreneurship education in MBAs on entrepreneurial self-efficacy and intentions. It begins by an introduction that outlines general ideas about entrepreneurship and entrepreneurship education. The chapter then makes a revision of the theories and establishes the hypotheses to explore the relationship among Self-Efficacy, Entrepreneurial Self-Efficacy and Education. Having done that the chapter analyses the relationships among Entrepreneurial Intentions and Entrepreneurship Education and finally studies the relationships among Education, Self-Efficacy and Entrepreneurial Intentions. The chapter states a particular theoretical framework and then it describes the methodology we have followed in our research by delimitating the context of the empirical study, the sample, data collection procedures and measures. The research we develop in this chapter is pertinent and relevant for the understanding of the formation of self-efficacy and intentions, particularly in educational settings. If we consider that the role of management education is to prepare students to contribute to their organizations and the larger society and to grow personally and professionally throughout their careers (Nelson, Poms and Wolf, 2012), it is reasonable to think that one way by which management education can accomplish this objective is by developing the appropriate level of self-efficacy in students so that they will pursue and follow through on actions that will improve organizations and society (Nelson et al, 2012). It is crucial then to try to gain insight about the impact that education can have in the formation of self-efficacy and intentions. It is important to consider the growth of self-efficacy as a major goal of business education because self-efficacy can indirectly support the acquisition of knowledge and skills (Ford, Kraiger and Merritt, 2009). Therefore our research helps to offer light on this complex issue. Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.

- Chapter 3 develops the relationship among nascent entrepreneurs, the entrepreneurial process, self-efficacy and entrepreneurial education. It begins with an introduction
that establishes the above mentioned general concepts that are about to be studied. It then makes a revision of the theories and establishes hypotheses. It studies the multi-dimensional and uni-dimensional measures of Entrepreneurial Self-Efficacy and the concept of Nascent Entrepreneurs related to a variety of populations sampled. The chapter sets a particular theoretical framework and then it describes the methodology we have followed in our research by delimitating the context of the empirical study, the sample, data collection procedures and measures. In this chapter we develop a relevant research because we try to gain insight into the crucial issue of the formation of self-efficacy in educational settings, in this case, by using a very thorough and innovative method of measurement by disaggregating self-efficacy in different dimensions. By doing so we will be able to establish the different impact (if any) of education in the different dimensions of self-efficacy and, therefore reaching a better understanding of it. This will offer light and can provide suggestions on how to “focus” educational efforts towards developing self-efficacy in educational settings. The literature has established that students with higher levels of self-efficacy are more likely to pursue activities related to the knowledge and skills they have developed. As a consequence of this, students can help transfer what is learned as part of educational experience into an organizational setting and give individuals continued opportunities for practice, thus helping to grow knowledge and skills throughout the professional career. If efficacy is recognized as an important outcome of business education, it is important to gain an improved understanding of interventions for boosting self-efficacy in educational settings (Nelson et al, 2012). Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.

- Chapter 4 studies the impact of entrepreneurship courses that take place in MBA programs on the development of social capital. To do so the chapter makes and introduction in which it tackles, in a general manner, issues like the concept, importance, types and effects of Social Capital. The chapter then makes a revision of the literature about social capital and postulates the hypotheses to study the relationships among the course, Social Capital and Nascent Entrepreneurs. Again, having done this, the chapter sets a particular theoretical framework and then it describes the methodology we have followed in our research by delimitating the context of the empirical study, the sample, data collection procedures and measures. The research we develop in this chapter is relevant from various points of view since it contributes to better understand how the formation of social capital takes place, particularly in an educational setting. For instance, if social capital represents an ideal means for founders to acquire and utilize the resources necessary to facilitate the firm-founding process (Stam, 2010) or if an increase in the number of ties is positively associated with founding activities and, at the same time, social capital interacts with the firm’s formalization to promote internal knowledge sharing (Kreiser, Patel and Fiet, 2013), it would be really key to try to gain insight into how does education potentiate (if it does) the formation of social capital. There is an increased appreciation for the importance of social relationships in entrepreneurship
(Gedajloviv, Honig, Moore, Payne and Wright, 2013) and it has been established that social capital has the potential to inform entrepreneurship, but also to be informed by entrepreneurship research (Murphy, 2011). It is crucial then to try to tackle the impact that, in this case, education can have in the development (positive or negative) of social capital. Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.

Finally we can find Annexes with relevant information that contribute to clarifying and underpin some particular aspects of our research as well as a Summary in Spanish of this dissertation. In order to facilitate an easier access, we have opted for including the bibliography at the end of each chapter.

1.4. Conclusions

The goal of our research is to dig deeper into the possible impact that entrepreneurship courses could have in entrepreneurial self-efficacy, entrepreneurial intentions and social capital of participants. This impact is not well known in the literature. Many papers claim that this impact is certainly remarkable while at the same time there are also studies that challenge this view. Our purpose was to better understand this issue to help to clarify these relationships but taking into account different approaches that could offer more light and a different perspective, this is: looking at those relationships among the environment of a top business school of the world and, at the same time, taking into account the different character of being or not a nascent entrepreneur.

In order to fulfill our objective and after a review of the literature we gathered data on a three stage empirical study. Analysis of the information of our empirical study show a weak impact of the course on entrepreneurial self-efficacy and an even weaker impact on entrepreneurial intentions of participants. This impact weakens even further several months after the final complexion of the course. The difference founded among nascent and non-nascent entrepreneurs, although present, is not very relevant. Particularly important is the fact that, although the impact of the course is not very deep in terms of increase or decrease of ESE or EI as a consequence of the course, those levels are really high among participants which, generally speaking, allows us to conclude that it is difficult to raise the levels of ESE or EI using an entrepreneurship course in participants that already have very high levels of them. On the contrary it’s very important to observe that those levels do not decrease, they have a modest increases, what can show re-affirming perceptions of ESE and EI on participants as a consequence of the entrepreneurship course. Generally speaking same thing happens regarding social capital. Analysis of the information of our empirical research shows a deep impact of the course on social capital at the beginning of the course. After this initial stage, this impact remains high but almost “flat” at the end of the course and several months after the final complexion of it. The difference founded in the impact among nascent and non-nascent entrepreneurs, although
present, is not very relevant. Same thing happens, generally speaking, regarding social capital blockers. As explained in our discussion of results, this indicates that participants in these entrepreneurship courses develop, generally speaking, very relevant levels of social capital, but the real impact is at the beginning of the course.

Contributions of our research from a theoretical point of view have to do with the fact that our results challenge the pervasive literature that establishes that entrepreneurship courses significantly raise the levels of ESE and, to some point of EI, on participants. Our study contributes to clarify and to understand in more detail the limitations of entrepreneurial education. We test the constructs of ESE and EI using a more refined measure by using the concept of nascent and non-nascent entrepreneurs and measuring the different impact of entrepreneurship courses taking into account that conditions. In addition to this, we do test the ESE and EI constructs in the setting of a top business school and we take into account the entrepreneurial process and its different phases. Results are challenging again since, as we see, even in a top business school, the impact of entrepreneurship courses on ESE and EI is limited while, at the same time, the impact on social capital is strong at the beginning with a flat behaviors after the course. From an empiric point of view our study confirms the usefulness of the longitudinal studies to try to gauge the impact of a course in participants by confirming that enduring effects, along the time, need to be carefully observed since only a measure in a given time could be misleading. We also “open the door” for further research developed at top business schools regarding the issue of what can be achieved by the attainment of an entrepreneurship course in such environments.

This research then makes the following particular contributions:

- First, we employ a novel analytical framework based on the relationship among MBA entrepreneurship education, entrepreneurial self-efficacy, entrepreneurial intentions, nascent entrepreneurs, the entrepreneurial process and social capital. This combination of variables has never been studied in the literature before.
- Second, our research empirically tests the relationships proposed in the hypothesis in the context of one of the Top 10 Business Schools of the World. This is also an objective never studied in the literature before.
- Third, the results of our research aim to provide policy makers, deans and academic governing bodies of Universities, Business Schools and other academic institutions as well as entrepreneurship researchers with suggestions that will refine, provide security and make richer the design of MBA programs and, particularly, of entrepreneurship courses.
- Fourth, the methodology of the empirical study follows an innovative three stage model that allows comparison among participants in different stages of their studies. This constitutes a more refined measure of the impact of entrepreneurship education in MBAs since it allows us to know in much more detail until what point the impact is enduring over the time.
Fifth, we analyze, in an innovative way, the different impacts entrepreneurial education can have on entrepreneurial self-efficacy regarding the participant’s nature of nascent or non-nascent entrepreneurs. By doing so we contribute too to a more specific and refined measure of the impact of entrepreneurship education.

Sixth, we employ an advanced analytical framework that measures the impact of entrepreneurial education on entrepreneurial self-efficacy along different phases of the entrepreneurial process allowing, therefore, having more specific and useful information. Our findings can help to better design entrepreneurship courses in the future.

Seventh, we employ an original framework based on the relationship between entrepreneurship courses in MBAs and social capital regarding the different character of nascent or non-nascent entrepreneur in participants which constitutes an avant-garde approach to measure the impact of entrepreneurship education on the development of social capital.

Although we have taken as a reference for our empirical study internationally recognized scales of measures it would be desirable to develop new efforts to enhance and refine these measures. We also have to point out the fact that we are not sure our results can be extrapolated to different samples with lower levels of ESE or EI. The environment of a top business school could be “really specific”. This also deserves more research developing more studies in samples with lower levels (previous to the course) of ESE or EI to measure the impact of entrepreneurship courses in them.

Our research poses interesting issues on the design of entrepreneurship courses. It is clear that aspects such as innovation, creativity and decision taking need to be boosted in the curricula of the courses. It seems clear that entrepreneurship courses not only have to inform participants about very explicit issues (for instance about how to develop a business plan) but to form in them a deep criteria about more tacit and soft skills such as the above mentioned. This also raises questions about the special teaching skills and education needs of entrepreneurship professors: is it possible to really be a good entrepreneurship instructor by being just a theoretician?, Is it possible that a person that has never been entrepreneurial, creative or innovative can be a good entrepreneurship instructor just because of theoretical academic credentials? Or, should it be better a mix in the profile in which, along with robust academic credentials there is the existence of a proven practical entrepreneurial record? How this proven practical entrepreneurial record will be measured in terms of academic promotions so it can be interesting for promising scholars? More research regarding this controversial issue and its deep academic implications would be needed. Further research would also be needed to particularly tackle the issue of ESE. Probably a useful way of doing so could be to continue assessing ESE not as a uni-dimensional issue but as a multi-dimensional one and continue taking into account novel different perspectives like the different phases of the entrepreneurial process and trying to dig deeper with nascent and non-nascent entrepreneurs.
Regarding Social Capital our research also poses interesting issues on the design of entrepreneurship courses. It is not clear, as we have mentioned, why undertaking long duration entrepreneurship courses (that are more expensive and time consuming) is better for the participants regarding to developing social capital. This is something business schools officials, especially from the top ones, need to explain thoroughly. This also relates to the issue of how many formal and informal sessions, coaching sessions, outdoor activities and other methodological tools should be employed in an entrepreneurship course and with what time frame. For instance, can we get better results using 20 sessions in two weeks of 20 sessions in 2 months? What is and how works “time” when it comes to entrepreneurship courses? Further research should also be conducted to try to know and detect, specifically in the environment of a top business school, what social capital blockers are, especially distinguishing tangible and intangible ones in a very specific manner.
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CHAPTER 2:

ENTREPRENEURSHIP EDUCATION IN MBAs: IMPLICATIONS FOR ENTREPRENEURIAL SELF-EFFICACY, INTENTIONS AND NASCENT ENTREPRENEURS
2.1. Introduction

Entrepreneurship is getting more and more important. It is perceived as a powerful engine to economic development at all levels: local, regional and national (Reynolds et al., 2004). In order to get a more productive and innovative economy, policy makers are investing more and more resources to foster entrepreneurship. One of the key areas of investment is the development of entrepreneurship courses at all levels of the educational system. This phenomenon has been supported from an academic point of view. As we’re going to see education has an important role to play in the development of entrepreneurial behavior. Every year thousands of international students across the five continents attend entrepreneurship programs and we don’t really know, to date, the impact of these programs on students.

Entrepreneurship has always existed in different forms (Bridge, et al, 1998). It played a relevant role in the industrial revolution and impacted changes in the socio-economic conditions of nations (Mantly, 2005). It is recognized as beneficial to economy, communities or individuals and good for creating jobs, wealth and facilitating social adjustments (Jack and Anderson, 1999). Throughout the world, shifts in population demographics, technological change, fluctuating economies and other dynamic forces have transformed societies as never before, bringing new challenges and opportunities to the forefront. Among the responses to these shifting forces is an increased emphasis on entrepreneurship by governments, organizations and the public. While entrepreneurship may not be a panacea, it can surely be part of the solution (GEM, 2012). New businesses provide a link to innovation and productivity (Schumpeter, 1934; Drucker, 1985) and it increases competition (Plaschka and Welsch, 1990). Entrepreneurship translates across barriers of class, race and gender (Walinger, 1990); Hyrsky and Ali, 1996) and it can increase the satisfaction and fulfillment of individuals (Scott and Anderson, 1990). Entrepreneurship is not seen as marginal to an economy (Goffe and Scase, 1995) and it has evolved from being primarily a western phenomenon to one changing the economies of eastern European countries (Twaalfhoven and Muzkya, 1997; Cassar and Friedman, 2009).

Entrepreneurship has been defined in various ways. Low and McMillan (1988) argue that entrepreneurship is “the creation of new enter prise”. While a branch of research has focused on trying to identify the personal characteristics that distinguish entrepreneurs from those that are not, another branch has followed a more process oriented perspective.

Some personal traits of entrepreneurs have been identified: tolerance to ambiguity (Schere, 1982), risk-taking propensity (Brockhaus, 1980) or need for achievement (McClelland, 1961). This line of research adopts the assumption that there are unique characteristics of entrepreneurs that can be identified and isolated (Romanelli, 1989). On the contrary, further research has shown that most of these traits are not unique to entrepreneurs, they have been found common to other successful individuals, among which there are managers (Garner, 1985; Brockhaus and Horwitz, 1986). There have been attempts to define a
personality profile of a typical entrepreneur but they have been mainly unsuccessful (Low and MacMillan, 1988). On the other hand, personality characteristics have not been found to be a reliable predictor of future behavior (Azjen, 1988; Gartner, 1989) although some authors have found relevant, for instance, the ability to manage ethics and diversity issues (Nelson, Poms and Wolf, 2012).

Another line of research focuses its efforts on trying to identify cultural, political, social or economic contextual factors that encourage (or not) the development of new ventures. Some of them are: previous work experience (Mokry, 1988); ethnic group membership (Greenfield and Strickon, 1981); quality or urban life (Pennings, 1982) or job displacement (Shapero and Sokol, 1982).

A more process oriented line of research looks at entrepreneurship as “a process of becoming rather that a state of being” (Bygrave, 1989). Following this line of thought we find authors that focus their attention on the conscious and intended act of new venture creation (Bird, 1988). So, entrepreneurial intention has been defined as the state of mind that directs and guides the action of the entrepreneur towards the development and implementation of a business concept (Boyd and Vozikis, 1994). This perspective is process-oriented, dynamic and directs attention towards the very complex relationships among entrepreneurial ideas and the resulting outcomes of those ideas.

It is in this framework that the assumption that education can have an impact on the entrepreneurial behavior has its place. The premise that underpins education in general and the design of entrepreneurship courses in particular, is the belief that students can be motivated to start new projects by enhancing their levels of self-confidence in entrepreneurial skills (Cooper and Lucas, 2006). For instance, course content contributes to the development of student efficacy beliefs for ethics and diversity management in such a way that students develop confidence in their ability to manage ethics and diversity issues, and thus, taking action accordingly (Nelson et al, 2012). Therefore, it is in this theoretical context that we can study entrepreneurial intentionality taking into account the concept of self-efficacy defined as “a person’s belief in his or her capability to perform a task” (Gist, 1987). Self-efficacy can have a profound influence on the complex process of new venture creation. Bandura (1977, 1982) suggested that self-efficacy influences the development of entrepreneurial intentions and actions.

Self-efficacy can be a predictor of an individual’s behavior and performance in a variety of contexts, not only entrepreneurship and can result in some effects that, in a majority of cases, can endure for years (Stajkovic and Luthans, 1998). When a project is achieved successfully it potentiates the feeling of self-efficacy (or self-competence) which in turn enhances the individual’s belief in their ability to undertake, in a successful manner, complicated and difficult tasks. Self-efficacy can also be studied in its relationship with career paths since it can enhance the confidence of an individual towards being able to succeed along a specific professional choice. According to some authors, expectations of self-efficacy can be identified as influencing career choice (Betz, 2004). From a different perspective, one likely reason that self-efficacy has received increased attention is that it is
malleable and thus, open to development (Gist and Mitchell, 1992; Luthans, 2002). Self-efficacy has been assessed as a training outcome (Ford, Kraiger and Merritt, 2009) and, as such, it is possible to assess a classroom intervention for developing efficacy beliefs in students (Nelson et al, 2012).

Persistence is key in entrepreneurship. There are a lot of set-backs, problems and obstacles in the way of an entrepreneur. It is very important for them to feel confident in their own capabilities as well as having endurance to persist in the middle of very complicated contexts. Self-efficacy has a clear association with important behaviors for entrepreneurs such as opportunity recognition, innovation or the intention to start a new venture (Anna et al, 2000; Ardichvili, Cardozo and Ray, 2003; Baum and Locke, 2004).

Understanding self-efficacy and the implications it has on intentions can help researchers and theoreticians to better define special abilities that are necessary to succeed as entrepreneur such as opportunity scanning or the mastering of the process of putting an idea into practice. The study of how entrepreneurial intentions are formed helps to understand how training can mold intentions and, ultimately, venture creation (Krueger, Reilly and Carsrud, 2000).

This research gives support to the idea that it’s key to study the impact that entrepreneurship education can have on entrepreneurial self-efficacy and entrepreneurial intentions. Understanding how intentions are developed can offer an opportunity to further explain and predict entrepreneurial activities and actions (Adjen, 1991). Exogenous influences (education is one of them) normally affect behavior in an indirect manner, through attitude changes. At the same time, some research has established that intentions have a predictive power over behavior and also are an unbiased predictor of action (Bagozzi, Baumgartner and Yi, 1989).

It is also interesting to try to understand if higher levels of self-efficacy lead to higher levels of entrepreneurial intentions. According with the above authors, much of what we consider entrepreneurial activity is intentionally planned behavior. If the purpose of entrepreneurship education is to influence beliefs attitudes and intentions towards an entrepreneurial behavior it is very relevant to study how programs can bring about changes in the levels of self-efficacy of students so they can be challenged and motivated to try new activities and persist in the face of difficulty (Cooper and Lucas, 2006; Hmieleski and Baron, 2008).

Directly related to the above mentioned ideas is that research has also found that some forms of entrepreneurship are associated with particularly positive effects in society (Wong, Ho and Autio, 2005; Acs and Szerb, 2007). Particularly there are some relevant positive characteristics of start-ups founded by university graduates and faculty. It appears that academic entrepreneurs are likely to have more employees (Dietrich, 1999) while entrepreneurs with university education make higher investments in their ventures than those none academic entrepreneurs (Reynolds, 1994). The companies founded by people with a university education perform much better and university spin-offs can create
relevant spill-over effects for their regional economy (Shane, 2004). Entrepreneurs and entrepreneurial managers seek to shape the future of their business by visualizing and implementing new imaginative ventures and models. The desired outcome is organizational genesis, growth and rejuvenation underpinned by new competitive advantages and profitable opportunities (Audretsch, Dagnino, Faraci and Hoskison, 2010). Probably as a consequence of all this findings, many policy-makers try to enhance the advancement of potential founders at tertiary educational institutions. This phenomenon has lead to the proliferation of entrepreneurship courses (Kuratko, 2005; Mwasalwiba, 2010).

The impact of entrepreneurship courses is still poorly known. Research about the effects of entrepreneurship education is still in its infancy (Gorman, Hanlon and King, 1997). Many studies to date simply describe entrepreneurship courses (Vesper and Gartner, 1997), discuss the content of good entrepreneurship education (Fiet, 2001) or evaluate the economic impact of courses by comparing takers and non-takers (Chrisman, 1997). There are studies that find a positive impact of entrepreneurship education on perceived attractiveness and feasibility of new venture creation an entrepreneurial activity (Fayolle, Gailly and Lassas-Clerc, 2006; Souitaris, Zerbinati and Al-Laham, 2007). Some studies tend to have methodological limitations (Graevenitz, Harhoff and Weber, 2010), for example, studies rarely involve control groups or a form of stochastic matching (Block and Stumpf, 1992), basic controls as pre and post-testing are not employed and most studies survey participants with an existing predisposition towards entrepreneurship, biasing the results in favor of educational interventions (Gorman et al., 1997). Educational programs concerned to the learning and teaching of entrepreneurship education could be argued to be of particular interest to human resources development research since they commonly have an overt focus on influencing and shaping the career choices of students (Harte and Stewart, 2010).

We find also pertinent to study the construct of nascent entrepreneurs and their relationship with entrepreneurship education. They are individuals who engage in activities that are meant to result in a feasible business start-up (Aldrich and Matinez, 2001). It apparently looks interesting to try to explain the role that entrepreneurship education can have in those nascent entrepreneurs since these individuals are likely to be the ones starting new businesses in the near future.

It is the purpose of this research then to study the relationship among education in entrepreneurship and the development of self-efficacy and entrepreneurial intentions. More precisely this paper intends to study higher education in entrepreneurship (in MBA programs) and its impact in the development in students of entrepreneurial self-efficacy and entrepreneurial intentions taking into account the different character of nascent and non-nascent entrepreneurs that participants in those courses may have.

The empirical study examines entrepreneurial education in MBA programs because they are the key and more extended programs in the portfolio of Business Schools. Practically all of them offer entrepreneurship education as part of their curriculum. We take as a
reference the Financial Times Global MBA Ranking 2012 to study the offer of entrepreneurial education that the Top 10 Business Schools in the world have in their MBA curriculum. All of them offer entrepreneurial education. This is a clear indicator that entrepreneurial education is really relevant. Paradoxically up to date we don’t really know what’s the effect of this entrepreneurial education on the entrepreneurial self-efficacy and entrepreneurial intentions of the participants.

This paper, then, makes the following important contributions. First, we employ a novel analytical framework based on the relationship among MBA entrepreneurial education, entrepreneurial self-efficacy and entrepreneurial intentions. Second, the paper empirically tests the relationships proposed in the hypothesis in the context of the Top 10 Business Schools of the World. Third, we go a step further from previous research and differentiate the different impact entrepreneurship education can have in nascent and non-nascent entrepreneurs. Fourth, the results of our research aim to provide policy makers, deans and academic governing bodies of Universities, Business Schools and other academic institutions as well as entrepreneurship researchers with suggestions that will refine, provide security and make richer the design of MBA programs and, particularly, of entrepreneurship courses. Fifth, our methodology of the empirical study follows an innovative three stage model that allows comparison among students in different stages of their studies to better understand the different impact of the programs along the time.

In order to reach our goals, this paper is structured as follows: the next section postulate hypotheses based on a review of the literature. Section 3 describes the quantitative methodology that we have followed to test the hypotheses and section 4 presents our results. Finally, at the end of this work, we outline our conclusions as well as the theoretical and practical implications of our study.

2.2. Theoretical framework

The concept of self-efficacy has been widely studied (see Annex 1 for a sample of empirical studies involving entrepreneurial self-efficacy and general self-efficacy). According to Bandura’s (1977) social learning theory, the term self-efficacy represents a person’s belief in his or her capacity to perform a given task. In direct association with this concept are intentions. The way in which a person perceives his or her abilities and tendencies plays an important role in the development of intentions (Ryan, 1970).

Self-efficacy is acquired in a gradual way using the development of very complex cognitive, social, linguistic and physical skills that can be obtained mainly through experience (Bandura, 1982; Gist, 1987). Self-efficacy has been assessed as a training outcome (Ford, Kraiger and Merritt, 2009) and, as such, it is possible to assess a classroom intervention for developing efficacy beliefs in students (Nelson, Poms and Wolf, 2012). In a similar way self-efficacy can have an impact in the beliefs a person have regarding to
certain goals and the possibility to attain them. In this sense aspirations, choices, perseverance and effort, especially in the face of setbacks, are influenced by the self-perception on the personal capacities to overcome them (Bandura, 1991). Taking into account past experience and the anticipation of future obstacles, the perception of an individual about whether certain goals are achievable influenced by self-efficacy believes (Gist and Mitchell, 1992). Self-efficacy believes certainly have an impact in the choices and courses of action to be pursued. This is at the foundation of human motivation, well-being and personal accomplishment (Pajares, 1996).

Once a particular goal has been set the assessment a person can make about his or her level of self-efficacy related to it helps to determine the degree of effort, resilience or perseverance that he or she will exert in order to accomplish it, especially in the face of obstacles. Self-efficacy can also be reinforced when goals are achieved and this leads to positive assessments and have an impact in the development of higher aspirations for the future (Lent and Hackett, 1987; Herron and Sapienza, 1992). Following Bandura (1997) “self-efficacy believes are judgments people do of their capabilities to organize and execute courses of action required to produce given attainments” and have the consequence that “people’s level of motivation, affective states, and actions are based more on what they believe than in what is objectively true”.

Self-efficacy with respect to a wide range of aspects can have a significant effect upon the likelihood that individuals will engage in those activities, especially if they are seen as difficult or challenging. People with low levels of self-efficacy are more likely to avoid challenging situations or, in the case of trying a difficult activity, they are more likely to persist in the face of failures or setbacks. By contrast, people with a high level of self-efficacy will be more likely to face challenges beyond their current known capabilities. Furthermore, if they don’t success at first time, they would be more willing to remain enthusiastic and keep trying in the belief that they are capable of achieving the desired goal if they make enough effort. Highly efficacious people are more likely to reach beyond their own limits and engage in unchartered waters. This means that when they are successful their levels of self-efficacy rise to new levels beyond the previous ones (Cooper and Lucas, 2008).

It is very relevant that individuals have an accurate sense of their skills and capacities if they want to avoid getting themselves into situations in which they are very likely to fail. This situation would have a negative impact in the level of self-efficacy. There are different sources or ways from which individuals can develop more confidence in their abilities and, therefore, increase their levels of self-efficacy. Some of this can include authentic mastery, modest levels of failure and vicarious experience where the observation of others can result in modeling behavior (Bandura, 1977).

The formation of self-efficacy can be affected by the individual’s judgment of the availability of resources and constraints, both personal and situational that can affect performance in the future (Adjen, 1987; Gist and Mitchell, 1992).
One of the sources of self-efficacy can be the mastery of experiences or repeated performance accomplishments (Wood and Bandura, 1989). The mastery of experiences can provide confirming experiences that contribute to positive estimations of future performance (Lent and Hackett, 1987). It is important to mention the fact that this can be a little tricky. When individuals experience only easy successes they can be very discouraged when failure occurs. It is important though to have experience in overcoming setbacks and obstacles through effort and perseverance in order to gain a more stable and resilient sense of self-efficacy (Wood and Bandura, 1989). According with these authors, sustained effort is often necessary for success, performance setbacks can teach so. If people develop a sense of confidence in their capabilities that is based in experiencing success failure and setbacks can be managed in a more effective manner. Bandura emphasizes the primacy of performing authentic tasks in developing self-efficacy.

Other source of self-efficacy can be vicarious experience or observational learning through modeling although it has to be said this is a slightly less-effective source than mastery of experiences (Wood and Bandura, 1989). According to these authors, proficient role models convey effective strategies for the management of different situations. They have an impact in self-efficacy through a social comparison process. People form judgments on their own capabilities by comparing themselves to others. Through observational learning, a person can estimate the skills and behavior used by a role model in performing a task and make an assessment about to which extent those skills are similar to his or her own. At the same time the person can infer the amount of effort versus skill that would be required to get the same kind of results (Gist and Mitchell, 1992). The impact of modeling is enhanced when there’s a perceived similarity between the subject and model in terms of personal skills and capabilities and when the modeled behavior produces clear consequences or results (Gist, 1987).

Social persuasion can be also a source of a stronger self-efficacy belief. It’s relevant to take into account that social persuasion, when considered alone, is normally less effective in increasing perceptions of self-efficacy than the mastery of experiences and modeling (Bandura, 1982). According to Gist and Mitchell (1992) social persuasion should incorporate the development of tasks that enhance self-improvement in order to insure success through the mastery of experiences. It’s relevant to assess factors such as expertise, credibility, prestige and trustworthiness of the persuading person when making an evaluation of the usefulness of persuasive information. Persuasive discussions and specific performance feedback can be used to provide information regarding an individual’s ability to perform a given task. When people receive positive feedback and realistic encouragement directed at convincing them that they are able to perform successfully a task, they can be more likely to exert greater effort (Gist, 1977).

Researchers need to properly understand the factors that might influence the intentions of those (nascent entrepreneurs) considering the option of entrepreneurship for the first time (Rotefoss and Kolvereid, 2005). Self-efficacy increases the likelihood of being a nascent entrepreneur and creating an operating a business (Cassar and Friedman, 2009). It has also been observed a three way interaction between self-efficacy, optimism and environmental
dynamism with respect to firms performance (Hmieleski and Baron, 2008). We founded in the literature that there are many factors that can affect a person to become an entrepreneur, they consist of various combinations of personal attributes, traits, background, experience or disposition (Arenius and Minniti, 2005; Baron, 2004; Shane, Locke and Collins, 2003). One of those personal attributes is entrepreneurial self-efficacy. It appears to be a particularly relevant antecedent of new venture intentions (Zhao, Seibert and Hills, 2005 Barbosa; Gerhardt and Kickul, 2007).

Entrepreneurial Self-Efficacy (ESE) is a construct that measures a person’s belief in his or her ability to successfully launch an entrepreneurial venture (McGee, Peterson, Mueller and Sequeira, 2009). ESE is very relevant because it’s thought to be a strong predictor of entrepreneurial intentions and ultimately action (Bird, 1988).

ESE may be enhanced through training and education and, therefore, potentially improving the rate of entrepreneurial activities (Florin, Karri and Rossiter, 2007). Government agencies in many countries are constantly searching for ways to inject new economic dynamism and boost innovation and productivity. In this sense, an innovative and talented workforce is a key resource for all organizations. Evidence suggests that many of the skills and ways of thinking associated with entrepreneurial behavior are developed through authentic experience (Harrison, Cooper and Mason, 2004; Cooper, 2006; Majid, 2006). There’s a growing attention on methods by which these attitudes and skills might be enhanced. Many governments are looking to educational institutions to address a wide range of issues associated with creativity, innovation and entrepreneurship (Cooper and Lucas, 2008). According with these authors, education programs can be effective at raising awareness of certain key issues like the extent to which they nurture and develop critical skills and attitudes and influence intentions and behavior. The extent to which these programs can be effective depends of a range of factors. Research suggests the importance of conveying not just knowledge about entrepreneurs but also adopting approaches to teaching and learning that contribute to enhance aspects such confidence.

Education has an important role to play in raising awareness of entrepreneurship and in developing the skills and attitudes which provide a foundation for venturing activity. When students leave the formal education system (post-secondary or tertiary) only a small minority starts ventures immediately. On the contrary most students seek for an employment. Working for those employers they can enhance the knowledge of enterprise they have, developed through school-college-university education so they can understand the challenges their employers face on a daily basis. This experience provides an opportunity to build upon earlier learning and identify possible business ideas suitable for exploitation. It is only after a period of employment that some individuals opt to pursue an entrepreneurial pathway. The majority of the people that start a new venture, particularly in technology-based sectors, are in their mid to late thirties (Harrison et al, 2004, Cooper, 2006; Majid, 2006). This means that the skills and attitudes they use to identify and shape their own opportunity are nurtured, on average, a decade or more within the work place (Cooper and Lucas, 2008).
Highly efficacious students may have greater self-confidence in their own skills to accomplish a wide range of activities that are relevant to the start of a new venture. Therefore in an entrepreneurship education context the development of self-efficacy in the participants is critical. ESE is concerned with commitment to accomplish goals, this determination is essential for a would-be entrepreneur who very often have to persist in the face of adversity, even for many years, in order to convert an abstract idea into a new venture project in real life (Lucas and Cooper, 2005). Therefore, it’s very relevant in an educational entrepreneurial program to enhance the levels of entrepreneurial motivation, the importance of learning and persisting in the pursuit an entrepreneurial goal and the belief that success is possible.

A wide range of entrepreneurship courses have been developed around the world based of the premise that it’s possible to develop entrepreneurial skills through education. Past research on entrepreneurship education also points to the need to transmit both knowledge about entrepreneurship and approaches that encourage students to potentiate their internal belief that they have the ability to perform a given task successfully (Cooper and Lucas, 2006). Following these authors, if education programs are to increase motivation towards entrepreneurship they need to try to have a positive impact on the confidence of participants in areas that are associated with the creation of a new venture to attract students towards a venturing career path.

Self-efficacy is a key determinant in career intention since being confident in success in the pursuit of a particular career is likely to have influence in the career path that is chosen. If students are to select a path that is not standard, difficult of challenging, they require high levels of self-efficacy. The link between self-efficacy and persistence in the face of setbacks is very relevant for those pretending to follow entrepreneurial pathways given the fact that confidence is critical to start a new company. Future ventures need to be confident in their skills in different areas such as innovation, opportunity recognition and intention to start a venture (Ardichvili et al 2003; Baum and Locke, 2004). Furthermore to explore the impact of role models in education is important since self-efficacy related as it is to perceived capability to act, is important in influencing perceived feasibility of entrepreneurial behaviors (Cooper and Lucas, 2008).

It’s important though to consider how entrepreneurship programs can produce changes in the student’s levels of self-efficacy so they can be motivated to try new activities. It is also possible to determine not only the nature of the content of the programs but also which pedagogical tools can be employed to obtain positive changes in attitudes and confidence towards skills and competences that are related to entrepreneurial behavior. MBA students are professionals with several years of professional experience. They are typically between their late twenties and late thirties and, therefore, according with the literature reviewed here, they are in a moment of their personal and professional life in which it’s likely they can take decisions to change their professional career path. Furthermore, the MBA provides a unique opportunity for them to reflect about their careers, what they have accomplished to date and what path they intent to follow in the future. Entrepreneurship
courses, as we have mentioned before, are offered in all the best Business Schools in the world.

Given the pervasive presence of entrepreneurship courses in MBA programs across all top Business Schools in the world it is curious to see that research have not studied yet the impact of these entrepreneurship courses on the self-efficacy of participants. Therefore, and based in the review of the literature we have mentioned before, we postulate the following hypothesis:

**H1a. The attendance to an entrepreneurship course in a MBA has a positive impact in the development of entrepreneurial self-efficacy in the participants.**

From a different focal point of view we can admit that a career in entrepreneurship offers significant opportunities to gain financial independence and overall benefit the economy by contributing to job creation, innovation and economic growth. Being an entrepreneur is a career option but, interestingly, we don’t know studies of ESE that have included nascent entrepreneurs. This is particularly relevant if we bear in mind that ESE is commonly considered as a main antecedent to entrepreneurial intentions that can lead to nascent behavior and ultimately to entrepreneurial action (Reynolds, Carter, Gartner and Greene, 2004; Lichtenstein, Carter, Dooley and Gartner, 2007; Sequeira, Lueller and McGee, 2007).

Nascent entrepreneurs can be defined as those individuals who have yet to start a new venture but, however, they possess the desire to start a new business and they are involved in specific activities that can bring those desires to fruition (Carter, Gartner and Reynolds, 1996). According to Aldrich and Martinez (2001), nascent entrepreneurs can be described as those individuals “who not only say they are currently giving serious thought to the new business, but also are engaged in at least two entrepreneurial activities, such as looking for facilities and equipment, writing a business plan, investing money, or organizing a start-up team”. The same authors also state that a nascent entrepreneur is an individual who engages in activities that are meant to result in a feasible business start-up.

Fitzsimmons and Douglas (2011) assume that MBA students taking an entrepreneurship course are nascent entrepreneurs and suggest a typology of nascent entrepreneurs as natural entrepreneurs, accidental entrepreneurs and inevitable entrepreneurs. In order to be as precise as possible, we consider, following McGee, Peterson and Sequeira (2009), that people can be coded as nascent entrepreneurs if they had engaged in at least two of the following behaviors:

- Attending a “start your own business” planning seminar or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
- Looking for a building or equipment for the business
- Saving money to invest in the business, and
- Developing a product or service
The possible different impact on ESE of an entrepreneurship course regarding the character of nascent or not nascent entrepreneur is not well known in the literature. Actually there is no known reference in the literature that addresses this issue in any kind of entrepreneurship course in any kind of educational institution. Particularly, when conducting their reviews of the literature, none of the previous research addressing nascent entrepreneur’s related issues tackle the possible different impact of entrepreneurship education on nascent and non-nascent participants. Examples can be Sequeira, Mueller and McGee (2007) when they address the influence of social ties and self-efficacy in forming entrepreneurial intentions and the motivations of nascent behavior; Lichtenstein, Carter, Dooley and Gartner (2007) when they study the complexity dynamics of nascent entrepreneurship; Edelman, Manolova and Brush (2008) when studying entrepreneurship education and the correspondence between practices of nascent entrepreneurs and text books prescriptions for success; or Carter, Gartner, Shaver and Gatewood (2003) when analyzing the career reasons of nascent entrepreneurs.

It seems reasonable, could be interesting and “eye opening” to explore the possible different impact of entrepreneurship courses on nascent and non-nascent entrepreneurs. As we have mentioned there is not literature addressing this issue but, if we admit (with the most pervasive literature) that a nascent entrepreneur can be a clear antecedent to an entrepreneur, we should be able to know how an entrepreneurship course can have an impact on those individuals. If, generally speaking, the intention of an entrepreneurship course should be to raise the levels of entrepreneurial self-efficacy on participants (Cooper and Lucas, 2006) it would be a more “refined” measure of the effects of a course to try to know this possible impact on participants regarding the different character of nascent or non-nascent entrepreneurs. Implications of this finding would be deep regarding the design (and admission to) of entrepreneurship courses. This poses the problem that there are no known literature addressing the issue that can help us to formulate an exploratory hypothesis. We have then to try to rely on “a logical way of reasoning”.

Due to the fact that non-nascent entrepreneurs, a priori, “know less” about the skills required to be an entrepreneur (they haven’t checked themselves on entrepreneurial activities unlike the nascent entrepreneurs) it could be expected a deeper impact in the ESE of this individuals. If we consider that, for instance, when a person take a foreign language course for the first time, he or she experiments higher perceptions of “having learnt” than those individuals that, having a considering knowledge of the language, take “another” course, this logic could be, in an exploratory way, applied to entrepreneurship courses (the impact of learning the “first 100 words” is perceived as much higher of having learnt 100 words once an individual already knows 2000). But, just by following existing literature, we don’t know if this is the case or not regarding entrepreneurship education courses. To better understand this relationship we postulate the next exploratory hypothesis.

**H1b.** The attendance to an entrepreneurship course in an MBA has a stronger impact in the development of entrepreneurial self-efficacy in those individuals not considered nascent entrepreneurs than in those considered so.
Intentionality is a state of mind directing a person’s attention, and therefore experience an action, towards a specific goal or a path in order to achieve something (Bird, 1988). Planned behavior is better predicted by taking into account intentions towards that behavior and not by observing attitudes, beliefs, personality or demographics (Bagozzi, Baumgartner and Yi, 1989). A number of models have been proposed to explain the relationship between an individual's personal characteristics and their entrepreneurial intentions (e.g. Shapero, 1982; Ajzen, 1987; Bird, 1988; Boyd and Vozikis, 1994; Krueger and Brazeal, 1994). These have been largely based on two models in particular: the Entrepreneurial Event Model (Shapero, 1982) and the Theory of Planned Behavior (Ajzen, 1991).

The Entrepreneurial Event Model views the intention to start a new venture as being dependent on three elements, these being (1) the perceptions of desirability, (2) the propensity to act, and (3) the perception of feasibility. In contrast, the Theory of Planned Behavior outlines three key factors that influence an individual’s intention to perform a given behavior, these being (1) the attitude towards the act, (2) social norms, and (3) perceived behavioral control. Both of these models have been shown to be powerful in predicting entrepreneurial intentions (Krueger, Reilly and Carus, 2000). Brannback, Casrud, Elfwing, Kiskul and Krueger (2006) see entrepreneurial models being primarily dependent on perceived desirability and perceived feasibility (Fitzsimmons and Douglas, 2011). While the social norms element is also thought to influence entrepreneurial intentions, several empirical studies (e.g. Krueger et al., 2000; Li, 2007) have found little evidence of this.

The identification of individuals with entrepreneurial intentions is important because it facilitates private investment and public funding being most efficiently channeled toward those who will start new businesses that create value for individuals and society (Douglas, 2013). There has been substantial research into the antecedent causes of the formation of entrepreneurial intentions, but previous authors have treated entrepreneurial intention as a single generic construct (Bird, 1988; Bird and Jelinek, 1988; Fitzsimmons and Douglas, 2011; Krueger, 1993; Krueger and Brazeal, 1994; Krueger et al., 2000; Lee, Wong, Foo and Leung, 2011). Since entrepreneurship is a planned activity (Ajzen, 1985; Krueger and Carus, 1993) it seems plausible that intending entrepreneurs would incorporate into their planning that their venture would be growth-oriented, to a greater or lesser degree (Douglas, 2013). Some authors think the construct ‘entrepreneurial intentions’ is too broadly defined and lacks construct clarity (Suddaby, 2010).

The proliferation of entrepreneurship courses in the last two decades indicates a clear interest and the importance of understanding its effects. Evidence suggests that entrepreneurial education can add real value by increasing the success probabilities of new ventures (Katz, 2007). Educational institutions can have an important impact on the choices students make, particularly universities can play the role of triggering environments for entrepreneurship (Saphero and Sokol, 1982). Educators have been recognized as molders of the attitudes and even beliefs students have, including when it comes to entrepreneurship as a career path or lifestyle (Kuehn, 2008). In the
entrepreneurship literature, there is a long history of investigating career choice intentions of students intending to found a firm after completion of studies (Zellweger, Sieger and Halter, 2011). It has also been studied the individual’s intent to pursue an entrepreneurial career as a result of work environment and/or personal factors (Lee et al, 2011).

Much of what we can consider entrepreneurial activity is intentionally planned behavior. Intentionality is typical of emergent organizations and it’s different from the timing of the launch of the new venture that can be relatively unplanned, for instance, when a sudden new opportunity shows up (Krueger et al, 2000). It is interesting to study not only how organizations emerge over time but also pre-organizational phenomena such as deciding to start an entrepreneurial career (Katz and Gartner, 1988).

Intentions predict behaviors and, in turn, certain specific attitudes predict intention. It can be best predicted, rather than explained, a planned behavior by observing the intentions towards that behavior. Intentions are the single best predictor of planned behavior (Bagozzi et al, 1989). Intentions serve as important mediating variables between the act of starting a business and potential exogenous influences. Intentions toward a particular behavior are critical for the understanding of other antecedents (Krueger et al, 2000). A proper understanding of intentions is particularly valuable when the focal phenomenon is rare, obscure or involves unpredictable time lags as is the case of entrepreneurship (McMillan and Katz, 1991).

Adjen’s (1991) theory of planned behavior stated that some actions are preceded by conscious decisions to act in a certain way. Following this author, intentions are the result of attitudes formed through life experiences, perceptions and personal traits, all of them drawn from previous experiences. For Adjen there are three determinants of intentions: a) Attitude towards the behavior which consists on the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. Attitude as a composite variable comprises cognitive and affective elements that give support to this mind set towards entrepreneurship as a career option (positive or negative). Attitudes are predispositions or conclusions towards a particular action, therefore is formed through experience and perceptions that are formed along the life of a person. b) Subjective norm is a concept that refers to the perceived social pressure to perform or not perform the behavior. This variable is influenced by attitudes of particular individuals, groups and networks such as family, friends or peers as well as for cultural attitudes towards entrepreneurship. c) Perceived behavioral control refers to the perceived ease of difficulty of performing the behavior. This variable is impacted by Bandura’s self-efficacy.

According to other authors, intentions successfully predict behavior and attitudes successfully predict intentions (Kim and Hunter, 1993). Intention is also a significant unbiased predictor of career choice (Lent et al, 1994). Moreover the opportunity identification process is an intentional process.

On the other hand, situational variables such as employment status or individual variables such as demographic characteristics or personality traits are poor predictors of behavior.
while intentions are a clear predictor (Krueger et al, 2000). Following these authors, intentions can describe how entrepreneurial training mold intentions and subsequently venture creation. Intentions can also be used to predict strategic decisions such as the decision to grow or exit a business. These authors state that intentions based models provide practical insight to any planned behavior. This allows researchers to better encourage the identification of personally-viable, personally-credible opportunities. The same authors suggest that teachers, consultants, advisors and entrepreneurs should benefit from a better general understanding of how intentions are formed, as well as a specific understanding of how founder’s beliefs, perceptions and motives coalesce into the intent to start a business. This understanding can offer sizable diagnostic power. Entrepreneurship educators could use this model to better understand the motivations and intentions of students and trainees and to help students and trainees understand their own motivations and intentions. “Promoting entrepreneurial intentions by promoting public perceptions of feasibility and desirability is not just desirable, it is also thoroughly feasible” (Krueger et al, 2000).

We have to keep in mind that today’s students can be tomorrow’s potential entrepreneurs. This gives also support to the proliferation of entrepreneurship courses. Having said that, there is little knowledge of the factors that affect student’s intentions towards entrepreneurship and the relationship that takes place among entrepreneurship programs and student’s entrepreneurial attitudes and intentions (Souitaris, 2007). Our knowledge about differences in entrepreneurial intentions among students belonging to different cultures and ethnicities is limited (Wilson et al, 2004).

The role of education affecting attitudes and perceptions of controllability merits more research as previous research shows that entrepreneurial education can enhance and individual’s levels of self-efficacy as we have already seen (Wilson et all, 2007). Entrepreneurship education is strongly related to entrepreneurial intentions as we can infer from Noel (1998): entrepreneurship majors manifest higher intentions of starting their own businesses. Souitaris et al (2007) found that entrepreneurship programs significantly raised student’s intentions towards entrepreneurship by inspiring them to choose entrepreneurial careers.

Therefore from the revision of the literature we can infer that, in order to establish the usefulness of entrepreneurship courses, it is very relevant to try to gain insight about until what point entrepreneurial education develops entrepreneurial intentions. This discussion leads us to postulate our next exploratory hypotheses to try to better understand the above mentioned relationships:

**H.2.a. The attendance to an entrepreneurship course in an MBA has a positive impact in the development of entrepreneurial intentions in the participants.**

Arenius and Minniti (2005) in their study of participants in the Global Entrepreneurship Monitor found that entrepreneurial self-efficacy and intentions are positively associated with being a nascent entrepreneur. De Noble, Jung and Ehrlich (1999) studied a sample of
undergraduate and graduate university students and found that the levels of entrepreneurial self-efficacy and intentions were different between students of entrepreneurship and non-students of entrepreneurship.

Again, and in a similar way that what happens when addressing the issue of entrepreneurial self-efficacy and nascent entrepreneurs, the possible different impact on entrepreneurial intentions of an entrepreneurship course regarding the character of nascent or not nascent entrepreneur is not well known. There is no known reference in the literature that addresses this issue in any kind of entrepreneurship course in any kind of educational institution. When conducting their reviews of the literature, as we have mentioned before, none of the previous research addressing nascent entrepreneur’s related issues tackle the possible different impact of entrepreneurship education on nascent and non-nascent participants. Examples of this can be Sequeira et al (2006) when they address the influence of social ties and self-efficacy in forming entrepreneurial intentions and the motivations of nascent behavior; Lichtenstein et al (2007) when they study the complexity dynamics of nascent entrepreneurship; Edelman et al (2008) when studying entrepreneurship education and the correspondence between practices of nascent entrepreneurs and text books prescriptions for success; or Carter et al (2003) when analyzing the career reasons of nascent entrepreneurs. There are no more literature regarding the issue but we could infer that there is a possible relevant difference that we think is both pertinent and relevant.

Do nascent-entrepreneurs experiment a higher impact of entrepreneurial intentions as a consequence of an entrepreneurship course that those not considered so? Is it the opposite? Is the impact the same in all participants without regards to their character of being or not a nascent entrepreneur?

By definition, a nascent entrepreneur is an individual that has the intention of starting an entrepreneurship career option. It seems interesting then, also in order to establish the usefulness of entrepreneurship education, to have a better and more complete idea of the different impact these courses can have in entrepreneurial intentions of participants taking into account the character of nascent entrepreneurs. It seems reasonable to think that those individuals considered nascent entrepreneurs could have their “eyes more open” and be more “permeable” to what they can see and listen in an entrepreneurship course but, we really do not know if this is the case. Implications of these findings can be deep relating, among other issues, to the design of these courses. It seems reasonable to think that nascent entrepreneurs could experiment a “confirmatory” and deeper effect of their already existing intention of becoming an entrepreneur as a consequence of an entrepreneurship course than those that are not nascent entrepreneurs. If the impact were the opposite, this is, that the non-nascent entrepreneurs experiment a deeper impact in their entrepreneurial intentions than those that already are nascent-entrepreneurs (and already have entrepreneurial intention) we could conclude that entrepreneurship course could really be a potent tool to try to potentiate entrepreneurial intentions in society. But again, this is not known although it seems to be really relevant. In order to gain insight about these complex relationships we postulate our next exploratory hypothesis:
H.2.b. The attendance to an entrepreneurship course in an MBA has a stronger impact in the development of entrepreneurial intentions in those individuals considered nascent entrepreneurs than in those that are not considered so.

As we have previously studied self-efficacy or a person’s belief in his or her capacity to perform a given task has a clear impact on intentions. In a more specific way, entrepreneurial self-efficacy has an impact on entrepreneurial intentions. What is not stated in the literature is to what extent that happens.

Peterman and Kennedy (2003) find that exposure to entrepreneurship education impacted entrepreneurial intentions. From our review of the literature we can reasonably infer that it does so by elevating the levels of entrepreneurial self-efficacy. Souitaris et al (2007) found that sensitization through a semester-long entrepreneurship program led to stronger entrepreneurial intentions. By the same token we can infer that it does so by enhancing the levels of entrepreneurial self-efficacy on students. The effects of entrepreneurship education on student’s self-assessed entrepreneurial skills are significant (Oosterbeek, Pragg and Ijsselstein, 2010). Using as a base our previous revision of the literature we can also infer that “student’s self-assessed entrepreneurial skills” can be a way of better knowing student’s entrepreneurial self-efficacy.

Several researchers have called for more research to address if entrepreneurship education can influence entrepreneurial perceptions and intentions (McMullan, 2002). Students need to find out above all whether entrepreneurial activity suits them, whether they have sufficient high entrepreneurial aptitude to become entrepreneurs. Entrepreneurial aptitude may be interpreted as entrepreneurial self-efficacy. Depending on what they learn students may adjust their entrepreneurial intentions upwards of downwards (Graevenitz et al, 2010). What they learn about their own entrepreneurial skills is closely related to entrepreneurial self-efficacy. According with the last authors, any program on entrepreneurship can be expected to generate three types of outcome: students who learn nothing and students who learn and discover that they like or dislike entrepreneurship. Student’s beliefs about their entrepreneurial aptitude (entrepreneurial-self-efficacy) display a high variance after a course in the case that uncertainty about entrepreneurial aptitude was sufficiently high before the course and if the course provides information. Moreover any program that provides the students with informative signals about entrepreneurial ability (self-efficacy) will leave students who receive consistent signals before and during the course with stronger believes about their entrepreneurial aptitude (self-efficacy) than students who do not receive consistent signals and, at the same time, will leave students with stronger pre-course signals with stronger beliefs about their entrepreneurial aptitude (Graevenitz et al, 2010).

This research leads us to realize that the effects on self-efficacy and intentions are not the same in all students. Some of them may experience higher levels of self-efficacy and therefore, presumably, higher levels entrepreneurial intention. But we do not know exactly if this is true or not. It seems possible that nascent entrepreneurs (that have been engaged in some entrepreneurial activities previously to the attendance of the course) have “at
front” a higher level of ESE (if they have engaged in those activities is reasonable to think they consider they can be successful at them) than those individuals considered non-nascent entrepreneurs. It seems possible too, by the same token, that those individuals considered nascent entrepreneurs could have, “at front” (at the beginning of the course) higher levels of entrepreneurial intentions (EI). It remains also unknown if this situation remains the same along the course and time after having finished it (both for ESE and EI).

Following this way of reasoning we could infer that the attendance of an entrepreneurship course could be more “eye opening” for the later ones and, therefore, develop in them a deeper impact of ESE passing from a situation of “not knowing” about entrepreneurship and “not feeling able” to perform entrepreneurship tasks to a situation in which they feel “they know” and “they are able”. Again we don’t know if this is the case.

Furthermore, nascent entrepreneurs, by definition and because of the above mentioned reasons (presumably higher levels of ESE), seem to have a clear entrepreneurial intention. This could mean that, after having taken an entrepreneurship course that presumably can raise their level of ESE even further, they should experience a strong and additional boost in their entrepreneurial intentions (reasonably higher than those not considered non-nascent entrepreneurs). If this were not the case doubts could be raised about the usefulness of these courses for nascent entrepreneurs. Therefore, in order to explore these situations we postulate our next hypotheses:

**H.3. At the beginning of an entrepreneurship course participants considered Nascent Entrepreneurs have higher levels of Entrepreneurial Self-Efficacy (ESE) than those not considered so and it continues being that way after the course.**

**H.4. At the beginning of an entrepreneurship course participants considered Nascent Entrepreneurs have higher levels of Entrepreneurial Intentions (EI) than those not considered so and it continues being that way after the course.**

To better understand the relationships we intent to study, we can see in Figure 1 a graphic representation of the framework of analysis of this paper.
In summary, it is clear in the literature that entrepreneurial education can have an impact on entrepreneurial self-efficacy and entrepreneurial intentions. It is not that clear however in which way and with what intensity entrepreneurial education impacts entrepreneurial self-efficacy and entrepreneurial intentions. We believe that studying these relationships can be theoretically significant for the development of the field. MBA programs and the entrepreneurship courses they develop seem to be, according with the above review, a relevant field of study. Therefore this study intends to test the above hypothesis in an MBA setting employing variables of entrepreneurial self-efficacy and entrepreneurial intentions.

2.3. Methodology

2.3.1. Sample

Our unit of analysis consists on participants on Entrepreneurship Education courses developed at MBA programs. We examine entrepreneurial education in MBA programs because they are the key and more extended programs in the portfolio of Business Schools.
Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum.

Particularly we take, as a reference, widely recognized very recent international rankings such as the ones elaborated by: The Financial Times, The Economist, The Wall Street Journal, Forbes, América Económica, The Aspen Institute or Boomberg-Business Week to get a reference of top Business Schools in the world. All institutions that appear consistently in these rankings like: Harvard Business School, MIT Sloan School of Business, London Business School, IESE, IMD, Chicago Booth, ESADE, Cambridge Judge Business School or IE Business School offer in their MBA programs Entrepreneurship Education courses. In these widely recognized international rankings, IE Business School and particularly its IMBA are consistently ranked among the top ten positions in the world as it can be seen in Annex 2.

Therefore we gather information from and the study is limited to the participants of the Entrepreneurial Management Course developed within the International Master in Business Administration (IMBA) at IE Business School in Madrid.

Before we were allowed to use this pull of students we were asked by IE’s management team of the IMBA to obtain permission from IE’s Research Committee since it’s not the policy of IE’s IMBAs management team to allow any kind of research with students. A Research Project then had to be written and submitted in due time to IE’s Research Committee. Months later we finally got permission to proceed with our study only after having agreed to follow strict rules to proceed, under the close supervision of the IMBA management team and with very tight conditions regarding the results of the research and with detailed compensations to the students.

As we are going to compare the different possible impact of the entrepreneurship course among participants along the time, we need to gather data of our variables in different moments. This is the approach followed by the most representative studies regarding the impact of entrepreneurship education on entrepreneurial self-efficacy and entrepreneurial intentions.

We can use several reasons for choosing to capture this data using a longitudinal design. Current research in the area of enterprise is largely short-term (Matlay and Carey, 2007) therefore limiting contributions to the debate and policy about the longer-term desires and intentions of students to become entrepreneurs. Most research projects discuss programs delivered over short periods of time and in some cases relate only to a limited understanding of enterprise (Harte and Stewart, 2010). Longitudinal studies in particular allow for dynamic measures such as rate of change (Matlay and Carey, 2007). Furthermore, longitudinal studies in social research lend themselves to a range of uses like: a) tracking and interpreting change over time may lead to the discovery of new aspects and relations between factors, which may identify the need for further or different studies; b) providing snapshot pictures of particular groups or institutions and the relations between
them, useful at the time for policy and other reasons. Because longitudinal studies usually have sizeable samples these snapshots serve as baseline data to compare similar groups and institutions in new samples at a later date in order to trace the impact of policy change (Harte and Stewart, 2010).

The literature normally use a three-step study beginning with a distribution and complexion of a questionnaire at the beginning of the program and then using two post-tests to measure change over the program (questionnaire distributed at the end of the program) and the enduring nature (six months after the final complexion of the program) of any changes observed (Begley and Tang, 2001; Cooper and Lucas, 2006; Harte and Stewart, 2010; McLelland, Barakat and Windfield, 2010). Following this line of literature, the different moments in time we are going to consider to gauge the possible impact of the course on our variables are: beginning of the course, end of the course and six month after the end of the course.

At the moment we gathered data the total number of IMBA students at IE was of 971. From them, 757 developed the program in English and 214 in Spanish. These 971 students belong to three intakes that are in different moments of accomplishment of their IMBA. This will allow us to measure the impact of the course along a period of time of one year as follows:

- Intake 3 represents those participants that are at the beginning of the IMBA and, consequently, at the beginning of the Entrepreneurship Course (394 participants)
- Intake 2 represents those participants that are in the middle (six months after the beginning) of the IMBA and right at the end of the Entrepreneurship Course (194 participants)
- Intake 1 represents those participants that are at the end of the IMBA (twelve months after the beginning of the IMBA and the entrepreneurship course) and, consequently, six months after having finished the Entrepreneurship Course (385 students)

The number of the intake has to do with the moment in time in which participants started the entrepreneurship course. Thus, Intake 1 started in November 2011, Intake 2 started in April 2012 and Intake 3 started in November 2012.

We sent the questionnaire along the month of November 2012. The reason why we chose this month has to do with the fact that it is a key month in the academic year in order to gather and analyze information of different moments of the IMBA and be able to make comparisons. At this moment of time there is one intake that start their IMBA, another intake finishes its entrepreneurial course and another intake finishes its IMBA and thus at this moment six months have past since they finally completed their entrepreneurship course. We then gathered data from the three different Intakes of the IMBA that represent, as we have said, different moments of the IMBA program (from November 2011 to November 2012).

Students received via email an invitation to freely and anonymously participate in a survey. Those students who decided to participate could answer the questionnaire on line.
Participants completed the questionnaire individually and freely at their home, place of study or any other place they decided. No influence from one another was them possible. Therefore answers are totally anonymous and free. This makes us confident that the answers capture the opinions held by the students. No contact or personal details were asked at any time so students could be sure about the anonymity of their answers. The questionnaire was developed both in English and Spanish since the IMBA at IE Business School is held in the two languages. Our questionnaire includes a series of items that capture a range of educational, cultural, background, demographic, prior experience, sector and other relevant information (See Annex 3 for the full questionnaire, pages 1 and 2).

We received a total number of responses of 300 which represents a rate of response of 30.89% with a sampling error of 2.91% with a statistical confidence level of 95%. A more detailed descriptive statistics of the sample can be seen in Table 1. We can see that the average age of the sample is 29.5 Years. From them 74.6% are male and 25.3% female and the average years of work experience is 6.32 Years. As we can observe, in terms of Age and Sex the three intakes are homogenous. The average age is around 30 years in all three intakes with only a difference of a few months. Same thing happens in terms of Sex where all intakes have around 75% of male and 25% of female population.

According to the same table, again it can be observed that all three intakes are homogenous with similar percentages of students from the same regions of the world. It is interesting to note not only the markedly international profile of participants but also the wide distribution of students from all main regions of the world. This can mean, in the eyes of the author, that any conclusion of this study could be possibly extrapolated to obtain some general conclusions that apply to different regions of the world although this is not the aim of this work.

When we observe the previous university studies of participants in all three intakes we reach the same kind of conclusion. All three different intakes are homogenous with similar percentages of students in the same fields of study. Finally, when it comes to analyze the sectors of previous activity, we also observe that all three intakes possess similar percentages of participants in all different sectors being, therefore, homogenous also in this regard.

Although we do not have information to this respect (it is not the object of our study) we obviously believe this “almost perfect” homogeneity is not a matter of serendipity but the result of probably hard work of the admissions department in order to have the most homogenous possible groups so the academic experience and performance can be enhanced to its best.

Finally, to evaluate the possible presence of any non-response bias, we performed a T test of difference of means among the participants. With a statistical confidence level of 95% there are no meaningful differences with respect to age (p=0.005), previous studies (p=0.076), sector of previous activity (p=0.066), self-efficacy (p=0.013) or intentions
(p=0.006) between those students who responded to the survey and those who didn’t. Therefore, we can be sure the non-response bias is not present in our research.

Table 1. Statistics of the sample

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>84 (21.81%)</td>
<td>54 (28.12%)</td>
<td>76 (19.28%)</td>
<td>214 (22.03%)</td>
</tr>
<tr>
<td>English</td>
<td>301 (78.19%)</td>
<td>138 (71.87%)</td>
<td>318 (80.71%)</td>
<td>757 (77.96%)</td>
</tr>
<tr>
<td>Total</td>
<td>385 (100%)</td>
<td>192 (100%)</td>
<td>394 (100%)</td>
<td>971 (100%)</td>
</tr>
<tr>
<td># Responses</td>
<td>103</td>
<td>44</td>
<td>153</td>
<td>300</td>
</tr>
<tr>
<td>% Responses</td>
<td>26.75</td>
<td>22.91</td>
<td>38.83</td>
<td>30.89</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-27</td>
<td>16 (15.53%)</td>
<td>8 (18.18%)</td>
<td>43 (28.10%)</td>
<td>67 (22.33%)</td>
</tr>
<tr>
<td>28-33</td>
<td>77 (74.75%)</td>
<td>32 (72.72%)</td>
<td>99 (64.70%)</td>
<td>208 (69.33%)</td>
</tr>
<tr>
<td>34-37</td>
<td>9 (8.73%)</td>
<td>4 (9.10%)</td>
<td>8 (5.22%)</td>
<td>21 (7.00%)</td>
</tr>
<tr>
<td>38-41</td>
<td>1 (0.98%)</td>
<td>-</td>
<td>3 (1.98%)</td>
<td>4 (1.34%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (Mean 30.1)</td>
<td>44 (Mean 29.8)</td>
<td>153 (Mean 29.2)</td>
<td>300 (100%)</td>
</tr>
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</table>

<table>
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<tr>
<th>Sex</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>74 (71.8%)</td>
<td>35 (79.5%)</td>
<td>115 (75.1%)</td>
<td>224 (74.66%)</td>
</tr>
<tr>
<td>Female</td>
<td>29 (28.2%)</td>
<td>9 (20.6%)</td>
<td>38 (24.9%)</td>
<td>76 (25.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region of the World</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
</tr>
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<tbody>
<tr>
<td>North America</td>
<td>13 (12.6%)</td>
<td>4 (9%)</td>
<td>17 (11.1%)</td>
</tr>
<tr>
<td>Latin America</td>
<td>30 (29.1%)</td>
<td>14 (31.8%)</td>
<td>49 (32.02%)</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>16 (15.5%)</td>
<td>4 (9%)</td>
<td>20 (13.33%)</td>
</tr>
<tr>
<td>Africa &amp; Middle East</td>
<td>7 (6.7%)</td>
<td>8 (18.2%)</td>
<td>15 (10.00%)</td>
</tr>
<tr>
<td>Spain</td>
<td>16 (15.8%)</td>
<td>5 (11.6%)</td>
<td>21 (14.00%)</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>21 (20.3%)</td>
<td>9 (20.4%)</td>
<td>30 (20.65%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
</tr>
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<table>
<thead>
<tr>
<th>Years of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>10 (10%)</td>
<td>6 (14%)</td>
<td>19 (12%)</td>
</tr>
<tr>
<td>4-6</td>
<td>54 (52%)</td>
<td>23 (52%)</td>
<td>79 (52%)</td>
</tr>
<tr>
<td>7-12</td>
<td>38 (37%)</td>
<td>14 (32%)</td>
<td>52 (34%)</td>
</tr>
<tr>
<td>12+</td>
<td>1 (1%)</td>
<td>1 (2%)</td>
<td>3 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
</tr>
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<table>
<thead>
<tr>
<th>Previous University Degree Studies</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>32 (33%)</td>
<td>19 (43%)</td>
<td>47 (31%)</td>
</tr>
<tr>
<td>Science</td>
<td>3 (2%)</td>
<td>3 (7%)</td>
<td>5 (3%)</td>
</tr>
<tr>
<td>Social Sciences/Humanities</td>
<td>9 (8%)</td>
<td>2 (5%)</td>
<td>12 (8%)</td>
</tr>
<tr>
<td>Law</td>
<td>2 (5%)</td>
<td>1 (2%)</td>
<td>5 (3%)</td>
</tr>
<tr>
<td>Economics</td>
<td>9 (8%)</td>
<td>4 (9%)</td>
<td>15 (10%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>35 (33%)</td>
<td>11 (25%)</td>
<td>61 (39%)</td>
</tr>
<tr>
<td>Information Technology</td>
<td>7 (7%)</td>
<td>3 (7%)</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>Other (Architecture, Hospitality, Others)</td>
<td>6 (6%)</td>
<td>1 (2%)</td>
<td>6 (4%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sector of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government, NGOs</td>
<td>4 (4%)</td>
<td>2 (4%)</td>
<td>6 (4%)</td>
</tr>
<tr>
<td>Consulting</td>
<td>11 (10%)</td>
<td>3 (7%)</td>
<td>13 (9%)</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>9 (9%)</td>
<td>7 (15%)</td>
<td>16 (11%)</td>
</tr>
<tr>
<td>Law, Auditing &amp; Tax</td>
<td>4 (3%)</td>
<td>1 (3%)</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>Pharma/Biotech/Health</td>
<td>4 (3%)</td>
<td>3 (7%)</td>
<td>3 (2%)</td>
</tr>
<tr>
<td>Financial Services</td>
<td>17 (17%)</td>
<td>8 (18%)</td>
<td>34 (22%)</td>
</tr>
<tr>
<td>Industry, Energy &amp; Construction</td>
<td>18 (18%)</td>
<td>7 (16%)</td>
<td>38 (24%)</td>
</tr>
<tr>
<td>Media, Entertainment</td>
<td>5 (5%)</td>
<td>1 (3%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Technology/Telecom</td>
<td>17 (17%)</td>
<td>7 (15%)</td>
<td>20 (13%)</td>
</tr>
<tr>
<td>Other (Education, Transport, Tourism &amp; Hospitality, Others)</td>
<td>14 (14%)</td>
<td>5 (12%)</td>
<td>20 (13%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
</tr>
</tbody>
</table>
Taking into account everything stated before, it is the opinion of the author that, both the environment given at IE’s IMBA and the atmosphere of the entrepreneurship course in particular, constitute a suitable field of research to try to test in practice the hypotheses formulated in this research. As will be mentioned as a contribution of our research, the extreme difficulty and tight controls to be able to access students make the data and analysis of our research, among one of the top business schools in the world, especially valuable.

2.3.2. Measures

**Entrepreneurial Self-Efficacy (ESE)**

According to Bandura (1997) a useful method to measure self-efficacy beliefs is to take a variety of items reflecting different levels of task demands and ask participants to rate their confidence in their own ability to perform each task. We use this approach. Respondents evaluate each item on a Likert scale where 1 represents the lowest level and 7 represents the highest level.

Our intended method with this regard was to use a robust survey instrument (questionnaire), based in the one developed and tested by Cambridge Management Institute (CMI). According to Harte and Stewart (2010) an instrument like this is suitable for longitudinal studies like ours. The above mentioned instrument that we use as a reference is underpinned by Bandura’s (1977) theory of self-efficacy and had been designed, tested, re-designed and re-tested many times. It is intended to capture changes in student perceptions in relation to their own skills and abilities and their attitudes to different career options in the future while studying enterprise related modules (Boyd and Vozikis, 1994) and thus provide the ability to examine those changes, as recorded by the respondents. Changes in the perceptions of the student are captured by the use of one pre-test and two post-test completions of the questionnaire (Harte and Steward (2010).

We use a set of 30 items in our questionnaire to gauge this variable (See Annex 3, items under the heading: “How confident are you about your current skills and ability to”). For the selection of our items we have taken as a reference studies carried out by the Education and High Growth Innovation (EHGI) research group. This group brings together colleagues from the universities of Cambridge, Edinburgh, Lancaster, Sheffield, York and MIT. The group has developed a set of robust measures utilizing an established repeated measures methodology. These measures were developed to fulfill the need of a robust measurement method of the entrepreneurial self-efficacy (Lucas and Cooper 2004, 2005; Cooper and Lucas, 2006a, 2006b; Harte and Stewart, 2010). These items are very reliable with Cronbach’s alphas of 0.955 for Intake 1 (N=103), 0.955 for Intake 2 (N=44), 0.936 for Intake 3 (N=153) and 0.947 for the Total Sample (N=300).
In order to reduce the dimensionality of the 30 items we have followed a double procedure:

1) Average Mean of the 30 items. We call this indicator “ESE mean”. Values of average mean and standard deviation are respectively of 5.09 and .860 for Intake 1, 5.29 and .839 for Intake 2, 4.94 and .739 for Intake 3 and, finally, 5.04 and .804 for the total sample.

2) Our second way to reduce the dimensionality is an exploratory factor analysis. This is also a widely used technic (McGee, Peterson, Mueller and Sequeira, 2009; Linan and Chen, 2009). Findings from the principal components analysis with varimax rotation are presented. Subsequently five factors were extracted and interpreted. These accounted for 62.31% of the variance. Kaiser-Meyer-Olkin (KMO) shows a value of 0.922 and Bartlett’s Test of Sphericity has a Chi Square Value of 5478.4 (sig 0.000). To interpret the factors and give names to the dimensions, it is necessary to see which questions are associated which each of the five factors or components. This can be found in the rotated factor solution presented in table 2. The picture painted is of a clear factor structure as each item is only strongly associated with one factor:

- Factor 1: The items associated with the first factor encompass a range of items generally relating to making assessments in different ways. Words used are of the kind of: understand, estimate, recognize, know when, etc. For this reason this factor is labeled as “Assessment-Driven Factor”. The Cronbach’s alpha for a scale comprising this items is robust with a value of 0.908
- Factor 2: The second factor comprises items related to managing people. Words used are of the kind of: collaborative, motivate, lead, feelings or conflict. For this reason this factor is labeled as “People-Driven Factor. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.864
- Factor 3: Items of the third factor relate to creativity issues. Words used include: set, meet, have, translate, develop or recognize. For this reason we label this factor as “Creativity-Driven Factor”. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.869
- Factor 4: Our fourth factor has items related to decision-making. Words used comprise: pick, recognize or sell. Due to this we have labeled this factor as “Decision-Driven Factor”. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.794
- Factor 5: Finally our fifth factor comprises items related to innovation. Words employed range from new, to abstract or create. This is the reason why we have labeled this factor as “Innovation-Driven Factor”. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.711

As a result of this factor analysis we can state that the items we use in our empirical study are robust and, according with previous literature, they can be a useful tool to gauge ESE.
Table 2. Factor Analysis for Entrepreneurial Self-Efficacy (ESE)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1 Assessment-Driven</th>
<th>Factor 2 People-Driven</th>
<th>Factor 3 Creativity-Driven</th>
<th>Factor 4 Decision-Driven</th>
<th>Factor 5 Innovation-Driven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize when an idea is good enough to support a major new venture</td>
<td>.733</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate accurately the cost of running a new project for venture</td>
<td>.724</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how much to place the proper financial value on a start-up company</td>
<td>.723</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand what it takes to start your own business</td>
<td>.708</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write a clear and complete business plan</td>
<td>.683</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the language of new venture creation</td>
<td>.644</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start a successful business if you want</td>
<td>.612</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know when it is worth investing serious time in exploring a new idea</td>
<td>.610</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate the number of people who are likely to buy a new product or service</td>
<td>.566</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persuade someone to put a sum into a new company</td>
<td>.519</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get suppliers to support a venture with favorable prices and contract terms</td>
<td>.507</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find an approach that resolves a group conflict and get your team moving forward on a task</td>
<td>.818</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate others to work long hours to meet a dead line</td>
<td>.794</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be aware of feelings of all the members of a group working on a shared task</td>
<td>.746</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate others to work together</td>
<td>.706</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead a group of members who strongly disagree with one another</td>
<td>.687</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work on collaborative projects as a member of a team</td>
<td>.518</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead a technical team developing a new product to a successful result</td>
<td>.803</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Translate functional requirements for a product into a design of a prototype</td>
<td>.775</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hear a product concept based in technology and have a rough idea if it is practical</td>
<td>.720</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with users and then write a set of clear requirements for their product to meet their needs</td>
<td>.668</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize an implication not mentioned in the findings while reviewing a familiar article</td>
<td>.557</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sell a brand new product or service to a first time customer</td>
<td>.685</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pick the right marketing approach for inducing a new kind of product</td>
<td>.504</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply an abstract concept or idea to a real problem or situation</td>
<td>.731</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be able to persuade company managers they should take a new idea seriously</td>
<td>.641</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create novel solutions to problems</td>
<td>.549</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally we performed normality tests for the variable self-efficacy both, as a mean and for each of the five factors that resulted from our above mentioned factor analysis, by using the Kosmogorov-Smirnov test, Probability Plot (PPLOT) and Histogram Analysis with normal curves. Although the analysis of the PPLOT and the Histograms allowed us to see that the mean as well as the five factors follow a normal distribution, the KS test only generated significant values bigger than 0.05 for the five factors, being of 0.07 for the variable mean self-efficacy. Therefore, the results of this analysis confirm the normality of the five factors of self-efficacy as well as the mean self-efficacy, although, in this last case,
we’ll be prudent when interpreting the results due to the fact that only two of three tests were confirmed.

**Entrepreneurial Intention**

Regarding intention we also use a robust survey instrument (questionnaire), based, as well, in the one developed and tested by Cambridge Management Institute (CMI). Harte and Stewart (2010) estate that an instrument like this is suitable for longitudinal studies like ours. The above mentioned instrument that we use as a reference is supported by Bandura’s (1977) theory of self-efficacy and has been designed, tested, re-designed and re-tested many times. It is focused in capturing changes in student perceptions in relation to their own skills and abilities and their attitudes to different career options in the future while studying enterprise related modules (Boyd and Vozikis, 1994) and thus provide the ability to examine those changes, as recorded by the respondents. Any changes in the perceptions of the student are captured by using one pre-test and two post-test (Harte and Steward (2010).

We use in the same questionnaire a set of 9 items to gauge this variable (see Annex 3, items under the heading: “How do you agree or disagree with the next statements”). For the selection of our items we have also taken as a reference studies carried out by the Education and High Growth Innovation (EHGI) research group. This group brings together colleagues from the universities of Cambridge, Edinburgh, Lancaster, Sheffield, York and MIT. The group has developed a set of robust measures utilizing an established repeated measures methodology. These measures were developed to fulfill the need of a robust measurement method of entrepreneurial intentions (Lucas and Cooper 2004, 2005; Cooper and Lucas, 2006a, 2006b).

These items also constitute a highly reliable scale with Cronbach’s alphas of 0.708 for Intake 1 (N=103); 0.819 for Intake 2 (N=44); 0.753 for Intake 3 (N=153) and 0.752 for the Total Sample (N=300). According to Nunally (1994) a value of Cronbach’s alpha between 0.5 and 0.7 represents an acceptable level of measure reliability and >0.7 is regarded a relatively high reliability.

In order to reduce the dimensionality of the items we have followed a double procedure:

1) Average Mean of the 9 items. We call this indicator “EI mean”. Values of average mean and standard deviation are respectively of 5.13 and 0.770 for Intake 1, 5.19 and 0.931 for Intake 2, 4.99 and 0.862 for Intake 3 and, finally, 5.07 and 0.844 for the total sample.

2) Our second way to reduce the dimensionality is an exploratory factor analysis. This is also a widely used technic (Linan and Chen, 2009; McGee, Peterson, Mueller and Sequeira, 2009). Analysis with varimax rotation extracted two factors that account for 48.75% of the variance. Kaiser-Meyer-Olkin (KMO) shows a value of 0.802 and Bartlett’s Test of Sphericity has a Chi Square Value of 564.526 (sig.0. 000). To interpret the factors and give names to the dimensions, it is necessary to see which questions are associated
which each of the five factors or components. This can be found in the rotated factor solution which is presented in table 3.

Table 3. Factor Analysis for Entrepreneurial Intentions (EI)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1: Start-Up Driven</th>
<th>Factor 2: Intention-Appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I often think about ideas and ways to start a business</td>
<td>.751</td>
<td></td>
</tr>
<tr>
<td>If I see an opportunity to start a company I’ll take it</td>
<td>.750</td>
<td></td>
</tr>
<tr>
<td>At least once I will have to take a chance and start my own company</td>
<td>.748</td>
<td></td>
</tr>
<tr>
<td>I would be reluctant to start a new business even if I had a good idea</td>
<td>.643</td>
<td></td>
</tr>
<tr>
<td>The idea of starting a new business does not appeal to me</td>
<td>.602</td>
<td></td>
</tr>
<tr>
<td>The experience of starting a new business is valuable even if it finally fails</td>
<td>.355</td>
<td></td>
</tr>
<tr>
<td>I’m willing to pay a high personal price for a chance to get wealthy</td>
<td>.795</td>
<td></td>
</tr>
<tr>
<td>The idea of a high risk/high pay-off appeals to me</td>
<td>.627</td>
<td></td>
</tr>
<tr>
<td>The idea of leading a big company into new markets excites me</td>
<td>.611</td>
<td></td>
</tr>
</tbody>
</table>

As we can see, this analysis presents particular characteristics regarding the factor structure. Detailed analysis need to be carried out as follows:

- Items associated with the first factor relate directly with the intention of creating a new business. Expressions like: to start, take it or take a chance are used. For this reason we label this factor as “Start-Up Driven Factor”. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.765.

- The second factor comprises items related to the appeal of engaging in an entrepreneurial behavior. Expressions like: “for a chance to”, “appeals to me” or “excites me” are used. For this reason this factor is labeled as “Intention Appealing Factor”. The Cronbach’s alpha for a scale comprising these items is not robust with a value of 0.485. Although this value of Cronbach alpha is below the normal recommended values we will continue considering this factor to try to contrast the hypotheses but we will take particular care when it comes to analyze the results in which this factor gets involved and has statistical significant value. It is pertinent to highlight that in this sample this factor has have this low level of robustness although it is based, as we have stated before in this paper, on studies successfully developed in the literature. We will remark this issue in the limitations section of this paper.

As a result of this factor analysis we can say (with the above mentioned limitation) that the items we use for our empirical study constitute an adequate set of measures. Therefore they can be used as a reliable enough tool to try to gauge Entrepreneurial Intentions.

Finally we performed normality tests for the variable intention both, as a mean and for each of the two factors that resulted from our above mentioned factor analysis, by using the Kosmogorov-Smirnov test, Probability Plot (PPLOT) and Histogram Analysis with normal curves. Although the analysis of the PPLOT and the Histograms allowed us to see
that the mean as well as the two factors follow a normal distribution, the KS test only generated significant values bigger than 0.05 for the two factors, being of 0.07 for the variable mean self-efficacy. Therefore, the results of this analysis confirm the normality of the two factors of intention as well as the mean intention, although, in this last case, we’ll be prudent when interpreting the results due to the fact that only two of three tests were confirmed.

*Nascent Entrepreneurs*

As we have mentioned before, according to McGee et al (2009) people can be coded as nascent entrepreneurs if they had engaged in at least two of the following behaviors:

- Attending a “start your own business” planning seminar or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
- Looking for a building or equipment for the business
- Saving money to invest in the business, and
- Developing a product or service

This is the procedure we have followed to gauge this variable (See Annex. 3, items under the heading: “Have you participated in any of the following behaviors currently or in the past”). Participants in the program were asked to answer if they had engaged themselves in any of the above mentioned behaviors. They were particularly asked to mention “all” the behaviors they had undertaken, if any. We then added up all the behaviors undertaken for each participant. Those participants who had been engaged in more than two such behaviors will be considered as nascent entrepreneurs. This variable will take value 1 for nascent entrepreneurs and value 0 for non-nascent entrepreneurs in order to make our study more operational.

**2.4. Results and Discussion**

**2.4.1. Results**

Once we have stated the methodology we have followed in our empirical study we then present the results of our statistical analysis to determine the degree of fulfillment of the relationships we propose at a theoretical level.

Typically a methodology like this one works comparing a baseline group (not having taken the course) with the group that has taken the course (after having taken it). The aim is gaining insights into the impact of the experience of an entrepreneurship program in terms
of developments in self-efficacy and intentions towards entrepreneurial venturing. The approach has been used to assess a range of programs and activities including: 1) *Enterprisers* (Program developed with the support of Cambridge-MIT Institute (CMI); 2) *EDGE* (Encouraging Dynamic Global Entrepreneurs and 3) *SPEED* Placement Program.

Some literature claims for studies comparing the value of variables in a longitudinal way. This allows the researcher to measure the impact of a course, which is the difference appreciated in any given item from the moment of the start and the final moment of the course. Some studies also measure the impact of entrepreneurship courses some months after the completion of the course (Basu and Virick, 2008; Cooper and Lucas 2006, 2008; Garcia and Moreno, 2008; Brown and Denny, 2009; Graevenitz et al, 2010) According with this literature, we do think that, given the nature of an entrepreneurship course in an IMBA, that lasts for a period of time between 5 and 6 months, an important measure is to gauge the impact by establishing differences from the beginning and the end of the course. Another important measure is to gauge the impact several months after the final complexion of the entrepreneurship course (to see any possible enduring effects). The course of Entrepreneurship developed at the IMBA at IE Business School, as we have previously mentioned, is 6 months long and takes place in the first half of the IMBA.

Therefore, given the objective of this paper and the formulation of our hypothesis the main statistical technic we’re going to use is difference of means. As we mentioned in our above review of the literature, average mean and standard deviation is an indicator widely used in studies regarding the impact of entrepreneurship courses (Basu and Virick, 2008; Cooper and Lucas, 2008; Brown and Denny, 2009).

The results of the research suggest that the Entrepreneurship Course developed at the International Master in Business Administration at IE Business School has brought about very weak impacts upon participants entrepreneurial self-efficacy without a sizeable proportion of change identified at the end of the course that still is weak (or even weaker) after a period of half a year after the final complexion of the course. At the same time, only a minimal enduring effect, if any at all, was found on entrepreneurial intentions. Concrete and more precise findings are presented below.

Regarding Hypothesis 1a that stated that the attendance to an entrepreneurship course in a MBA has a positive impact in the development of entrepreneurial self-efficacy in the participants and according to the data exposed in table 4, we have to conclude that this hypothesis is partially supported. Impact of the entrepreneurship course on participant’s ESE is really weak. Overall the impact is not statistically significant with mean values of 4.94 at the beginning of the course, with a weak increase at the end of the course to 5.29 and then a decrease to 5.09 six months after the end of the course. Factors 1 (assessment-driven) and 2 (people-driven) of the variable show a positive significant impact. This implies that the impact of the course is not flat with a deeper impact in skills related to assessment-making and dealing with people while the impact on those aspects related to creativity, decision making and innovation are not relevant.
As we stated in our review of the literature, the impact of an entrepreneurship course doesn’t have to be the same in the case of nascent and non-nascent entrepreneurs. To gauge this possible different impact, hypothesis 1b considered that the attendance to an entrepreneurship course in an MBA has a stronger impact in the development of entrepreneurial self-efficacy in those individuals not considered nascent entrepreneurs than it is in those considered so. According to the data shown in table 4 this hypothesis is partially supported. The impact of the entrepreneurship course on ESE is not statistically significant in any factor for nascent entrepreneurs while it is weak but significant in those not considered nascent entrepreneurs for factors 1 and 2. This means that entrepreneurship courses can be useful tools to try to enhance ESE among non-nascent entrepreneurs, particularly on skills related to assessment-making and people-related. On the contrary these courses do not seem to be a good tool to try to boost important entrepreneurial skills such as creativity, innovation or decision making.

Table 4. Difference of means for ESE, mean and by factors

<table>
<thead>
<tr>
<th>ESE MEAN</th>
<th>ESE FACTOR 1</th>
<th>ESE FACTOR 2</th>
<th>ESE FACTOR 3</th>
<th>ESE FACTOR 4</th>
<th>ESE FACTOR 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>.179</td>
<td>.276</td>
<td>-.202</td>
<td>-.175</td>
<td>-.246</td>
</tr>
<tr>
<td>N</td>
<td>103</td>
<td>64</td>
<td>39</td>
<td>103</td>
<td>64</td>
</tr>
<tr>
<td>Standard Dev</td>
<td>.964</td>
<td>.996</td>
<td>.898</td>
<td>1.015</td>
<td>1.004</td>
</tr>
<tr>
<td>Intake 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>.223</td>
<td>.451</td>
<td>-.098</td>
<td>.204</td>
<td>-.007</td>
</tr>
<tr>
<td>N</td>
<td>44</td>
<td>22</td>
<td>22</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>Standard Dev</td>
<td>.819</td>
<td>.687</td>
<td>.113</td>
<td>.986</td>
<td>1.279</td>
</tr>
<tr>
<td>Intake 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-.184</td>
<td>.059</td>
<td>.365</td>
<td>.107</td>
<td>-.021</td>
</tr>
<tr>
<td>N</td>
<td>153</td>
<td>65</td>
<td>88</td>
<td>153</td>
<td>65</td>
</tr>
<tr>
<td>Standard Dev</td>
<td>1.040</td>
<td>.902</td>
<td>1.102</td>
<td>.931</td>
<td>1.007</td>
</tr>
<tr>
<td>Total Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>.000</td>
<td>.208</td>
<td>-.211</td>
<td>.000</td>
<td>-.053</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
<td>151</td>
<td>149</td>
<td>300</td>
<td>151</td>
</tr>
<tr>
<td>Standard Dev</td>
<td>1.000</td>
<td>.922</td>
<td>1.033</td>
<td>1.000</td>
<td>1.004</td>
</tr>
<tr>
<td>F</td>
<td>5.536</td>
<td>2.499</td>
<td>3.260</td>
<td>1.234</td>
<td>2.877</td>
</tr>
<tr>
<td>ANOVA Sig</td>
<td>.004</td>
<td>.169</td>
<td>.090</td>
<td>.004</td>
<td>.294</td>
</tr>
<tr>
<td></td>
<td></td>
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</table>

Once we have presented the results of the first two hypotheses regarding entrepreneurial self-efficacy, we now present results regarding entrepreneurial intentions. Hypothesis 2a then set out that the attendance to an entrepreneurship course in an MBA has a positive impact in the development of entrepreneurial intentions in the participants. We have to conclude, according to the data exposed in table 5, that this hypothesis is not supported. The impact of the entrepreneurship course on EI of participants is really weak. Overall and factor by factor the impact of the entrepreneurship course on EI is not statistically significant. Values of the mean typically behave following the same pattern: a weak increase from the beginning to the end of the course (from 4.99 to 5.19) followed by a decrease (to 5.13) six months after the end of the course. This clearly shows a really weak impact of the course on entrepreneurial intentions and, more precisely, that this weak impact does not endure over time. This poses doubts about the effectiveness of using
entrepreneurship courses in order to raise the levels of entrepreneurial intentions among participants.

In hypothesis 2b we explored the fact that the attendance to an entrepreneurship course in an MBA has a stronger impact in the development of entrepreneurial intentions in those individuals considered nascent entrepreneurs that in those that are not considered so. After the study of the data exposed in table 5 this hypothesis is not supported. The impact of the entrepreneurship course in participant’s intentions is not statistically significant neither is in nascent entrepreneurs nor in those not considered so. Although by comparing the difference of means we can observe a weaker impact in those not considered nascent entrepreneurs (mean increase of 4.5% in nascent –from 5.24 to 5.48- against 1.8% in not nascent –from 4.81 to 4.90-) from intake 3 to 2, there is a drop from intake 2 to intake 1 (mean decrease of 3.87% - from 4.90 to 4.71- for non-nascent against 1.6% -from 5.48 to 5.39- in the case of nascent entrepreneurs). The results are not statistically significant but, in any case, they again show a weak and not-enduring impact of entrepreneurship courses on entrepreneurial intentions.

Table 5. Difference in means for Entrepreneurial Intentions mean and factors.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>EI Mean Total</td>
<td>5.13</td>
<td>5.19</td>
<td>4.99</td>
<td>5.00</td>
</tr>
<tr>
<td>EI Mean Nascent</td>
<td>5.39</td>
<td>5.48</td>
<td>5.24</td>
<td>5.34</td>
</tr>
<tr>
<td>EI Mean Non-Nascent</td>
<td>4.71</td>
<td>4.90</td>
<td>4.81</td>
<td>4.79</td>
</tr>
</tbody>
</table>

ANOVA Sig. 

<table>
<thead>
<tr>
<th>F</th>
<th>.237</th>
<th>.317</th>
<th>.696</th>
</tr>
</thead>
</table>

Regarding hypothesis 3 that stated that at the beginning of an Entrepreneurship course participants considered Nascent Entrepreneurs have higher levels of Entrepreneurial Self-Efficacy (ESE) than those not considered so and it continues being that way after the course, and according to the data presented in table 4, we have to conclude that this hypothesis is supported. If we observe the differences on the mean values of the variable, in all three intakes (from the beginning) values of ESE on nascent entrepreneurs are and remain higher than those of non-nascent entrepreneurs (Intake 3: 5.06 of nascent entrepreneurs against 4.85 in the case of non-nascent entrepreneurs; intake 2: 5.45 in the case of nascent entrepreneurs against 5.13 in the case of non-nascent entrepreneurs and intake 1: 5.19 in the case of nascent entrepreneurs against 4.92 in the case of non-nascent entrepreneurs). It is interesting to observe entrepreneurship courses are not able to raise the
levels of ESE of non-nascent entrepreneurs over the levels of nascent entrepreneurs in any moment of time.

Finally Hypothesis 4 set out that, at the beginning of an Entrepreneurship course participants considered Nascent Entrepreneurs have higher levels of Entrepreneurial Intentions (EI) than those not considered so and it continues being that way at the end and time after the end of the course. According to the data presented in table 5, we conclude that this hypothesis is supported. Differences of mean values of the variable, in all three intakes, show that the levels of EI on nascent entrepreneurs (5.24 for nascent-entrepreneurs against 4.81 in the case of non-nascent entrepreneurs in intake 3; 5.48 for nascent-entrepreneurs against 4.90 in the case of non-nascent entrepreneurs in intake 2; and 5.39 in the case of nascent-entrepreneurs against 4.71 for non-nascent entrepreneurs in intake 3) are and remain higher along and after the course than in those participants not considered nascent entrepreneurs. This confirms that entrepreneurial intentions are higher in nascent entrepreneurs than in non-nascent entrepreneurs and that doesn’t change as a consequence of an entrepreneurship course.

In table 6 we present a summary of the empirical support of our hypotheses.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Subject</th>
<th>Diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>ESE</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>H1b</td>
<td>ESE Non-Nascent</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>H2a</td>
<td>EI</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2b</td>
<td>EI Nascent/Non-Nascent</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3</td>
<td>ESE Beginning to End Nascent/Non-Nascent</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>EI Beginning to End Nascent/Non-Nascent</td>
<td>Supported</td>
</tr>
</tbody>
</table>

**2.4.2. Discussion**

Having all these results in mind, discussion and implications are deep. It is widely accepted in the literature that entrepreneurship programs enhance entrepreneurial self-efficacy and, although not that clear, entrepreneurial intentions. The results of our research question this literature. With our research in mind we have to reflect about what are the goals of these courses. If the objective of entrepreneurship programs is to raise the level of entrepreneurial self-efficacy and entrepreneurial intentions it seems this program is not very successful. If the objective is “to awake” participants towards entrepreneurship it seems again that the program is not successful. Furthermore, if the objective of the program is (as stated in the objectives of the course) to “provide students with the essential knowledge, skills and tools that are required to plan, create and manage a new business venture” (issues related to entrepreneurial self-efficacy) it seems that the program fails again.
Apparently “the program does not work”. But there is a different approach to the results of our research. It is not that the participants lack of ESE of EI at the beginning of the course or at the end or even 6 months after the end. Both ESE and EI are really high from the beginning to the end with marks consistently above 5 in a scale of 7. This can lead us to a different interpretation. With individuals with such a high level of ESE and EI “at front”, if the program were able to “raise the bar” that would mean to produce “almost perfect entrepreneurs” with the maximum possible level of ESE and EI. This doesn’t look realistic. But the truth is that, after the program ESE and EI remain basically the same, this is, very high. It could be argued that participants could have had very high levels of ESE and EI previous to the course for very different reasons, backgrounds and so on. But, once all of them take part in such an intensive program (and know more from all perspectives about entrepreneurship) the levels of ESE and EI basically are the same. This is, at the end and six months after the program participants are more informed and aware about entrepreneurship and they continue basically with the same levels of ESE and EI. It would seem reasonable then to think participants have a “deeper” ESE or EI since such an intensive experience did not demotivated them. Realistically thinking significantly raising mean levels of 5 out of 7 would seem almost “magical” for a course.

This raises doubts about whether the results of this course can be generally extrapolated. It seems reasonably not. It could be argued this is an “entrepreneurship course for already entrepreneurs” which could have a similarity with the popular saying of “preaching to the converted”. Over 50% of participants are “formally” entrepreneurs (they have been engaged in more than 2 entrepreneurial behaviors) but, if we lower the bar to where it should be according to the literature (to be engaged in 2 entrepreneurial behaviors and not more than 2) over 60% of participants could be considered nascent entrepreneurs. Furthermore, as shown in our data, most of the participants are international, they had to engage in an international admission process, they have left their country, they have been willing to pay a very high amount of money for tuition and fees of the program plus all the expenses of being in a different country for a year plus, in many cases, having left jobs to participate in the course. All these behaviors, although not “formally” entrepreneurial, “informally” they are. In addition to all this, as we see from results of Hypotheses 4 and 5, nascent entrepreneurs have higher levels of ESE and EI throughout all the process that non-nascent entrepreneurs, but the impact of the course in basically the same in both cases.

What can happen to a different sample is something that would need further research. Participants of this program are self-selected (they had to pass the admissions process but they freely decided to take part of it) and willing to pay a high price to engage in the program, this probably mean they are eager and ready to take action in many ways and they are “supposed” to have leadership and entrepreneurship potential. As Mau’s (2003) suggest, once established, self-efficacy can have a strong and long lasting influence as confidence encourages the acceptance of further challenge, with success feeding back into a spiraling process which enhances self-efficacy further.

Anyhow, the “almost flat” impact of the program in ESE and EI can’t be denied. If this would be the case with different (less entrepreneurial) samples it would be a serious reason
of concern. This is an issue that deserves further research. Treating programs as quasi-experiments (Campbell and Stanley, 1963) helps to establish a deeper understanding of entrepreneurial development. If entrepreneurship programs are designed with the expectation of generating a strong positive change in ESE and, specially EI, the evaluation presented in this paper casts doubts on this belief and contradicts the view in the literature that taking part of an entrepreneurship course increases the levels of ESE and consequently of EI. It doesn’t seem to be a simple cause and effect relationship between ESE and EI. The impact of entrepreneurship programs seems to depend on the program itself but also on the content, the methodology, the participants and, probably, more variables. Of course, implications of this are serious in the sense that, investing money and resources in entrepreneurship courses in general and “just because” following the pervasive paradigm in the entrepreneurship literature that this would enhance entrepreneurship in society, seems to be too audacious. On the contrary, special care has to be put in the design of all aspects of entrepreneurship courses.

As a conclusion our research gives ground to the “Teachability Dilemma” of Entrepreneurship Education (EE) raised by Haase and Lautenschlager (2010). These authors mention Henry et al. (2005) that state that at least some aspects of entrepreneurship can successfully be taught. Rae and Carswell (2001) admit that there are some relatively easy teachable (e.g., business and management functional knowledge, business plan) and not easily teachable (e.g. creativity and innovativeness) components of entrepreneurship.

Hard facts about business creation such as venture finance, accounting, marketing, management, and business plan development can easily be taught by EE. However, a considerable and essential part of entrepreneurial expertise is tacit and based on know-how; it is the “ingredient” that distinguishes the entrepreneur from other individuals and should be the focus of EE. The inclusion of “know-how” building elements in EE programs is still dilatory (Lautenschlager and Haase, 2011).

According to Kirby (2004), the focus on developing entrepreneurial skills, attributes, and behavior remains scarce. Blenker et al. (2008) raise doubts about the present educational system and it’s capability of developing students’ motivation, competences, and skills concerning entrepreneurship. They argue that, at present, universities have not mastered the necessary learning methods, pedagogical processes, and frames for EE. In fact, when comparing the required competences and qualifications for entrepreneurs with up-to-date EE from the literature review and practical experience, the “New School” or the “Enterprising Learning Mode”, proposed by progressive entrepreneurship educationalists (Ronstadt, 1985; Gibb, 1993), has in no way substituted the traditional EE; the latter is still the predominating concept. Solomon’s (2007) indicates that the most widespread EE pedagogies are class lectures, business plan creation, guest speakers, and class discussions.

Following Lautenschlager and Haase, (2011): “We believe that too many programs still conceive EE as an adapted business management education, covering all related functional areas in a quick run, and only a few approaches seem to be suited to transmit entrepreneurial ‘know-how’. As a consequence of all this, a “Teachability Dilemma” in EE
comes into picture. On the one hand, tacit and experience-based elements are highly relevant for successful business venturing, and their appropriate conveyance is what among all things differentiates and contrasts EE from traditional business management education. On the other hand, those qualifications are difficult to convey through EE, they must rather be experienced. In other words: Whatever set of qualifications EE is able to provide, it encounters its limitations when transmitting the core value of entrepreneurship”.

It seems that realistically “soft entrepreneurial skills” are not easy to convey just in a course of any kind. This poses huge challenges to the entire educational system, from families to schools, universities and, of course, business schools. Cultural, social and environmental issues need to be addressed holistically when it comes to approach the real impact of entrepreneurship education. It is not a matter of “preaching to the converted” but of “giving light to those who can’t see”. Hopefully this paper can contribute to inspire a realistic and not sensationalistic debate about EE. Entrepreneurship is and will be key in our global world. There is much at stake.

2.5. Conclusions

The goal of our paper was to dig deeper into the possible impact that entrepreneurship courses could have in entrepreneurial self-efficacy and entrepreneurial intentions of participants. This impact is not well known in the literature. Many papers claim that this impact is certainly remarkable while at the same time there are also studies that challenge this view. Our purpose was to better understand this issue to help to clarify these relationships but taking into account different approaches that could offer more light and a different perspective, this is: looking at those relationships among the environment of a top business school of the world and, at the same time, taking into account the different character of being or not a nascent entrepreneur.

In order to fulfill our objective and after a review of the literature we gathered data on a three stage empirical study. Analysis of the information of our empirical study show a weak impact of the course on entrepreneurial self-efficacy and an even weaker impact on entrepreneurial intentions of participants. This impact weakens even further several months after the final complexion of the course. The difference founded among nascent and non-nascent entrepreneurs, although present, is not very relevant. Particularly important is the fact that, although the impact of the course is not very deep in terms of increase or decrease of ESE or EI as a consequence of the course, those levels are really high among participants which, generally speaking, allows us to conclude that it is difficult to raise the levels of ESE or EI using an entrepreneurship course in participants that already have very high levels of them. On the contrary it’s very important to observe that those levels do not decrease, they have a modest increases, what can show re-affirming perceptions of ESE and EI on participants as a consequence of the entrepreneurship course.
Contributions of our research from a theoretical point of view have to do with the fact that our results challenge the pervasive literature that establishes that entrepreneurship courses significantly raise the levels of ESE and, to some point of EI, on participants. Our study contributes to clarify and to understand in more detail the limitations of entrepreneurial education. We test the constructs of ESE and EI using a more refined measure by using the concept of nascent and non-nascent entrepreneurs and measuring the different impact of entrepreneurship courses taking into account that conditions. In addition to this, we do test the ESE and EI constructs in the setting of a top business school. Results here are challenging again since, as we see, even in a top business school, the impact of entrepreneurship courses on ESE and EI is limited. From an empiric point of view our study confirms the usefulness of the longitudinal studies to try to gauge the impact of a course in participants by confirming that enduring effects, along the time, need to be carefully observed since only a measure in a given time could be misleading. We also “open the door” for further research developed at top business schools regarding the issue of what can be achieved by the attainment of an entrepreneurship course in such environments.

Overall and particularly, our study questions the utility of investing huge amounts of public and private resources in the development of entrepreneurship courses and the issues they tackle. It is clear that attending an entrepreneurship course does not have a huge impact on ESE and EI. As the results of our research show, key aspects for entrepreneurs such as creativity, innovation or decision taking probably need to be developed along the years which probably need a change in overall perceptions in society about the acceptance and convenience of entrepreneurship as an economic engine. No “quick solution” (such as only attending a course) seems to be available for that.

We consider as a limitation of our study the fact that the second factor used to measure the impact of EI is not very robust although this limitation is not very relevant given the fact that the differences founded in this factor were not statistically significant. Another possible limitation of our study we have to point out is the fact that we are not sure our results can be extrapolated to different samples with lower levels of ESE or EI. The environment of a top business school could be “really specific”. This also deserves more research developing more studies in samples with lower levels (previous to the course) of ESE or EI to measure the impact of entrepreneurship courses in them.

Our research also poses interesting issues on the design of entrepreneurship courses. It is clear that aspects such as innovation, creativity and decision taking need to be boosted in the curricula of the courses. It seems clear that entrepreneurship courses not only have to inform participants about very explicit issues (for instance about how to develop a business plan) but to form in them a deep criteria about more tacit and soft skills such as the above mentioned. This also raises questions about the special teaching skills and education needs of entrepreneurship professors: is it possible to really be a good entrepreneurship instructor by being just a theoretician?, Is it possible that a person that has never been entrepreneurial, creative or innovative can be a good entrepreneurship instructor just because of theoretical academic credentials? Or, should it be better a mix in the profile in
which, along with robust academic credentials there is the existence of a proven practical entrepreneurial record? How this proven practical entrepreneurial record will be measured in terms of academic promotions so it can be interesting for promising scholars? More research regarding this controversial issue and its deep academic implications would be needed.

Further research would also be needed to particularly tackle the issue of ESE. Probably a useful way of doing so could be assessing ESE not as a uni-dimensional issue but as a multi-dimensional one taking into account novel different perspectives like the different phases of the entrepreneurial process and trying to dig deeper with nascent and non-nascent entrepreneurs.
2.6. Bibliography


Aldrich, H.E. and Martinez, M.A. (2001): “Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship”. Entrepreneurship Theory and Practice, 25 (4), 41-56.


CHAPTER 3:
NASCENT ENTREPRENEURS, ENTREPRENEURIAL PROCESS, ENTREPRENEURSHIP EDUCATION AND SELF-EFFICACY:
A DYNAMIC APPROACH
3.1. Introduction

In order to get a more productive and innovative economy, policy makers are investing more and more resources to foster entrepreneurship. One of the key areas of investment is the development of entrepreneurship courses at all levels of the educational system. These phenomena have been supported from an academic point of view. Education has an important role to play in the development of entrepreneurial behavior. Countries with more start-up businesses typically have a higher GDP (GEM, 2008).

At the beginning of any research project should lie a question: What conditions set the stage for scientific advancement? According to Rammert (2006) science advances through two different processes: integration and specialization. These can be described respectively as connecting diverse bodies of knowledge and digging deeper into specific areas of study. As with all science, the healthy advancement of management as a field requires both integration and specialization (Okhuysen and Bonardi, 2011).

In this paper we intend to make an integration (study of relationships) of different relevant constructs in order to get a deeper specialization (gaining insight). Therefore we’re going to study the impact of entrepreneurship education on entrepreneurial self-efficacy along the entrepreneurial process considering the construct of nascent entrepreneurs (integration). Our aim is to gain insight about the effects of entrepreneurship education (specialization).

Some studies focusing on antecedents to entrepreneurship have been devoted to evaluating the extent to which a person’s traits and personality characteristics (like, for instance, extraversion vs. introversion, achievement motivation or affiliation needs) lead to entrepreneurial actions (Lumpkin and Dess, 1996; Lumpkin and Erdogan, 1999). Static personality characteristics, traits or predisposition at the individual level of analysis however, have not proven effective at consistently predicting entrepreneurial activity (Sandberg and Hofer, 1987). A different approach in the literature adapts cognitive constructs such as self-efficacy from the literature on organizational behavior (Bandura, 1995) to entrepreneurship. This line of research believes that individuals might be more inclined to pursue entrepreneurship if they believe they possess the necessary skills to function in such an environment (Chen, Greene and Crick, 1998; Golden and Cook, 1998).

Entrepreneurial self-efficacy is a constructs that has been largely developed in the literature. Bandura’s concept of Self-efficacy refers to an individual’s belief in their personal capability to accomplish a job or a specific set of tasks (Bandura, 1977). More precisely, self-efficacy describes “people’s beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives” (Wood and Bandura, 1989, pg. 364). According to Bandura (1986), individuals gradually accumulate their self-efficacy through prior cognitive, social and physical experiences (Gist, 1987). As such, prior successful enactment of a task can change one’s expectations and help further reinforce his or her self-efficacy. Bandura
(1990) stated that self-efficacy affects an individual’s thought patterns that can enhance or undermine performance. Specifically, if one has a high level of self-efficacy, he or she is more likely to set a higher or challenging goal, which in turn raises the level of motivation and performance attainments. A high level of self-efficacy can help individuals maintain their efforts until their initial goals are met (Gist, 1987).

Individuals are unlikely to take action or persevere in their actions if they do not believe that they can produce desired outcomes (Bandura, 1997). Thus, self-efficacy is an important determinant of the goals that an individual decides to pursue, and of the level and length of effort exerted in the pursuit of those goals (Locke and Latham, 1990; Bandura, 1997).

One likely reason that self-efficacy has received increased attention in organizational research is that it is malleable, and thus open to development (Gist and Mitchell, 1992; Luthans, 2002). Indeed, since Kraiger, Ford, and Salas (1993) identified self-efficacy as a relevant, affectively based learning outcome, it has been assessed as a training outcome with increased frequency, more so than any other affectively based learning outcome (Ford, Kraiger, and Merritt, 2009). Being able to manage and influence behavior is one of the core objectives of social science; thus, it stands to reason that interventions should follow basic research and be evaluated on their effectiveness (Greenberg, 2009).

When self-efficacy refers to new venture intentions it is referred to as ESE: Entrepreneurial Self-Efficacy (Chen et al, 1998; Krueger and Brazeal, 1994). Entrepreneurial self-efficacy is a different construct that measures the individual’s belief in their ability to successfully launch an entrepreneurial venture (McGee, Peterson, Mueller and Sequeira, 2009). According to different authors, entrepreneurial self-efficacy is a particularly important antecedent to the intentions of creating a new venture (Barbosa, Gerhardt and Kickul, 2007).

Some theorists argue that Self-Efficacy construct is enough and that there is no need for a more specific construct like ESE. Self-efficacy in general captures the perception individuals have of their ability to perform a variety of tasks in a different variety of circumstances. This is, self-efficacy refers to the confidence an individual has about meeting tasks demands, regardless of those demands. However Bandura (1977, 1997) argued that self-efficacy should focus on a specific field and activity domain. The more task specific we can make the measurement of self-efficacy, the better the predictive role of self-efficacy is going to play on the explanation of task-specific outcomes of interest (Bandura, 1977).

While a branch of research has focused on trying to identify the personal characteristics that distinguish entrepreneurs from those that are not, another branch has followed a more process oriented perspective. A process oriented line of research looks at entrepreneurship as ”a process of becoming rather that a state of being” (Bygrave, 1989). It is in this framework that the assumption that education can have an impact on the entrepreneurial behavior has its place. The premise that underpins the design of entrepreneurship courses
is the belief that students can be motivated to start new projects by enhancing their levels of self-confidence in entrepreneurial skills (Cooper and Lucas, 2006). Following this line of thought Bird (1988) focuses his attention on the conscious and intended act of new venture creation.

On the other hand, entrepreneurship education can influence beliefs attitudes and intentions towards an entrepreneurial behavior so, it is very relevant to study how entrepreneurship programs can bring about changes in the levels of self-efficacy of students so they can be challenged and motivated to try new activities and persist in the face of difficulty (Cooper and Lucas, 2006). In this sense, it has been found a positive association between deep learning and the use of experiential and reflective teaching and learning methods (Krebner, 2001; Loo and Thorpe, 2002). Some authors assess a classroom intervention for developing efficacy beliefs in undergraduate management students (Nelson, Poms and Wolf, 2012).

Entrepreneurship education in MBA programs has been shown to increase student ratings of entrepreneurial self-efficacy (Wilson, Kiskul and Marlino, 2007) which, in turn, leads to higher levels of entrepreneurial intentions (Zhao, Deibert and Hills, 2005). In addition to this, it has also been shown that exposure to entrepreneurial role models increases levels of entrepreneurial self-efficacy (BarNir, Watson and Hutchins, 2011). Educators can utilize multiple mechanisms and a variety of pedagogical techniques to increase student’s perceptions of self-efficacy (Smith and Woodwoth, 2012).

Having said this, the impact of entrepreneurship courses is still poorly known. Some studies find a positive impact of entrepreneurship education on perceived attractiveness and feasibility of new venture creation an entrepreneurial activity (Souitaris, Zerbinati and Al-Laham, 2007). At the same time, it is interesting to realize that different types or dimensions of self-efficacy can have individual and different effects on multiple dependent variables, particularly entrepreneurial intentions and nascent behavior (McGee et al, 2009).

Mueller and Goic (2003) provide further support to the need of examining individually the different dimensions of ESE. In their international comparative study they adapted a four-phase venture creation process model originally proposed by Stevenson et al (1985) and created a separate measure of ESE for specific tasks associated with the four phases of the process (searching, planning, marshaling and implementing) and, related to this, is also relevant to study the construct of nascent entrepreneurs. They are individuals who engage in activities that are meant to result in a feasible business start-up (Aldrich and Matinez, 2001). Therefore it seems also pertinent to try to explain the role that entrepreneurship education can have in those nascent entrepreneurs since these individuals are likely to be the ones starting new businesses in the near future.

In short, we can say that, in the light of what we have just stated, it is relevant to try to better understand the real impact of entrepreneurship courses on the entrepreneurial self-efficacy of participants and, particularly, to try to understand the different impact (if any) depending on the different phases every entrepreneur has to undertake in the
entrepreneurial process. It is also pertinent to try to gain insight into the real impact of entrepreneurship education on entrepreneurial self-efficacy of participants trying to separate the different character of nascent or non-nascent entrepreneur in the participants. The results of such a research and the implications are both deep and relevant as discussed in the final part of this research.

Therefore, it is the purpose of this research is to study the relationship among education in entrepreneurship and the development of entrepreneurial self-efficacy. More precisely this paper intends to study higher education in entrepreneurship (in MBA programs) and its impact in the development in students of entrepreneurial self-efficacy. At a more operational level this paper intends to study the impact of entrepreneurship education along the entrepreneurial process and its different phases as well as the impact that this courses can have in the level of entrepreneurial self-efficacy of nascent entrepreneurs and the possible differences among this impact in nascent an non-nascent entrepreneurs.

In our empirical study we examine entrepreneurial education in MBA programs because they are the key and more extended programs in the portfolio of Business Schools. Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum. We take as a reference the Financial Times Global MBA Ranking 2012 to study the offer of entrepreneurial education that the Top 10 Business Schools in the world have in their MBA curriculum. All of them offer entrepreneurial education. This means, in the eyes of the authors, that entrepreneurial education is really relevant. Paradoxically, up to date we don’t really know what kind of real impact entrepreneurial education can have on entrepreneurial self-efficacy of participants. Furthermore, there is not relevant previous research studying these phenomena along the different phases of the entrepreneurial process as well as we don’t know, to date, studies addressing the problem of the impact of this education on nascent entrepreneurs.

This chapter, then, intends to make the following contributions: 1) We employ a novel analytical framework that measures the impact of entrepreneurial education on entrepreneurial self-efficacy along the different phases of the entrepreneurial process allowing, therefore, having more specific and useful data. 2) We analyze in an innovative way the different impacts entrepreneurial education can have on entrepreneurial self-efficacy regarding the participant’s nature of nascent or non-nascent entrepreneurs. 3) The paper tests the relationships proposed in the different hypothesis in the context of one of the, generally recognized, as a one of the 10 Top Business Schools in the World. 4) The results and conclusions of our research aim to provide policy makers, deans and academic governing bodies of Universities, Business Schools and other academic institutions as well as entrepreneurship researchers with suggestions that will refine, provide security and make richer the design of MBA programs and, particularly, of entrepreneurship courses. 5) The methodology of the empirical study follows an innovative three stage model that allows comparison among students in different stages of their studies.
The chapter is structured as follows: the next section makes a review of the literature and postulate different hypothesis. Section 3 describes the quantitative methodology that we have followed to test the hypotheses and section 4 presents our results. Finally, at the end of this work, we outline our conclusions as well as the theoretical and practical implications of our study.

### 3.2. Theoretical framework

Self-efficacy can be defined as “a person’s belief in his or her capability to perform a task” (Gist, 1987). The concept of self-efficacy has been widely studied. According to Bandura’s (1977) social learning theory, the term self-efficacy represents a person’s belief in his or her capacity to perform a given task. In direct association with this concept is that of intentions. The way in which a person perceives his or her abilities and tendencies plays an important role in the development of intentions (Ryan, 1970).

Self-efficacy can have a profound influence on the complex process of new venture creation. Bandura (1977, 1982) suggested that self-efficacy influences the development of entrepreneurial intentions and actions. Self-efficacy with respect to a wide range of aspects can have a significant effect upon the likelihood that individuals will engage in those activities, especially if they are seen as difficult or challenging. People with low levels of self-efficacy are more likely to avoid challenging situations or, in the case of trying a difficult activity, they are more likely to persist in the face of failures or setbacks. By contrast, people with a high level of self-efficacy will be more likely to face challenges beyond their current known capabilities. Furthermore, if they don’t success at first time, they would be more willing to remain enthusiastic and keep trying in the belief that they are capable of achieving the desired goal if they make enough effort. Highly efficacious people are more likely to reach beyond their own limits and engage in unchartered waters. This means that when they are successful their levels of self-efficacy rise to new levels beyond the previous ones (Cooper and Lucas, 2008). It has been observed a three way interaction between self-efficacy, optimism and environmental dynamism with respect to firms performance (Hmieleski and Baron, 2008). In addition, self-efficacy increases the likelihood of being a nascent entrepreneur and creating and operating a business (Cassar and Friedman, 2009).

As we have mentioned in the introduction, when self-efficacy refers to new venture intentions it is referred to as ESE: Entrepreneurial Self-Efficacy (Krueger and Brazeal, 1994; Chen et al, 1998). Entrepreneurial self-efficacy is a different construct that measures the individual’s belief in their ability to successfully launch an entrepreneurial venture (McGee et al, 2009).

The majority of the research developed on Entrepreneurial Self-Efficacy (ESE) has relied on uni-dimensional or very limited dimensions of ESE (Baum and Locke, 2004; Kristiansen and Indarti, 2004; Arennius and Miniti, 2005). Some authors just ask for a yes
or no answer to a general question like: “Do you have the knowledge, skills and experience required to start a new business” (Tominc and Rebernik, 2007). This is an extreme of uni-dimensional measures.

Other set of studies rely on a total ESE score rather than on the underlining dimensions (Forbes, 2005; Zhao et al, 2005). Chen et al (1998) studied whether managers and entrepreneurs exhibited different levels of ESE. They identified five underlying dimensions of ESE but they finally relied on a total ESE score (an average of 22 items). It is true that this technique allowed them to distinguish in an effective manner entrepreneurs and managers but their outcomes lead to little number of ideas about the importance of the dimensions of ESE (like marketing, innovation, etc.).

A total or composite measure of ESE does not provide enough insight to distinguish what particular areas of self-efficacy are especially relevant. Using a uni-dimensional approach to measure ESE is not possible, for instance, to establish whether a high level of risk-taking self-efficacy is more influential than self-efficacy in finance in creating entrepreneurial intentions (McGee et al, 2009).

Zhao et al (2005) tried to investigate the mediating role of self-efficacy in the development of entrepreneurial intentions. They found that entrepreneurial education was positively correlated with higher levels of ESE and higher levels of ESE were correlated with entrepreneurial intentions. This finding suggests that entrepreneurial education may lead to higher levels of entrepreneurial activity by elevating people’s confidence in successfully launching a new venture. However it is evident, that because the authors relied of a total or composite ESE score, it was impossible to identify the specific areas of education that are more effective in enhancing the ESE levels.

On the contrary, a limited number of studies have separated the different dimensions of the construct of ESE. In the study of Barbosa, Gerhardt and Kickul (2007), the authors addressed the relationship between cognitive styles and four task-specific types of ESE (opportunity identification self-efficacy, relationship self-efficacy, managerial self-efficacy and tolerance self-efficacy). The author’s found that the different types or dimensions of self-efficacy can have individual and different effects on multiple dependent variables, particularly entrepreneurial intentions and nascent behavior (McGee et al, 2009).

Mueller and Goic (2003) provide further support to the need of examining individually the different dimensions of ESE. In their international comparative study they adapted a four-phase venture creation process model originally proposed by Stevenson, Roberts and Grousbeck (1985) and created a separate measure of ESE for specific tasks associated with the four phases of the process (searching, planning, marshaling and implementing). These four phases are:

1) The searching phase is about the development by the entrepreneur of a unique idea and/or the identification of a particular interesting opportunity. This particular phase draws upon the entrepreneur’s creative talents and his/her ability to innovate. Entrepreneurs, generally in contrast with managers, are particularly adept to at
perceiving and exploiting opportunities before these opportunities are recognized by
others (Hisrich and Peters, 1998).

2) The planning phase consists of activities by which the entrepreneur converts the idea into a feasible business plan. At this stage, the entrepreneur may or may not actually write a business plan but he or she must evaluate the idea or opportunity and give it substance as a business. The plan addresses questions such as: What is the size of the market? Where will the business establishment be located? What are the product specifications? How and by whom will the product be manufactured? What are the start-up costs? What are the recurring operating costs of doing business? Will the venture be able to make a profit and if so, how soon after founding? How rapidly will the business grow and what resources are required to sustain its growth? (Mueller and Goic, 2003).

3) The marshaling phase involves assembling resources to bring the venture into existence. At the end of the planning phase, the business is only “on paper” or in the mind of the entrepreneur. To bring the business into existence, the entrepreneur gathers (marshals) necessary resources such as capital, labor, customers and suppliers without which the venture cannot exist or sustain itself (Mueller and Goic, 2003).

4) Implementing is the final phase. The entrepreneur is responsible for growing the business and sustaining the business past the beginning. To this end the entrepreneur must apply good management skills and principles. As an executive-level manager, the entrepreneur engages in strategic planning and manages a variety of business relationships with suppliers, customers, employees, and providers of capital. Growing a business requires the vision and the ability to solve problems quickly and efficiently. These tasks are not unique to entrepreneurs and are required too to managers. But the entrepreneur is the primary risk-bearer of the enterprise with a financial stake in its long term growth and success (Mueller and Goic, 2003).

These authors reported a different impact in the individual’s ESE by phase confirming, in an empiric manner, that the construct of ESE has a multidimensional nature. We can define then ESE in each phase, taking as a base the Gist’s (1987) and Bandura’s (1977) definition of self-efficacy, as the self-belief individuals have to perform correctly the kind of tasks required in each phase.

On the other hand, entrepreneurship education can influence beliefs attitudes and intentions towards an entrepreneurial behavior so, it is very relevant to study how entrepreneurship programs can bring about changes in the levels of self-efficacy of students so they can be challenged and motivated to try new activities and persist in the face of difficulty (Cooper and Lucas, 2006). In this sense, it has been found a positive association between deep learning and the use of experiential and reflective teaching and learning methods (Krebner, 2001; Loo and Thorpe, 2002).

Entrepreneurship education in MBA programs has been shown to increase student ratings of entrepreneurial self-efficacy (Wilson et al, 2007) which, in turn, leads to higher levels of
entrepreneurial intentions (Zhao et al, 2005). In addition to this, it has also been shown that exposure to entrepreneurial role models increases levels of entrepreneurial self-efficacy (BarNir, Watson and Hutchins, 2011). Educators can utilize multiple mechanisms and a variety of pedagogical techniques to increase student’s perceptions of self-efficacy (Smith and Woodwoth, 2012).

Having said all that, from our review of the literature we have to conclude that the impact of entrepreneurship courses is still poorly known. Some studies find a positive impact of entrepreneurship education on perceived attractiveness and feasibility of new venture creation an entrepreneurial activity (Souitaris et al, 2007). Trying to make a new integration (study the relationships) of the four phases of the entrepreneurial process with the construct of entrepreneurship education, it is reasonable to infer that entrepreneurship education does not have a linear impact in each phase. There is little literature available tackling this issue. McGee et al (2009) found that the correlation between nascent entrepreneurship and the searching dimension of ESE is stronger than the correlation between nascent entrepreneurship and the other dimensions of ESE. It doesn’t seem logic then to think that the same education has the same impact in areas (phases) that require very different tasks.

The above mentioned authors state, for instance, that nascent entrepreneur’s confidence in performing searching tasks develops before gaining confidence in tasks that come later, such as planning and marshaling of resources. After being attracted to venturing and then searching for opportunity, nascent entrepreneurs gain more confidence in their abilities related to other domains of entrepreneurship. These other domains require more concrete skills, such as planning, marshaling, and the implementation of day-to-day management of employees and finances for the venture. Therefore, a more specific deduction would be about the fact that the entrepreneurship course does not require putting in practice in the “real world” the ideas developed in a business plan (fully developed in the entrepreneurship course). Thus, a particular concern is that, probably, the impact of this education is stronger in those more “theoretical phases” of the entrepreneurial process, this is, specially, planning and then marshaling. Participants in the entrepreneurship course have to develop a business plan (planning and marshaling) and to do that they need to look for and try to “discover” a business opportunity (searching). But, although they have to make a “realistic” business plan, they are not required to actually “discover” a real business opportunity and they are not required to actually “implement” the business plan in practice. It seems reasonable then to infer that, although the practical phases are encouraged and taught (how to look for a business idea and how to implement the business plan in practice), they are not developed in the same manner as the planning and marshaling phases that are “fully” developed. Findings about this “sequence” of intensity of the impact of an entrepreneurship course, if proven, would give only partial support to the work developed by McGee et al (2009) since these authors stated, as we have mentioned, that the strongest impact would be in the searching phase of the entrepreneurial process.
Furthermore, it seems reasonable to think that the planning phase, due to the above stated reasons, gets a more profound impact from the course. Students do have to develop a full planning process (a full business plan) but they can do that with “any” business idea and they do not actually need to look for and discover a “real” business opportunity (which would be a real “searching” opportunity process). It seems interesting then to try to really check if the impact on the “planning” phase is the stronger (given the fact that this phase takes the majority of the time of the course).

As we have mentioned before, ESE construct remains empirically underdeveloped and many scholars have called for further refinement of the construct (Forbes, 2005; Kolvereid and Isaksen, 2006). Realizing that there is little literature on the matter and that the issue seems to be really relevant (knowing the impact of this education at a more detailed level can have profound influences in the future design and development of entrepreneurship courses) we think it is worth to posit exploratory hypotheses to better understand this relationships. Wilson et al (2007) advocated incorporating ESE into the pre and post-measurement of entrepreneurship programs to provide educators with information about continuous improvement and program effectiveness. For such important application, the availability of a refined, consistent and robust measure of ESE is essential. Properly designed entrepreneurship education programs should take into account the multi-dimensional and sequential nature of entrepreneurial tasks (McGee et al, 2009). Therefore we formulate the following detailed exploratory hypotheses to really know the intensity of the impact of the entrepreneurship education of the different phases of the entrepreneurial process:

H1a: The impact of Entrepreneurship Education is positive but not the same in all the dimensions of Entrepreneurial Self-Efficacy at the end of the course.

H1b: The impact of Entrepreneurship Education is positive but not the same in all the dimensions of Entrepreneurial Self-Efficacy time after the end of the course.

H2a: The impact of Entrepreneurship Education positive and stronger in the Planning dimension of Entrepreneurial Self-Efficacy than in the rest of the dimensions of the Entrepreneurial Self-Efficacy at the end of the course.

H2b: The impact of Entrepreneurship Education is positive and stronger in the Planning dimension of Entrepreneurial Self-Efficacy than in the rest of the dimensions of the Entrepreneurial Self-Efficacy time after the end of the course.

H3a: The second strongest positive impact of Entrepreneurship Education is in the Marshaling dimension of Entrepreneurial Self-Efficacy at the end of the course.

H3b: The second strongest positive impact of Entrepreneurship Education is in the Marshaling dimension of Entrepreneurial Self-Efficacy time after the end of the course.

H4a: The third strongest positive impact of Entrepreneurship Education is in the Searching dimension of Entrepreneurial Self-Efficacy at the end of the course.
**H4b:** The third strongest positive impact of Entrepreneurship Education is in the Searching dimension of Entrepreneurial Self-Efficacy time after the end of the course.

**H5a:** The weakest positive impact of Entrepreneurship Education is in the Implementing dimension of Entrepreneurial Self-Efficacy at the end of the course.

**H5b:** The weakest positive impact of Entrepreneurship Education is in the Implementing dimension of Entrepreneurial Self-Efficacy time after the end of the course.

A different issue that can be tackled when analyzing the development of an appropriate methodology for measuring ESE is that of lack of diversity in the populations that are being sampled. A majority of studies developed to date are based on data gathered from samples of university students (Wilson et al, 2007; De Noble et al, 1999) or existing entrepreneurs and/or small business owners (Baum and Locke, 2004; Forbes, 2005).

It is interesting to realize that only a few studies of ESE have included nascent entrepreneurs. This is particularly relevant if we bear in mind that ESE is commonly considered as a main antecedent to entrepreneurial intentions that can lead to nascent behavior and ultimately to entrepreneurial action (Reynolds et al, 2004; Lichtenstein et al, 2007; Sequeira et al, 2007).

We don’t know why but it could be thought that student samples are commonly used because many researches have easy access to students. It is true that the use of students in samples can be very useful since, normally, university students that are studying entrepreneurship courses typically show characteristics of nascent entrepreneurial behavior such as undertaking entrepreneurial coursework and activities that will prepare them for entrepreneurial careers in the future. Students can be also a perfect source of data when it comes to identify different ways by which entrepreneurial education and training can enhance ESE (Peterman and Kennedy, 2003).

From a different point of view, empirical studies that are based on current entrepreneurs and/or small business owners present limitations. Since these individuals have already committed to starting a business, the perceptions the can have about their ESE as it relates to entrepreneurial intentions must be retroactive. It is difficult to establish the causal direction of ESE. This is, does the creation of a new venture increase the individual’s ESE, or does high ESE lead to start a new venture? (Markman, Balkin and Baron, 2002).

On the other hand we can define nascent entrepreneurs as those who have yet to start a new venture but, however, they possess the desire to start a new business and they are involved in specific activities that can bring those desires to fruition (Carter, Gartner and Reynolds, 1996). According to Aldrich and Martinez (2001), nascent entrepreneurs could be described as those individuals who not only say they are currently giving serious thought to the new business, but also are engaged in at least two entrepreneurial activities, such as looking for facilities and equipment, writing a business plan, investing money, or organizing a start-up team. The same authors also state that a nascent entrepreneur is an individual who engages in activities that are meant to result in a feasible business start-up.
Fitzsimmons and Douglas (2011) assume that MBA students taking an entrepreneurship course are nascent entrepreneurs and suggest a typology of nascent entrepreneurs as natural entrepreneurs, accidental entrepreneurs and inevitable entrepreneurs. We follow McGee et al (2009) and consider that respondents to a questionnaire can be coded as nascent entrepreneurs if they have engaged in at least two of the following behaviors:

- Attending a “start your own business” planning seminar or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
- Looking for a building or equipment for the business
- Saving money to invest in the business, and
- Developing a product or service

We can also see that nascent entrepreneurship has been the subject of several empirical studies (Carter, Gartner, Shaver and Gatewood, 2003; Davidson and Honig, 2003; Reynolds’s et al, 2004; Arennius and Minity, 2005). Given the fact that nascent behavior, by definition, follows intentions, factors that promote intentionality, including ESE, could help to explain nascent behavior. According to McGee et al (2009) researchers that study antecedents to entrepreneurial intentions and nascent behavior (such as Zhao et al, 2005; Barbosa et al, 2007) may be in need of an ESE measure that has been thoroughly tested for reliability, validity and applicability to a diverse set of populations, including nascent entrepreneurs. Following the above mentioned authors, previous attempts to measure ESE suffer from three types of limitations: 1) failure to make a clear distinction between GSE and self-efficacy related to specific tasks associated with the venture creation process, 2) failure to account for the multidimensional nature of ESE, and 3) failure to include nascent entrepreneurs in the sample. Other authors have showed that self-efficacy increases enhance the likelihood of being a nascent entrepreneur and these individuals are associated with an additional 10 percent of personal wealth invested and an additional 7.5 hours per week devoted to his/her project. Furthermore, individuals who achieve an operating business from their nascent activity have a subsequent increase in their entrepreneurial self-efficacy relative to those individuals who do not (Cassar and Friedman, 2009).

There is, therefore, the need to gauge the possible different impact in a sample of individuals depending on their character of nascent or non-nascent entrepreneurs along the four phases of the entrepreneurial process. Furthermore, it seems logical to think that those individuals considered nascent entrepreneurs, simply because, by definition, they have been “focusing” their attention on the entrepreneurial process, once they engage in an entrepreneurship course, they can experience an impact of the course in their entrepreneurial self-efficacy smaller than those individuals that are not considered nascent entrepreneurs. Due to the fact that non-nascent entrepreneurs a priori “know less” about the skills required to be an entrepreneur (they haven’t checked themselves on entrepreneurial activities unlike the nascent entrepreneurs) it could be expected a deeper impact in the ESE of this individuals. Interestingly McGee et al (2009) found that nascent
entrepreneurs consistently posted higher ratings on the ESE measures. Therefore, although we can’t a priori anticipate the result, it is relevant to formulate the next hypotheses to better explore these relationships:

**H6:** *Entrepreneurship Education has a stronger impact on all four dimensions of Entrepreneurial Self-Efficacy of those individuals considered non-nascent entrepreneurs than it has on individuals considered so.*

**H7:** *Nascent entrepreneurs have, from the beginning of the course, a higher level of ESE in all four dimensions of the entrepreneurial process than those not considered so at it remains the same at the end of the course and time after the end of it.*

To better understand the relationships we intent to study, we can see in Figure 1 a graphic representation of the framework of analysis of this paper.

**Figure 1. Graphic representation of our theoretical model of analysis**

![Diagram of entrepreneurial framework](image-url)
3.3. Methodology

3.3.1. Sample

Our unit of analysis consists on participants on Entrepreneurship Education courses developed at MBA programs. We examine entrepreneurial education in MBA programs because they are the key and more extended programs in the portfolio of Business Schools. Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum.

Particularly we take, as a reference, widely recognized very recent international rankings such as the ones elaborated by: The Financial Times, The Economist, The Wall Street Journal, Forbes, America Economica, The Aspen Institute or Boomberg-Business Week to get a reference of top Business Schools in the world. All institutions that appear consistently in these rankings like: Harvard Business School, MIT Sloan School of Business, London Business School, IESE, IMD, Chicago Booth, ESADE, Cambridge Judge Business School or IE Business School offer in their MBA programs Entrepreneurship Education courses. In these widely recognized international rankings, IE Business School and particularly its IMBA are consistently ranked among the top ten positions in the world as it can be seen in Annex 1.

Therefore we gather information from and the study is limited to the participants of the Entrepreneurial Management Course developed within the International Master in Business Administration (IMBA) at IE Business School in Madrid.

Before we were allowed to use this pull of students we were asked by IE’s management team of the IMBA to obtain permission from IE’s Research Committee since it’s not the policy of IEs IMBAs management team to allow any kind of research with students. A Research Project then had to be written and submitted in due time to IE’s Research Committee. Months later we finally got permission to proceed with our study only after having agreed to follow strict rules to proceed, under the close supervision of the IMBA management team and with very tight conditions regarding the results of the research and with detailed compensations to the students.

As we are going to compare the different possible impact of the entrepreneurship course among participants along the time, we need to gather data of our variables in different moments. This is the approach followed by the most representative studies regarding the impact of entrepreneurship education on entrepreneurial self-efficacy and entrepreneurial intentions. The literature normally use a three-step study beginning with a distribution and completion of a questionnaire at the beginning of the program and then using two post-tests to measure change over the program (questionnaire distributed at the end of the program) and the enduring nature (six months after the final completion of the program) of any changes observed (Cooper and Lucas, 2006; McLelland, Barakat and Windfield,
2010; Harte and Stewart, 2010). Following this line of literature, the different moments in time we are going to consider to gauge the possible impact of the course on our variables are: beginning of the course, end of the course and six month after the end of the course. There are several reasons for choosing to capture this data using a longitudinal design.

Research in the area of enterprise is largely short-term (Matlay and Carey, 2007) therefore limiting contributions to the debate and policy about the longer-term desires and intentions of students to become entrepreneurs. Most research projects discuss programs delivered over short periods of time and in some cases relate only to a limited understanding of enterprise (Harte and Stewart, 2010). Longitudinal studies in particular allow for dynamic measures such as rate of change (Matlay and Carey, 2007). Furthermore, longitudinal studies in social research lend themselves to a range of uses like: a) tracking and interpreting change over time may lead to the discovery of new aspects and relations between factors, which may identify the need for further or different studies; b) providing snapshot pictures of particular groups or institutions and the relations between them, useful at the time for policy and other reasons. Because longitudinal studies usually have sizeable samples these snapshots serve as baseline data to compare similar groups and institutions in new samples at a later date in order to trace the impact of policy change (Harte and Stewart, 2010).

At the moment we gathered data the total number of IMBA students at IE was of 971. From them, 757 developed the program in English and 214 in Spanish. These 971 students belong to three intakes that are in different moments of accomplishment of their IMBA. This will allow us to measure the impact of the course along a period of time of one year as follows:

- Intake 3 represents those participants that are at the beginning of the IMBA and, consequently, at the beginning of the Entrepreneurship Course (394 participants)
- Intake 2 represents those participants that are in the middle (six months after the beginning) of the IMBA and right at the end of the Entrepreneurship Course (194 participants)
- Intake 1 represents those participants that are at the end of the IMBA (twelve months after the beginning of the IMBA and the entrepreneurship course) and, consequently, six months after having finished the Entrepreneurship Course (385 students)

The number of the intake has to do with the moment in time in which participants started the entrepreneurship course. Thus, Intake 1 started in November 2011, Intake 2 started in April 2012 and Intake 3 started in November 2012.

We sent the questionnaire along the month of November 2012. The reason why we chose this month has to do with the fact that it is a key month in the academic year in order to gather and analyze information of different moments of the IMBA and be able to make comparisons. At this moment of time there is one intake that start their IMBA, another intake finishes its entrepreneurial course and another intake finishes its IMBA and thus at this moment six months have past since they finally completed their entrepreneurship
course. We then gathered data from the three different Intakes of the IMBA that represent, as we have said, different moments of the IMBA program (from November 2011 to November 2012).

Students received via email an invitation to freely and anonymously participate in a survey. Those students who decided to participate could answer the questionnaire online. Participants completed the questionnaire individually and freely at their home, place of study or any other place they decided. No influence from one another was possible. Therefore answers are totally anonymous and free. This makes us confident that the answers capture the opinions held by the students. No contact or personal details were asked at any time so students could be sure about the anonymity of their answers. The questionnaire was developed both in English and Spanish since the IMBA at IE Business School is held in the two languages. Our questionnaire includes a series of items that capture a range of educational, cultural, background, demographic, prior experience, sector and other relevant information (See Annex 3 for the full questionnaire, pages 1 and 2).

We received a total number of responses of 300 which represents a rate of response of 30.89% with a sampling error of 2.91% with a statistical confidence level of 95%. A more detailed descriptive statistics of the sample can be seen in Table 1. We can see that the average age of the sample is 29.5 Years. From them 74.6% are male and 25.3% female and the average years of work experience is 6.32 Years. As we can observe, in terms of Age and Sex the three intakes are homogenous. The average age is around 30 years in all three intakes with only a difference of a few months. Same thing happens in terms of Sex where all intakes have around 75% of male and 25% of female population.

According to the same table, again it can be observed that all three intakes are homogenous with similar percentages of students from the same regions of the world. It is interesting to note not only the markedly international profile of participants but also the wide distribution of students from all main regions of the world. This can mean, in the eyes of the author, that any conclusion of this study could be possibly extrapolated to obtain some general conclusions that apply to different regions of the world although this is not the aim of this work.

Finally, to evaluate the possible presence of any non-response bias, we performed a T test of difference of means among the participants. With a statistical confidence level of 95% there are no meaningful differences with respect to age (p=0.005), previous studies (p=0.076), sector of previous activity (p=0.066) and self-efficacy (p=0.013) between those students who responded to the survey and those who didn’t. Therefore, we can be sure the non-response bias is not present in our research.
Table 1. Statistics of the Sample

<table>
<thead>
<tr>
<th>Sample</th>
<th>Intake1 (Nov. 2011)</th>
<th>Intake2 (April 2012)</th>
<th>Intake3 (Nov. 2012)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>84 (21.81%)</td>
<td>54 (28.12%)</td>
<td>76 (19.28%)</td>
<td>214 (22.03%)</td>
</tr>
<tr>
<td>English</td>
<td>301 (78.19%)</td>
<td>138 (71.87%)</td>
<td>318 (80.71%)</td>
<td>757 (77.96%)</td>
</tr>
<tr>
<td>Total</td>
<td>385 (100%)</td>
<td>192 (100%)</td>
<td>394 (100%)</td>
<td>971 (100%)</td>
</tr>
<tr>
<td># Responses</td>
<td>103</td>
<td>44</td>
<td>153</td>
<td>300</td>
</tr>
<tr>
<td>% Responses</td>
<td>26.75</td>
<td>22.91</td>
<td>38.83</td>
<td>30.89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-27</td>
<td>16 (15.53%)</td>
<td>8 (18.18%)</td>
<td>43 (28.10%)</td>
<td>67 (22.33%)</td>
</tr>
<tr>
<td>28-33</td>
<td>77 (74.75%)</td>
<td>4 (9.10%)</td>
<td>12 (5.22%)</td>
<td>92 (69.33%)</td>
</tr>
<tr>
<td>34-41</td>
<td>1 (0.98%)</td>
<td>-</td>
<td>3 (1.98%)</td>
<td>4 (1.34%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (Mean 30.1)</td>
<td>44 (Mean 29.8)</td>
<td>153 (Mean 29.2)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>74 (71.8%)</td>
<td>35 (79.5%)</td>
<td>115 (75.1%)</td>
<td>224 (74.66%)</td>
</tr>
<tr>
<td>Female</td>
<td>29 (28.2%)</td>
<td>9 (20.5%)</td>
<td>38 (24.9%)</td>
<td>76 (25.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region of the World</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>13 (12.6%)</td>
<td>4 (9%)</td>
<td>17 (11.11%)</td>
<td>44 (14.66%)</td>
</tr>
<tr>
<td>Latin America</td>
<td>30 (29.1%)</td>
<td>14 (31.8%)</td>
<td>49 (32.02%)</td>
<td>93 (31.00%)</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>16 (15.5%)</td>
<td>4 (9%)</td>
<td>32 (20.93%)</td>
<td>52 (17.33%)</td>
</tr>
<tr>
<td>Africa &amp; Middle East</td>
<td>7 (6.7%)</td>
<td>8 (18.2%)</td>
<td>15 (9.84%)</td>
<td>20 (6.66%)</td>
</tr>
<tr>
<td>Spain</td>
<td>16 (15.8%)</td>
<td>5 (11.6%)</td>
<td>12 (7.84%)</td>
<td>33 (11.00%)</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>21 (20.3%)</td>
<td>9 (20.4%)</td>
<td>31 (20.26%)</td>
<td>61 (20.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>10 (10%)</td>
<td>6 (14%)</td>
<td>19 (12%)</td>
<td>35 (11.66%)</td>
</tr>
<tr>
<td>4-6</td>
<td>54 (52%)</td>
<td>23 (52%)</td>
<td>79 (52%)</td>
<td>156 (52%)</td>
</tr>
<tr>
<td>7-12</td>
<td>38 (37%)</td>
<td>14 (32%)</td>
<td>52 (34%)</td>
<td>104 (34%)</td>
</tr>
<tr>
<td>12+</td>
<td>1 (1%)</td>
<td>1 (2%)</td>
<td>3 (2%)</td>
<td>5 (1.66%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous University Degree Studies</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>32 (31%)</td>
<td>19 (43%)</td>
<td>47 (31%)</td>
<td>98 (32.66%)</td>
</tr>
<tr>
<td>Science</td>
<td>3 (3%)</td>
<td>3 (7%)</td>
<td>3 (2%)</td>
<td>9 (3%)</td>
</tr>
<tr>
<td>Social Sciences/Humanities</td>
<td>9 (8%)</td>
<td>2 (5%)</td>
<td>12 (8%)</td>
<td>23 (7.66%)</td>
</tr>
<tr>
<td>Law</td>
<td>2 (5%)</td>
<td>1 (2%)</td>
<td>12 (8%)</td>
<td>6 (2%)</td>
</tr>
<tr>
<td>Economics</td>
<td>9 (8%)</td>
<td>4 (9%)</td>
<td>15 (10%)</td>
<td>28 (9%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>35 (33%)</td>
<td>11 (32%)</td>
<td>61 (39%)</td>
<td>57 (19%)</td>
</tr>
<tr>
<td>Information Technology</td>
<td>7 (7%)</td>
<td>3 (7%)</td>
<td>2 (1%)</td>
<td>12 (4%)</td>
</tr>
<tr>
<td>Other (Architecture, Hospitality, Others)</td>
<td>6 (6%)</td>
<td>1 (2%)</td>
<td>6 (4%)</td>
<td>13 (4.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government, NGOs</td>
<td>4 (4%)</td>
<td>2 (4%)</td>
<td>6 (4%)</td>
<td>12 (4%)</td>
</tr>
<tr>
<td>Consulting</td>
<td>11 (10%)</td>
<td>3 (7%)</td>
<td>13 (9%)</td>
<td>27 (9%)</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>9 (9%)</td>
<td>7 (15%)</td>
<td>16 (11%)</td>
<td>32 (10.66%)</td>
</tr>
<tr>
<td>Law, Auditing &amp; Tax</td>
<td>4 (3%)</td>
<td>1 (3%)</td>
<td>2 (1%)</td>
<td>7 (2.33%)</td>
</tr>
<tr>
<td>Pharmaceutical/Healthcare</td>
<td>4 (3%)</td>
<td>3 (7%)</td>
<td>3 (2%)</td>
<td>10 (3.33%)</td>
</tr>
<tr>
<td>Financial Services</td>
<td>17 (17%)</td>
<td>8 (18%)</td>
<td>34 (22%)</td>
<td>59 (19.66%)</td>
</tr>
<tr>
<td>Industry, Energy &amp; Construction</td>
<td>18 (18%)</td>
<td>7 (16%)</td>
<td>38 (24%)</td>
<td>63 (21%)</td>
</tr>
<tr>
<td>Media, Entertainment</td>
<td>5 (5%)</td>
<td>1 (3%)</td>
<td>6 (4%)</td>
<td>12 (4%)</td>
</tr>
<tr>
<td>Technology/Telecom</td>
<td>17 (17%)</td>
<td>7 (15%)</td>
<td>20 (13%)</td>
<td>44 (14.66%)</td>
</tr>
<tr>
<td>Other (Education, Transport, Tourism &amp; Hospitality, Others)</td>
<td>14 (14%)</td>
<td>5 (12%)</td>
<td>20 (13%)</td>
<td>49 (16.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

When we observe the previous university studies of participants in all three intakes we reach the same kind of conclusion. All three different intakes are homogenous with similar percentages of students in the same fields of study. Finally, when it comes to analyze the
sectors of previous activity, we also observe that all three intakes possess similar percentages of participants in all different sectors being, therefore, homogenous also in this regard.

Although we do not have information to this respect (it is not the object of our study) we obviously believe this “almost perfect” homogeneity is not a matter of serendipity but the result of probably hard work of the admissions department in order to have the most homogenous possible groups so the academic experience and performance can be enhanced to its best.

Taking into account everything stated before, it is the opinion of the author that, both the environment given at IE’s IMBA and the atmosphere of the entrepreneurship course in particular, constitute a suitable field of research to try to test in practice the hypotheses formulated in this research. As will be mentioned as a contribution of our research, the extreme difficulty and tight controls to be able to access students make the data and analysis of our research, among one of the top business schools in the world, especially valuable.

3.3.2. Measures

*Different Phases of Entrepreneurial Self-Efficacy: Searching, Planning, Marshaling and Implementing*

Following McGee et al (2009) we use, as a base, the model developed by Mueller and Goic (2003) defining entrepreneurial tasks within a “venture creation process model”. This model was first proposed by Stevenson et al (1985) and it divides, as we have already mentioned, the entrepreneurial process into four different phases that the authors label for convenience as: 1) searching, 2) planning, 3) marshaling and 4) implementing.

Having this four phase venture creation process model as a theoretical guide the first step was to identify a number of specific tasks associated with each phase of the four phases of the new venture creation process (searching, planning, marshaling and implementing).

According to Bandura (1997) a useful method to measure self-efficacy beliefs is to take a variety of items reflecting different levels of task demands and ask participants to rate their confidence in their own ability to perform each task. We use this approach. Respondents evaluate each item on a Likert scale where 1 represents the lowest level and 7 represents the highest level.

We use a set of 29 items in our questionnaire to gauge this variable (See Annex 3, items under the heading: “How confident are you about your current skills and ability to”). For the selection of our items we have taken as a reference studies carried out by the Education and High Growth Innovation (EHGI) research group. This group brings together colleagues from the universities of Cambridge, Edinburgh, Lancaster, Sheffield, York and
MIT. The group has developed a set of robust measures utilizing an established repeated measures methodology. These measures were developed to fulfill the need of a robust measurement method of the entrepreneurial self-efficacy (Cooper and Lucas, 2006a, 2006b; Lucas and Cooper 2004, 2005). These items are very reliable with Cronbach’s alphas of 0.955 for Intake 1 (N=103), 0.955 for Intake 2 (N=44), 0.936 for Intake 3 (N=153) and 0.947 for the Total Sample (N=300). We then took these items and classified them among the four phases of the entrepreneurial process (searching, planning, marshaling and implementing). The results of this process are shown in Annex 4. This classification of the items according to the four phases of the entrepreneurial process was developed by an expert panel of 5 members consisting of university professors and former entrepreneurs. As a result of this classification we disintegrated the uni-dimensional variable ESE into this four more precise and operational variables: ESE searching, ESE planning, ESE marshaling and ESE implementing.

Table 2. Cronbach’s alpha and descriptive statistics for the four dimensions of ESE

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
<th>Mean</th>
<th>Standard Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESE Searching</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake 1</td>
<td>.80</td>
<td>5.16</td>
<td>.931</td>
</tr>
<tr>
<td>Intake2</td>
<td>.84</td>
<td>5.29</td>
<td>1.006</td>
</tr>
<tr>
<td>Intake 3</td>
<td>.71</td>
<td>5.02</td>
<td>.803</td>
</tr>
<tr>
<td>Total Sample</td>
<td>.77</td>
<td>5.11</td>
<td>.882</td>
</tr>
<tr>
<td><strong>ESE Planning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake 1</td>
<td>.92</td>
<td>4.97</td>
<td>1.072</td>
</tr>
<tr>
<td>Intake2</td>
<td>.88</td>
<td>5.14</td>
<td>.914</td>
</tr>
<tr>
<td>Intake 3</td>
<td>.88</td>
<td>4.67</td>
<td>.950</td>
</tr>
<tr>
<td>Total Sample</td>
<td>.90</td>
<td>4.85</td>
<td>1.002</td>
</tr>
<tr>
<td><strong>ESE Marshalling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake 1</td>
<td>.779</td>
<td>4.84</td>
<td>.928</td>
</tr>
<tr>
<td>Intake2</td>
<td>.719</td>
<td>5.09</td>
<td>.883</td>
</tr>
<tr>
<td>Intake 3</td>
<td>.772</td>
<td>4.65</td>
<td>.976</td>
</tr>
<tr>
<td>Total Sample</td>
<td>.771</td>
<td>4.78</td>
<td>.956</td>
</tr>
<tr>
<td><strong>ESE Implementing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake 1</td>
<td>.83</td>
<td>5.29</td>
<td>.803</td>
</tr>
<tr>
<td>Intake2</td>
<td>.88</td>
<td>5.55</td>
<td>.869</td>
</tr>
<tr>
<td>Intake 3</td>
<td>.77</td>
<td>5.32</td>
<td>.650</td>
</tr>
<tr>
<td>Total Sample</td>
<td>.82</td>
<td>5.35</td>
<td>.742</td>
</tr>
</tbody>
</table>
In order to reduce the dimensionality of the 29 items we have followed a double procedure:

1) Average Mean of each of four factors of the entrepreneurial process. We call this indicator “ESE mean” of each phase. Table 2 shows the values of the Cronbach’s alphas, means and standard deviation for each indicator of ESE (searching, planning, marshaling and implementing), for the total of the sample and for each different intake.

Table 3. Confirmatory factor analysis for the four dimensions of ESE

<table>
<thead>
<tr>
<th>ESE Items of Factors</th>
<th>Factor loadings</th>
<th>% of Variance Explained</th>
<th>KMO</th>
<th>Bartlett’s Chi Square Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1. ESE Searching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize an implication not mentioned in the findings while reviewing a familiar article</td>
<td>.788</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hear a product concept based on a technology and have a rough idea if it is practical</td>
<td>.748</td>
<td>.53.06</td>
<td>.775</td>
<td>388.23</td>
<td>.000</td>
</tr>
<tr>
<td>Recognize when an idea is good enough to support a major new venture</td>
<td>.723</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize a good opportunity if you see it</td>
<td>.713</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply and abstract concept or idea to a real problem or situation</td>
<td>.664</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2. ESE Planning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate the number of people who are likely to buy a new product or service</td>
<td>.814</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write a clear and complete business plan</td>
<td>.807</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the language of new venture creation</td>
<td>.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how much to place the proper financial value on a start-up company</td>
<td>.764</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate accurately the cost of running a new project for venture</td>
<td>.737</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand what it takes to start your own business</td>
<td>.728</td>
<td>.53.43</td>
<td>.910</td>
<td>1446.84</td>
<td>.000</td>
</tr>
<tr>
<td>Pick the right marketing approach for inducing a new kind of product</td>
<td>.726</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with users and then write a set of clear requirements for their product to meet their needs</td>
<td>.692</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know when it is worth investing serious time in exploring a new idea</td>
<td>.634</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create novel solutions to problems</td>
<td>.588</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3. ESE Marshaling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get suppliers to support a venture with favorable prices and contract terms</td>
<td>.830</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persuade someone to put a sum into a new company</td>
<td>.803</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize and recruit good employees for a new project venture</td>
<td>.683</td>
<td>.53.15</td>
<td>.779</td>
<td>401.55</td>
<td>.000</td>
</tr>
<tr>
<td>Be able to persuade company managers they should take a new idea seriously</td>
<td>.659</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Translate functional requirements for a product into a design or prototype</td>
<td>.650</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4. ESE Implementing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find an approach that resolves a group conflict and get your team moving forward on a task</td>
<td>.819</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate others to work together</td>
<td>.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead a group of members who strongly disagree with one another</td>
<td>.777</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate others to work long hours to meet a dead line</td>
<td>.765</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be aware of feelings of all the members of a group working on a shared task</td>
<td>.704</td>
<td>42.23</td>
<td>.817</td>
<td>1144.63</td>
<td>.000</td>
</tr>
<tr>
<td>Work on collaborative projects as a member of a team</td>
<td>.625</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sell a brand new product or service to a first time customer</td>
<td>.534</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead a technical team developing a new product to a successful result</td>
<td>.508</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break a complex problem down to its key elements so it can be solved</td>
<td>.475</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2) Our second way to reduce the dimensionality is a confirmatory factor analysis. This is also a widely used technic (Linan and Chen, 2009; McGee, Peterson, Mueller and Sequeira, 2009). Findings from the principal components analysis with varimax rotation are presented in table 3 that shows the results of the confirmatory factor analysis we have developed for each of the ESE indicators. Subsequently four factors (one by phase) were extracted and interpreted.

As a result of this factor analysis we can say that the measures we use for our empirical study are robust, solid and consistent. Therefore they can be used as a reliable tool to try to gauge each of the four dimensions of ESE.

Finally we performed normality tests for the variable self-efficacy both, as a mean and for each of the four factors that resulted from our above mentioned factor analysis, by using the Kosmogorov-Smirnov test, Probability Plot (PPLOT) and Histogram Analysis with normal curves. Although the analysis of the PPLOT and the Histograms allowed us to see that the mean as well as the five factors follow a normal distribution, the KS test only generated significant values bigger than 0.05 for the four factors, being of 0.07 for the variable mean self-efficacy. Therefore, the results of this analysis confirm the normality of the four factors of self-efficacy as well as the mean self-efficacy, although, in this last case, we’ll be prudent when interpreting the results due to the fact that only two of three tests were confirmed.

Nascent Entrepreneurs

As we have mentioned before, according to McGee et al (2009) people can be coded as nascent entrepreneurs if they had engaged in at least two of the following behaviors:

- Attending a “start your own business” planning seminar or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
- Looking for a building or equipment for the business
- Saving money to invest in the business, and
- Developing a product or service

This is the procedure we have followed to gauge this variable (See Annex. 3, items under the heading: “Have you participated in any of the following behaviors currently or in the past”). Participants in the program were asked to answer if they had engaged themselves in any of the above mentioned behaviors. They were particularly asked to mention “all” the behaviors they had undertaken, if any. We then added up all the behaviors undertaken for each participant. Those participants who had been engaged in more than two such behaviors will be considered as nascent entrepreneurs. This variable will take value 1 for nascent entrepreneurs and value 0 for non-nascent entrepreneurs in order to make our study more operational.
3.4. Results and Discussion

3.4.1. Results

Once we have stated the methodology we have followed in our empirical study we then present the results of our statistical analysis to determine the degree of fulfillment of the relationships we propose at a theoretical level.

Some literature claims for studies comparing the value of variables in a longitudinal way. This allows the researcher to measure the impact of a course, which is the difference appreciated in any given item from the moment of the start and the final moment of the course. Some studies also measure the impact of entrepreneurship courses some months after the completion of the course (Cooper and Lucas 2006, 2008; Basu and Virick, 2008; Garcia and Moreno, 2008; Brown and Denny, 2009; Graevenitz et al, 2010). According with this literature, we do think that, given the nature of an entrepreneurship course in an IMBA, that lasts for a period of time between 5 and 6 months, an important measure is to gauge the impact by establishing differences from the beginning and the end of the course. Another important measure is to gauge the impact several months after the final complexion of the entrepreneurship course (to see any possible enduring effects). The course of Entrepreneurship developed at the IMBA at IE Business School, as we have previously mentioned, is 6 months long and takes place in the first half of the IMBA.

Therefore, given the objective of this paper and the formulation of our hypotheses the main statistical technic we’re going to use is difference of means. Again this is the most applied technic in the literature regarding studies with similarities with ours (Cooper and Lucas, 2006; Brown and Denny, 2009; Graevenitz et al, 2010).

The results of this research suggest that the Entrepreneurship Course developed at the International Master in Business Administration at IE Business School has brought about a very weak impact upon participants entrepreneurial self-efficacy along the four phases of the entrepreneurial process without a sizeable proportion of change identified at the end of the course that still is weak (or even weaker) after a period of half a year after the final complexion of the course. Concrete and more precise findings are presented below.

Table 4 presents the means test for ESE along the four different phases of the entrepreneurial process and by the total of the sample and for each intake. Table 5 then adds more information and presents the changes in results of the difference of means experimented as a consequence of the course along the four phases of the entrepreneurial process.
Table 4. Difference of means for the four phases of ESE.

### Different Intakes and Total Sample

<table>
<thead>
<tr>
<th></th>
<th>ESE Searching</th>
<th>ESE Planning</th>
<th>ESE Marshaling</th>
<th>ESE Implementing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>Factor</strong></td>
<td>Factor</td>
<td>Factor</td>
<td>Factor</td>
<td>Factor</td>
</tr>
<tr>
<td><strong>Intake 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.16</td>
<td>4.97</td>
<td>4.84</td>
<td>5.29</td>
</tr>
<tr>
<td>N</td>
<td>103</td>
<td>103</td>
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Regarding hypothesis 1a that stated that the impact of Entrepreneurship Education is positive but not the same in all the dimensions of Entrepreneurial Self-Efficacy at the end of the course, we have to conclude, according to the data exposed in tables 4 and 5 that this hypothesis is partially supported due to the fact that the impact of the entrepreneurship course on ESE of participants is positive but really weak although it is not exactly the same in all phases of the entrepreneurial process. Overall the impact is not statistically significant although factors 2 (planning) and 3 (marshaling) of the variable show a positive stronger and different significant impact: rate of change is of 10.06% and 9.46% respectively for planning and marshaling while only 5.37% and 4.32% for searching and implementing respectively.

Hypothesis 1b stated that the impact of Entrepreneurship Education is positive but not the same in all the dimensions of Entrepreneurial Self-Efficacy six months after the end of the course. According to the data exposed in tables 4 and 5 this hypothesis is partially supported due to the fact that the impact of the entrepreneurship course on ESE of participants is positive but really weak although it is not exactly the same in all phases of the entrepreneurial process.
Overall the impact is not statistically significant although factors 2 (planning) and 3 (marshaling) of the variable show a stronger positive and different significant impact: rate of change is of 6.42% and 4.08% respectively for planning and marshaling while only 2.78% for searching and, more interestingly, a slight decrease of -.05% for implementing. As we can observe, the results of this hypothesis are really enlightening: after six months of the end of the course, participants while participants experiment higher levels of ESE for planning and marshaling, even for searching, the level of ESE for implementing experiment a decrease, this is, participants feel they are slightly less able to put in practice an entrepreneurial project. Probably this indicates a more “realistic” criterion of the participants.

With respect to hypothesis 2a that stated that the impact of Entrepreneurship Education is positive and stronger in the Planning dimension of Entrepreneurial Self-Efficacy than in the rest of the dimensions of the Entrepreneurial Self-Efficacy at the end of the course and according to the data exposed in tables 4 and 5, analyzing the difference in means this hypothesis is supported due to the fact that the impact of the entrepreneurship course on the planning dimension of ESE of participants is positive and stronger than in any other dimension of the entrepreneurial process at the end of the course. It is also statistically significant. As stated for hypothesis 1a rate of change is of 10.06% and 9.46% respectively for planning and marshaling while only 5.37% and 4.32% for searching and implementing respectively.

Regarding hypothesis 2b that stated that the impact of Entrepreneurship Education is positive and stronger in the Planning dimension of Entrepreneurial Self-Efficacy than in the rest of the dimensions of the Entrepreneurial Self-Efficacy six months after the end of
the course and according to the data exposed in tables 4 and 5, analyzing the difference in
means this hypothesis is supported due to the fact that the impact of the entrepreneurship
course on the planning dimension of ESE of participants is positive and stronger than in
any other dimension of the entrepreneurial process six months after the end of the course.
It is also statistically significant. Rate of change is of 6.42% for planning while 4.08% for
marshaling, 2.78% for searching and negative of -.05% for implementing.

Hypothesis 3a stated that the second strongest positive impact of Entrepreneurship
Education is in the Marshaling dimension of Entrepreneurial Self-Efficacy at the end of the
course. We have to conclude, according to the data exposed in tables 4 and 5 and by
analyzing the difference in means that this hypothesis is supported due to the fact that the
impact of the entrepreneurship course on the marshaling dimension of ESE of participants
is positive and the second stronger of any other dimension of the entrepreneurial process at
the end of the course. It is also statistically significant. The rate of change is of 10.06% and
9.46% respectively for planning and marshaling while only 5.37% and 4.32% for
searching and implementing respectively. This clearly show that the impact of the
marshaling phase is the second strongest (although almost the same that in planning).

With regard to hypothesis 3b that stated that the second strongest positive impact of
Entrepreneurship Education is in the Marshaling dimension of Entrepreneurial Self-
Efficacy six month after the end of the course, our conclusion according to the data
exposed in tables 4 and 5 and analyzing the difference in means, that this hypothesis is
supported due to the fact that the impact of the entrepreneurship course on the marshaling
dimension of ESE of participants is positive and the second stronger of any other dimension of the entrepreneurial process six months after the end of the course. It is also
statistically significant. Rate of change is of 6.42% for planning while 4.08% for
marshaling, 2.78% for searching and negative of -.05% for implementing. These values
clearly show that the impact of the marshaling phase is the second stronger.

Hypothesis 4a stated that the third strongest positive impact of Entrepreneurship Education
is in the Searching dimension of Entrepreneurial Self-Efficacy at the end of the course.
According to the data exposed in tables 4 and 5 and analyzing the difference in means, this
hypothesis is not supported due to the fact that the impact of the entrepreneurship course
on the searching dimension of ESE of participants is positive and the third strongest of any
other dimension of the entrepreneurial process at the end of the course but it is not
statistically significant. The rate of change is of 10.06% and 9.46% respectively for
planning and marshaling while only 5.37% and 4.32% for searching and implementing
respectively. The value of 5.37% for searching clearly is the third one but, as a result of
our analysis, it is not statistically significant.

Regarding hypothesis 4b that stated that the third strongest positive impact of
Entrepreneurship Education is in the Searching dimension of Entrepreneurial Self-Efficacy
six months after the end of the course, we have to conclude, according to the data exposed
in tables 4 and 5 and analyzing the difference in means that this hypothesis is not
supported due to the fact that the impact of the entrepreneurship course on the searching
dimension of ESE of participants is positive and the third strongest of any other dimension of the entrepreneurial process six months after the end of the course but it is not statistically significant. Rate of change is of 6.42% for planning while 4.08% for marshaling, 2.78% for searching and negative of -.05% for implementing. Although the value of 2.78% clearly is the third strongest, according to our statistical analysis it’s not significant.

Hypothesis 5a stated that the weakest positive impact of Entrepreneurship Education is in the Implementing dimension of Entrepreneurial Self-Efficacy at the end of the course. According to the data exposed in tables 4 and 5, analyzing the difference in means this hypothesis is not supported due to the fact that the impact of the entrepreneurship course on the implementing dimension of ESE of participants is positive and the weakest of any other dimension of the entrepreneurial process at the end of the course but it is not statistically significant. The rate of change is of 10.06% and 9.46% respectively for planning and marshaling while only 5.37% and 4.32% for searching and implementing respectively. This last value of 4.32% is clearly the weakest but, according to our statistical analysis it’s not significant.

Regarding hypothesis 5b that stated that the weakest positive impact of Entrepreneurship Education is in the Implementing dimension of Entrepreneurial Self-Efficacy six months after the end of the course, according to the data exposed in tables 4 and 5, analyzing the difference in means, this hypothesis is not supported due to the fact that the impact of the entrepreneurship course on the implementing dimension of ESE of participants is negative and the weakest of any other dimension of the entrepreneurial process six months after the end of the course. In addition to this, that difference is not statistically significant. Rate of change is of 6.42% for planning while 4.08% for marshaling, 2.78% for searching and negative of -.05% for implementing. This negative value of -.05% clearly is the weakest, but, again according to our statistical analysis it’s not significant.

Hypothesis 6 stated that Entrepreneurship Education has a stronger impact on Entrepreneurial Self-efficacy of those individuals considered non-nascent entrepreneurs than in those considered so in all ESE’s four dimensions. According to the data exposed in tables 5 to 7, analyzing the difference in means, this hypothesis is not supported due to the fact that the difference is not statistically significant. Besides this general conclusion about this hypothesis, a more detailed analysis of the breakdown of our data adds a little more light. Although without statistical significance, we observe that non-nascent entrepreneurs experiment a stronger impact than nascent entrepreneurs in ESE for searching (rate of increase of 5.28% for non-nascent against 3.49% for nascent entrepreneurs). In all other three dimension are nascent entrepreneurs those who experiment stronger rates of change contradicting what this hypothesis states (8.57% for non-nascent against a 10.53% for nascent in planning; 8.55% for non-nascent against 9.43% for nascent in marshaling and 2.27% for non-nascent against 5.75% for nascent in implementing).

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<td>Factor</td>
<td>Mean</td>
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Finally hypothesis 7 stated that nascent entrepreneurs have, from the beginning of the course, a higher level of ESE in all dimensions of the entrepreneurial process than those not considered so at it remains the same at the end of the course and six months after the
end of it. We have to conclude, according to the data exposed in tables 6 and 7, that this hypothesis is supported. All ESE mean values of nascent entrepreneurs are higher from the beginning in all dimensions of the entrepreneurial process and remain so at the end of the course and six months after the end of the course.

This is a very enlightening result at the same time that complex. We have to make 16 comparisons of data from tables 9 and 10: between nascent and non-nascent entrepreneurs and for the four ESE dimensions and the three different intakes and the total sample. In all 16 comparisons nascent entrepreneurs show higher levels of ESE as can we see in the above mentioned tables.

Therefore, after the analysis of our data, table 8 shows a summary of the empirical support of our hypotheses.

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</tr>
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<td>H1b</td>
<td>Different Dimensions ESE</td>
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</tr>
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<td>ESE Planning</td>
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<td>H2b</td>
<td>ESE Planning</td>
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<td>H7</td>
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### 3.4.2. Discussion

Discussion of results of this research becomes interesting. Our study supports the advancement of research on ESE and its relationship with EI by using a more robust and detailed measure of ESE than just the one-dimension measures of ESE. This multi-dimensional approach to ESE was assessed by testing it within a four-phase venture creation process framework. As we have previously said much of the preceding empirical research has relied on “total ESE” scales. Results of our research contribute to shed light on the different impact of entrepreneurship education programs of the different dimensions of ESE. This helps us to better understand the mechanisms by which ESE can be influenced.
Our study also includes nascent entrepreneurs and, by doing so, it helps to establish the usefulness of this multi-dimensional ESE scale within the context of EE. Including nascent entrepreneurs make us gain a more valuable perspective on the multi-dimensional phenomenon of ESE. Overall, these results can suggest that nascent entrepreneurs are more confident about operating across the four phases of the entrepreneurship process than do those participants who have not fully undertaken entrepreneurial behaviors. Another aspect of our research is the use of an ESE measure that is based on specific tasks in which nascent entrepreneurs engage during the entrepreneurial process. The ESE measures we use assess ESE in performing specific tasks associated with searching for business opportunities, planning, marshaling resources and implementing a new venture.

The limited impact of the course on ESE of nascent and non-nascent entrepreneurs can’t be denied. Only the planning dimension (in the first place) and marshaling dimension experiment a significant impact. The fact that nascent entrepreneurs have higher levels of ESE from the beginning and throughout the course and even 6 months after the final complexion of the course (Hypotheses 7) does not mean that the impact (difference from beginning to end) of the course is strong. They have that from the beginning and they keep it but at approximately the same levels they had at the beginning. The impact of the course is then limited.

Wilson et al. (2007) stated that a well-designed entrepreneurship program should provide students with a realistic sense of what it takes to start a business as well as raising the student’s self-confidence level (ESE). They also advocated incorporating ESE into the pre- and post-measurement of entrepreneurship training programs and courses to provide educators with better information about continuous improvement and program effectiveness. For these important applications, the use of a refined, consistent, and robust measure of ESE is crucial. The results of our research posit challenges for business educators in order to enhance the real impact on ESE of participants (being them nascent or non-nascent entrepreneurs). It is evident that, although the levels of ESE are really high from the beginning of the course (mean values around 5 out of a scale of 7) and they remain so after the course, these levels do not raise significantly as a consequence of the course.

It is also evident from our research that the impact of entrepreneurship education courses is not the same along all four phases of the entrepreneurial process. This suggests that a properly designed entrepreneurship education program should take into account the multi-dimensional and sequential nature of entrepreneurial tasks and, particularly pay special attention to the tasks needed in the searching and implementing phases. These are crucial (just good planning and marshaling of resources without having searched for a good business opportunity and without a successful implementation would lead to disaster) and, as we see from our research, the impact of the course is minimal.

According to McGee et al. (2009) entrepreneurs appear to follow an “inspiration, then perspiration” sequence in ESE development. After being attracted to venturing and then searching for opportunity, entrepreneurs gain more confidence in their abilities related to
other domains of entrepreneurship. These other domains require more concrete skills, such as planning, marshaling, and the implementation of day-to-day management of employees and finances for the venture. In practical terms, the pattern of “inspiration, then perspiration” in ESE development for entrepreneurs suggests that educational activities should address both the up-front activities in which inspiration is important (such as envisioning success and identifying a new product or service idea), as well as the perspiration dimensions of venturing. These perspiration dimensions require crucial implementation skills in planning, marshaling resources, managing people, and managing the finances of the venture. In order to do so we think our research sheds more light for the design of entrepreneurship courses.

Therefore ESE is best studied from a multi-dimensional approach. Then, the comparison between nascent and non-nascent entrepreneurs also helps to establish differences in the design of entrepreneurship courses since our results provide a more detailed understanding of how ESE works along the different phases of the entrepreneurial process (and the tasks each one implies) and relating to the different character of participants in the courses (being them or not nascent entrepreneurs).

3.5. Conclusions

The goal of this paper was to better understand the impact of entrepreneurship courses on entrepreneurial self-efficacy of participants. The aim was to approach this possible impact from a different focal point of view than the normally taken by the literature. The most pervasive branch of the literature claims that the impact of these courses is remarkable while, at the same time, a smaller branch challenges this view. To better understand this issue and to help to clarify these relationships we took a different stance, instead of analyzing ESE as a uni-dimensional variable, we approach ESE as a multi-dimensional variable by disintegrating it into four different dimensions following the entrepreneurial process: searching, planning, marshaling and implementing.

Another different novelty with respect with the existing literature is that we look at those relationships among the environment of a top business school of the world and, at the same time, we take into account the different character of being or not a nascent entrepreneur to try to find possible different impacts. We understand that, by doing this, we could shed light to the controversial issue of the impact of entrepreneurship education courses on ESE.

In order to fulfill our objective and after a review of the literature we gathered data on a three stage empirical study. Analysis of the information of our empirical study show a weak, although different, impact of the course on entrepreneurial self-efficacy of participants in all phases of the entrepreneurial process. This impact weakens even further several months after the final completion of the course. The difference founded among nascent and non-nascent entrepreneurs, although present, is not very relevant. Particularly
relevant is the fact that, although the impact of the course is not very deep in terms of increase or decrease of ESE along the four above mentioned phases of the entrepreneurial process, those levels are really high among participants which, generally speaking, allows us to conclude that it is difficult to raise the levels of ESE by using an entrepreneurship course in participants that already have very high levels of them. We do see that, besides this general idea, the impact is stronger in the planning dimension of ESE. We also observe that, along the time, those levels generally do not decrease but on the contrary, they normally have modest increases, what can show re-affirming perceptions of ESE on participants as a consequence of the entrepreneurship course. Special attention has to be paid to the issue that, as time goes by, the impact weakens to the point of being slightly negative, especially in the case of non-nascent entrepreneurs.

Contributions of our research from a theoretical point of view have to do with the fact that our results challenge the pervasive literature that establishes that entrepreneurship courses significantly raise the levels of ESE on participants. Our study contributes to clarify and to understand in more detail the limitations of entrepreneurial education. Particularly we seed more light about the more refined and not pervasive yet idea that it is more innovative and useful to try to measure ESE in a multi-dimensional and sequential way along the entrepreneurial process. Moreover, we have demonstrated that linking the four different dimensions of ESE with the concept of nascent and non-nascent entrepreneurs is also useful to try to gauge the impact of entrepreneurship education programs. Finally we test the impact of entrepreneurship programs on ESE in the setting of a top business school and, regarding to this issue, we have to admit that the results are challenging given the fact that, even in a top business school, the impact of entrepreneurship courses on ESE is limited. From an empiric approach our research confirms the usefulness of the longitudinal studies to try to measure the impact of a course in participants by confirming that enduring effects, along the time, even taking into account the four different phases of the entrepreneurial process and the different character of nascent and non-nascent entrepreneurs, need to be carefully observed, since, as we see from our research, only a measure in any given time could be misleading. We also seed light into future empirical studies regarding the issue that the environment of top business schools could be more controversial than it could appear to be regarding the issue of the impact of their entrepreneurship courses on participants. Do the courses have a deep impact in these top business schools? Or, as is clear, do the high levels of entrepreneurial self-efficacy among their ranks has to do with the fact of an excellent selections of the admissions committee? In other words, are we, in top business schools, preaching to the already converted when it comes to entrepreneurship education?

We have to point out as a limitation of our study the fact that we are not sure our results can be extrapolated to different samples with lower levels of ESE. The environment of a top business school could be “really specific”. This also deserves more research developing more studies in samples with lower “up front” levels of ESE to measure the possible different impact of entrepreneurship courses along all dimensions of ESE.
Further research would be needed to particularly understand the reason why entrepreneurship courses have different impacts on the different dimensions of ESE. There is a great challenge in order to properly design and target entrepreneurship courses and this better understanding could help to customize those programs regarding the particular necessities of any audience. For instance, it could be enhanced the marshaling dimensions instead of any other if that is the need of a particular audience. Anyhow, research about ESE as a muti-dimensional variable instead of a uni-dimensional one seems to be more refined and useful. We would like to encourage such a research.

Although the literature suggests that higher levels of ESE influence the likelihood of successfully launching a new business there is still limited understanding of ESE’s role in the development of entrepreneurial intentions and, particularly, more research would be needed in order to clarify the role that each dimension play in such a development. Is it more important to enhance the planning dimension of ESE? Or any other dimensions? Or maybe (probably, but we don’t know) all of dimensions at the same time? Anyhow one thing is clear from our research: ESE should be approached as a multi-dimensional construct in order to be more effective when designing entrepreneurship courses.
3.6. Bibliography

Aldrich, H.E. and Martinez, M.A. (2001): “Many are called, but few are chosen: an evolutionary perspective for the study of entrepreneurship”. Entrepreneurship Theory and Practice, 25 (4), 41-56.


CHAPTER 4:
THE IMPACT OF ENTREPRENEURSHIP EDUCATION
ON SOCIAL CAPITAL: A NASCENT ENTREPRENEURS APPROACH
4.1. Introduction

The relationships among social capital, entrepreneurship education and nascent entrepreneurs remain under-studied in the literature although implications of those relationships can be profound (Alesina and La Ferrara, 2000; Shane and Venkataraman, 2000; Davidson and Honig, 2003). It is the purpose of this research to study them.

Social capital is becoming increasingly popular. There is a growing number of sociologists, political scientists, and economists that use the concept of social capital when searching for answers to a broad range of issues (Adler and Kwon, 2002). We can define social capital as the information, trust, and norms of reciprocity inhering in one's social networks (Woolcock, 1998). Social capital can be roughly understood as the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action (Adler and Kwon, 2002). It is typically referred to as the ability to access resources through social relationships (Payne, Moore, Griffis and Autry, 2011). It is made up of the relationships, formal or informal, generated by individuals in their interaction with other individuals. In other words, social capital could be defined as capital captured in the form of social relationships. The application of social capital theory in organizational settings was initially proposed by Nahapiet and Ghoshal (1998), who defined it as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (p. 243).

Social Capital has informed the study of families, youth behavior problems, schooling and education, public health, community life, democracy and governance, economic development and general problems of collective action (Portes and Sensenbrenner, 1993; Jackman and Miller, 1998; Woolcock, 1998). Furthermore, social capital results from a process of investment in human relationships, which requires resources and time (Lin, 2003). It makes it easier to access information, reduce transaction costs by allowing the coordination of activities and facilitate collective decision-making (Grootaert and Van Bastelaer, 2001). In addition to this, social capital allows access to other forms of capital, such as human capital (Coleman, 1988) and it may be accumulated with its use and also depreciated or even destroyed (Svendsen and Svendsen, 2004). Some have investigated how entrepreneurs develop their social capital when relying on bootstrapping strategies becomes insufficient and financing needs to be acquired from external debt and equity financiers (Jonsson and Lindbergh, 2013). Most research has focused on how actors benefit from their networks (Galunic, Ertug and Gargiulo, 2012) and it is established that an individual immediate social networks matter for their own performance (compensation, promotion) power and reputation (Brass and Burkhart, 1993). Wheter and actor’s social network add value to other actors, however, remains under-explored (Bowler and Brass, 2006).

According to Grootaert and Van Bastelaer (2001) social capital has a multidimensional level. The strength or weakness of the linkages of the individual or organization with other
individuals or organizations is also an important element related to social capital (Granovetter, 1983). Strong ties developed inside a community such as members of a family, an association or an ethnic group of immigrants (intra-community ties) as well as weak (inter-community) ties are necessary to guarantee the efficacy of social capital (Woolcock and Narayan, 2000). Bonding social capital derives from the strong intra-community ties and bridging social capital derives from weak inter-community ties (Linan and Santos, 2007). Related to the environment and efficacy of social capital, it could be said that, if social capital is important and if it develops mainly through relationships, it could be argued that social capital could be developed in any area where relationships take place.

Social capital is, at bottom, an asset created at the level of the individual relationship, facilitating individual action but owned in partnership by its creators. These relationships are developed and sustained through repeated exchanges over time. Social exchange theory focuses on the primacy of these repeated exchanges in explaining how groups create the obligations, expectations, and trust that underlie group cohesion and social capital (Long, 2011). Even at a national level, social capital has a relevant impact. The country prevalence rate of entrepreneurship is an indicator of constructible nation-level social capital and enhances the likelihood of individual commercial entry (Estrin, Mickiewicz and Stephan, 2013).

According to Adler and Kwon (2002) social capital has been found a powerful factor explaining actor’s relative success in a number of arenas. For instance, social capital: 1) Influences career success (Burt, 1992; Gabbay and Zikkerman, 1998) and executive compensation (Belliveau et al, 1996; Burt, 1997a), 2) Helps workers find jobs (Lin and Dumin, 1996). 3) Creates a richer pool of recruits for companies (Fernandez, Castilla and Moore, 2000). 4) Facilitates inter-unit resource exchange and product innovation (Hansen, 1998; Tsai and Ghoshal, 1998), the creation of intellectual capital (Hargadon and Sutton, 1997; Nahapiet and Ghoshal, 1998) and cross-functional team effectiveness (Roshental, 1996), entrepreneurship (Chong and Gibbons, 1997), the formation of start-up companies (Walker, Kogut and Shan, 1997). 5) Reduces turnover rates (Krackhart and Hanson, 1993) and organizational resolution rates (Pennings et al, 1998). 6) Strengthens suppliers relations (Uzzi, 1997), regional production networks (Romo and Schwartz, 1995) and inter-firm learning (Kraatz, 1998). Prior research has also established that organizational social capital is an instrumental, enabling factor for cross-functional knowledge sharing (Leana and van Buren, 1999; Tsai and Ghoshal, 1998). Organizational social capital interacts with the firm’s formalization to promote internal knowledge sharing (Clercq, Dimov and Thongpapanl, 2013). It has also been studied the influence of changes in social capital on firm-founding activities (Kreiser, Patel and Fiet, 2013). Regarding to founding social capital represents an ideal means for founders to acquire and utilize the resources necessary to facilitate the firm-founding process (Stam, 2010). Focusing on a firm’s signaling of social capital through their alliances, we explore how socially constructed signals convey legitimacy and enable greater initial public offering (IPO) proceeds (Khoury, Junkunc and Deeds, 2013). Nevertheless, as a precaution regarding the
boundaries of social capital, some research suggests that social capital promotes entrepreneurship only when supportive cultural capital is in place (Light and Dana, 2013) and it has to be taken into account that bureaucratic systems influence social capital (Saparito and Coombs, 2013).

Given that social capital reflects a complex set of dynamic relationships that exist within a group, it has been argued that the social capital of firms can be difficult to quantify and imitate (Dess and Shaw, 2001), and is often based upon the unique circumstances and interactions present within a specific collective. Owing to the mutual interdependence and complexity of these relationships, this field of study has become increasingly fragmented and somewhat inconsistent in its application (Carr, Cole, Ring and Blettner, 2011). There is a growing awareness that the social environment interplays with individuals and organizations to drive opportunity discovery, evaluation, and exploitation (e.g., De Carolis and Saparito, 2006; Corbett, 2007). Social capital not only has the potential to inform entrepreneurship, but also to be informed by entrepreneurship research (Murphy, 2011). Social capital is uniquely situated to address the integrative theoretical needs of entrepreneurship scholars because it helps explain processes and outcomes of social interactions at multiple levels of analysis and across a diverse set of situations and contexts (Lin, 2001; Jack and Anderson, 2002; Kim and Aldrich, 2005; De Carolis and Saparito, 2006; Payne et al, 2011; Gedajlovic et al, 2013).

One of the key environments for the development of relationships among humans is the educational environment. The impact of education in social capital has been studied in several works (Glaeser et al, 1999; Putnam, 2000; Huang, Maasen and Groot, 2009). Education is one of the most important determinants of individual social capital. It reflects an orientation towards the future by strengthening human capital and social capital for economic and social development (Putnam, 2000; Alesina and La Ferrara, 2000). Educational context is the first non-familiar context in an individual’s life where moral and cognitive capacities are trained. Furthermore, during their education period of time, students participate in a peer culture that shapes values such as reciprocity, respect and trust. Students learn and develop the basic norms and responsibilities in society, as well as the functioning of democracy through civil education from schooling (Huang et al, 2009).

According to several authors, the most robust correlate of social capital variables is years of schooling (Glaesser et al, 1999).

As we see, there is literature addressing the issue of the relationship between education and social capital but, paradoxically, there is not known literature addressing the relationship among entrepreneurship education and social capital and, still more precisely, there isn’t literature that addresses entrepreneurship education developed in business schools and social capital. In the last instance, there is not known literature studying entrepreneurship education developed in top business schools of the world and the development of social capital. This idea is consistent with the one that the impact of entrepreneurship courses is still poorly known and that research about the effects of entrepreneurship education is still in its infancy (Gorman, Hanlon and King, 1997). The research we develop in this chapter is relevant from various points of view since it contributes to better understand how the
formation of social capital takes place, particularly in an educational setting. For instance, if social capital represents an ideal means for founders to acquire and utilize the resources necessary to facilitate the firm-founding process (Stam, 2010) or if an increase in the number of ties is positively associated with founding activities and, at the same time, social capital interacts with the firm’s formalization to promote internal knowledge sharing (Kreiser, Patel and Fiet, 2013), it would be really key to try to gain insight into how does education potentiate (if it does) the formation of social capital. There is an increased appreciation for the importance of social relationships in entrepreneurship (Gedajloviv, Honig, Moore, Payne and Wright, 2013) and it has been established that social capital has the potential to inform entrepreneurship, but also to be informed by entrepreneurship research (Murphy, 2011). It is crucial then to try to tackle the impact that, in this case, education can have in the development (positive or negative) of social capital. Implications of the study of this relationship could be deep since entrepreneurship education has been found, among other aspects, as having a positive impact on perceived attractiveness and feasibility of new venture creation an entrepreneurial activity (Fayolle, GaIlly and Lassas-Clerc, 2006; Souitaris, Zerbinati and Al-Laham, 2007) and entrepreneurial activity has been recognized as beneficial to economy, communities or individuals and good for creating jobs, wealth and facilitating social adjustments (Jack and Anderson, 1999).

It is also relevant to study the construct of nascent entrepreneurs and their relationship with entrepreneurship education and the development of social capital. They are individuals who engage in activities that are meant to result in a feasible business start-up (Aldrich and Matinez, 2001). It looks interesting to try to explain the role that entrepreneurship education can have in the development of social capital in participants considered nascent entrepreneurs since these individuals are likely to be the ones starting new businesses in the near future. It can also be relevant to try to better understand if the impact of entrepreneurship education in the development of social capital in participants is different regarding the issue of being the participants nascent or non-nascent entrepreneurs.

Specifically then, the goal of our research is to gain insight into the impact that an entrepreneurship course can have in the development of social capital in participants. Our purpose is to better understand this issue to help to clarify this relationship but taking into account a different approach that could offer more light and a different perspective, this is: looking at that relationship among the environment of a top business school of the world and, at the same time, considering the different character of being or not a nascent entrepreneur. As we have said, this is an impact not well studied in the literature and there is no known paper tackling these relationships. Particularly, this chapter intends to study this issue by answering the next research question: What is the impact of entrepreneurship education in the development of social capital among the course’s participants, being them or not nascent entrepreneurs?

This paper, then, makes the following important contributions. First, we employ a novel analytical framework based on the relationship between entrepreneurship education and social capital. Second, the paper empirically tests the relationships proposed in the hypothesis in the context of the Top 10 Business Schools of the World. Third, the results
of our research aim to provide policy makers, deans and academic governing bodies of Universities, Business Schools and other academic institutions as well as social capital researchers with suggestions that will refine, provide security and make richer the design of entrepreneurship programs. Fourth, the paper tackles the possible different impact of EE on the development of social capital in nascent and non-nascent entrepreneurs. This relationship remains under-studied in the literature. Fifth, the methodology of the empirical study follows an innovative three stage model that allows comparison among students in different stages of their studies in a longitudinal way. Results challenge the possible “shallow” idea that, in an educational environment, the relationships that develop social capital grow with time and contribute to better understand and clarify in more detail the limitations of entrepreneurial education at top business schools when it relates to social capital. We also seed light for further research developed at top business schools regarding the issue of what can be achieved by the attainment of an entrepreneurship course in such environments, especially from the point of view of good social connections.

The paper is structured as follows: Section 2 postulates our hypotheses based on a review of the social capital literature. We begin by defining the concept of social capital and then we analyze different relevant aspects of the social capital construct. Section 3 describes the methodology that we have followed to test the hypotheses and section 4 analyzes the results and implications of this research and, finally section 5 states the conclusions.

4.2. Theoretical Framework

Social capital research normally makes the assumption that the goodwill that others have towards us is a valuable resource. By "goodwill" we can refer to the sympathy, trust, and forgiveness offered us by friends and acquaintances (Dore, 1983, on goodwill; Adler, 2001, on trust; and Williamson, 1985, on forgiveness). If goodwill is the substance of social capital, its effects flow from the information, influence and solidarity such goodwill makes available. These benefits are accompanied by costs and risks. For any given actor, a given effect has different value, depending on a number of moderating factors.

Social capital's sources lie, as do other resources, in the social structure within which the actor is located. It is possible to differentiate social capital from other types of resources by the specific dimension of social structure underlying it. Social capital is the resource available to actors as a function of their location in the structure of their social relations. But what are "social relations"? We can distinguish conceptually among three dimensions of social relations: 1) Market relations, in which products and services are exchanged for money or bartered; 2) Hierarchical relations, in which obedience to authority is exchanged for material and spiritual security and 3) Social relations, in which favors and gifts are exchanged. According to Adler and Kwon (2002) it is precisely this third type of relations that constitute the social dimension or social structure underlying social capital.
## Definitions of Social Capital

**Source: Adler and Kwon (2002, pag. 20)**

<table>
<thead>
<tr>
<th>Authors and Definitions of Social Capital</th>
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<tbody>
<tr>
<td><strong>External</strong> Ties</td>
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<tr>
<td>Baker: “a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors” (1990:6 19).</td>
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<tr>
<td>Belliveau, O'Reilly, &amp; Wade: “an individual's personal network and elite institutional affiliations” (1996: 1572).</td>
</tr>
<tr>
<td>Bourdieu: “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (1985:2 48).</td>
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<tr>
<td>Bourdieu &amp; Wacquant: “the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (1992: 119).</td>
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<tr>
<td>Boixman, De Graaf: “the number of people who can be expected to provide support and the resources those &amp; Flap people have at their disposal” (1991:5 2).</td>
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<tr>
<td>Burt “friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital” (1992:9 ).</td>
</tr>
<tr>
<td>Knoké: “the process by which social actors create and mobilize their network connections within and between organizations to gain access to other social actors' resources” (1999: 18).</td>
</tr>
<tr>
<td>Portes: “the ability of actors to secure benefits by virtue of membership in social networks or other social structures” (1998:6 ).</td>
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<tr>
<td><strong>Internal</strong> Ties</td>
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<td>Coleman: “Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure” (1990:3 02).</td>
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<tr>
<td>Fukuyama: “the ability of people to work together for common purposes in groups and organizations” (1995: 10).</td>
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<tr>
<td>Portes &amp; Sensenbrenner: “those expectations for action within a collectivity that affect the economic goals and goal-seeking behavior of its members, even if these expectations are not oriented toward the economic sphere” (1993: 1323).</td>
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<tr>
<td>Putnam: “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (1995:6 7).</td>
</tr>
<tr>
<td>Thomas: “those voluntary means and processes developed within civil society which promote development for the collective whole” (1996: 11).</td>
</tr>
<tr>
<td><strong>Both</strong> Ties</td>
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<tr>
<td>Loury: “naturally occurring social relationships among persons which promote or assist the acquisition of skills and traits valued in the marketplace... an asset which may be as significant as financial bequests in accounting for the maintenance of inequality in our society” (1992: 100).</td>
</tr>
<tr>
<td>Nahapiet &amp; Ghoshal : “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network”(1998:2 43).</td>
</tr>
<tr>
<td>Pennan: “the web of social relationships that influences individual behavior and thereby affects economic growth” (1997: 154).</td>
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<tr>
<td>Schiff: “the set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function” (1992: 160).</td>
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Defining the concept of social capital is not an easy task in the sense that there are many different definitions in the literature that are broadly similar although they express some significant differences: 1) Definitions vary depending on whether they focus on the substance, the sources, or the effects of social capital and 2) They vary depending on
whether their focus is primarily on: a) the relations an actor maintains with other actors, b) the structure of relations among actors within a collectivity, or c) both types of linkages.

A focus on external relations foregrounds what has been called "bridging" forms of social capital, whereas a focus on internal ties within collectivities foregrounds "bonding" forms of social capital (Gittell and Vidal, 1998, Putnam, 2000). In order to get an accurate idea of the different approaches to the concept, we summarize a list of social capital definitions gathered by Adler and Kwon (2002: 20).

From a different perspective, social capital resembles some kinds of capital and differs from others (Araujo and Easton, 1999). Adler and Kwon (2002) make an assessment of the validity of approaching social capital as a form of capital. According to these authors the shared characteristics that social capital has in common with other forms of capital are:

1. Like all other forms of capital, social capital is a long-lived asset into which other resources can be invested, with the expectation of a future (albeit uncertain) flow of benefits. Through investment in building their network of external relations, both individual and collective actors can increase their social capital and thereby gain benefits in the form of superior access to information, power, and solidarity. By investing in the development of their internal relations, collective actors can strengthen their collective identity and increase their capacity for collective action. Social capital is, at least under some circumstances, "constructible" through deliberate actions (Sabel, 1993; Evans, 1996). Like all forms of capital, social capital can yield dis-utilities as well as benefits.

2. Social capital is also, like other forms of capital, both "appropriable" (Coleman, 1988) and "convertible" (Bourdieu, 1985). Like physical capital, which can typically be used for different purposes (albeit not necessarily equally efficiently), social capital is appropriable in the sense that an actor's network of, say, friendship ties can be used for other purposes, such as information gathering or advice. Moreover, social capital can be "converted" to other kinds of capital: the advantages conferred by one's position in a social network can be converted to economic or other advantage. Among the several forms of capital identified by Bourdieu, economic capital is most liquid; it is readily convertible into human, cultural, and social capital. By comparison, the "convertibility rate" of social capital into economic capital is lower, since social capital is less liquid and more "sticky" (Smart, 1993; Anheier, Gerhards and Romo, 1995).

3. Social capital can either be a substitute for or can complement other resources. As a substitute, actors can sometimes compensate for a lack of financial or human capital by superior "connections." More often, however, social capital complements other forms of capital. For example, social capital can improve the efficiency of economic capital by reducing transaction costs (Lazerson, 1995).

4. Like physical capital and human capital, but unlike financial capital, social capital needs maintenance. Social bonds have to be periodically renewed and reconfirmed or else they lose efficacy. Like human capital, but un-like physical capital, social capital does not have a predictable rate of depreciation for two reasons: a) While it
may depreciate with non-use (and with abuse), it does not depreciate with use. Like human capital and some forms of public goods, such as knowledge, it normally grows and develops with use. For example, trust (which can be regarded as a key source of social capital) that is demonstrated today typically will be reciprocated and amplified tomorrow. b) While social capital sometimes is rendered obsolete by contextual changes (Sandefur & Laumann, 1998), the rate at which this happens is typically unpredictable so that even conservative accounting principles cannot estimate a meaningful depreciation rate.

5. Like clean air and safe streets, but unlike many other forms of capital, some forms of social capital are "collective goods". They are not the private property of those who benefit from them (Coleman, 1988). This is particularly true of internal, bonding social capital. The use of such social capital is non-rivalrous, one person's use of it does not diminish its availability for others, but (unlike pure public goods) its use is excludable (others can be excluded from a given network of relations) Hechter (1987).

6. Some scholars (e.g. Coleman, 1988) have argued that social capital is "located" not in the actors but in their relations with other actors. "No one player has exclusive ownership rights to social capital. If you or your partner in a relationship withdraws, the connection dissolves with whatever social capital it contained" (Burt, 1992: 58). While it takes mutual commitment and cooperation from both parties to build social capital, a defection by only one party will destroy it.

Finally therefore, as a summary of the above points, we can conclude with Adler and Kwon (2002) that social capital can fit within the broad and heterogeneous family of resources commonly called "capital".

From a different angle, social capital can be analyzed at different levels. According to some literature three levels can be distinguished:

- Macro or Social Level focuses on the potential benefits for the society of individual’s and organization’s social networks, such as improved income level (Dakhli and Clerq, 2004)

- Micro or Individual Level focuses on the potential benefits of network relations for the person, such as the entrepreneurial start-up or firm success (Davidsson and Honig, 2003; Lin, 2003)

- Meso or Organizational Level focuses on the potential benefits of network relations for the organization, such as a higher efficiency (Putnam, 1993)

Furthermore, following this line of research, it is important to understand the different dimensionality of social capital. In addition to what we have just analyzed, De Carolis and Saparito (2006) add more light to the different dimensions of social capital. They state that while traditionally, scholars have studied social capital as a unidimensional concept (e.g., Coleman, 1988; Burt, 1992; Walker et al., 1997), increasingly, researchers are adopting a multidimensional perspective of social capital (e.g., Nahapiet and Ghoshal, 1998; Lesser, 2000). De Carolis and Saparito (2006) adopt Nahapiet and Ghoshal’s (1998) three
dimensions of social capital: structural dimension, relational dimension, and cognitive dimension:

- **Structural Dimension.** The structural dimension refers to the network structure’s overall pattern of connections between actors (Nahapiet and Ghoshal, 1998). Most notably, network structure includes such factors as the existence or absence of direct connections between a focal actor and others, and the pattern and number of indirect ties between a focal actor and others (Burt, 1992; Nahapiet and Ghoshal, 1998). Positioning within a network is important because it can confer differential access to information (Burt, 1992). For instance, the last author suggests that a structural hole is said to exist when different clusters of interconnected actors are only sparsely connected to one another. Consequently, any individual who holds the only or one of the few connecting position(s) between the two clusters is able to capitalize on information that exists in one cluster but not in another by acting as a broker for non-redundant information. Burt (1992, 1997) suggests that entrepreneurs will act as tertius gaudens—the third who benefits through leveraging the non-redundant information for profit.

- **Relational Dimension.** While the structural dimension refers to the overall pattern of network connections, the relational dimension refers to the nature of the personal relationship that develops between specific people (Nahapiet and Ghoshal, 1998) as manifested in “strong” versus “weak” ties. The “strength” of a tie is a reflection of the combination of the amount of time, emotional intensity, intimacy, and reciprocal services that characterize that tie (Granovetter, 1985). Strong ties are typically associated with trust and facilitate the flow of fine-grained information (Gulati, 1998; Rowley, Behrens, and Krackhardt, 2000) and the transfer of tacit knowledge (Uzzi, 1996). While many factors make a tie weak or strong, trust plays a pivotal role (Granovetter, 1985; Uzzi, 1999). Trust has been conceptualized as a willingness to be vulnerable (placing one’s welfare in the hands of others) and a feeling of positive expectations (an individual’s confident beliefs that another will behave in a beneficial manner) Rousseau, Sitkin, Burt, and Camerer (1998). Being embedded in a network gives rise to a form of trust known as relational trust (Nahapiet and Ghoshal, 1998). Relational trust refers to a trustor’s confident beliefs that a trustee will act beneficially because the trustee cares about the trustor’s welfare (Rousseau, Sitkin, Burt and Camerer, 1998) which emerges from repeated interactions between individuals over time that yield feelings of reliability and positive expectations. Relational trust is based on continual reciprocity—the notion that “I’ll do this for you now, but you will do something for me later” (Lesser, 2000; Adler and Kwon, 2002).

- **Cognitive Dimension.** The cognitive dimension of social capital refers to “shared representations, interpretations, and systems of meaning among parties” (Nahapiet and Ghoshal, 1998: 244) that enable individuals within a network to make sense of information and to classify it into perceptual categories (Augoustinos and Walker, 1995). Shared systems of meanings and language facilitate the exchange of information learning and knowledge creation that allows individuals to share each other’s thinking processes. These common ways of looking at the world help individuals to make sense of new information and knowledge (Nonaka, 1994; Grant, 1996).
Social networks provided by extended family, community-based, or organizational relationships are considered to supplement the effects of education, experience and financial capital (Bourdieu, 1983; Loury, 1987; Coleman, 1988, 1990). As we have said, social capital is multidimensional and occurs at both the individual and the organizational levels (Nahapiet and Ghosal, 1998). Social capital can be also explained in terms of social exchange (Emerson, 1972) to examine the effects of exchange ties on performance. Exchange effects can vary from the provision of concrete resources (e.g. a loan) to intangible resources (e.g. information).

Social capital can be a useful resource both by enhancing internal organizational trust through the bonding of actors, as well as bridging external networks in order to provide resources (Putnam, 2000; Adler and Kwon, 2002). A major factor enhancing the strength of social capital consists on trust, often a result of obligations, threat of censure and exchange (Granovetter, 1985; Coleman, 1988). This trust forms a bonding glue that holds closely knit organizations together.

Another aspect of social capital consists on ties that provide resources such as information, providing a bridging lubricant (Putnam, 2000). As we have said, ties that result on social capital can occur at both individual and organizational levels although they are frequently attributed primarily to the individual agents involved. These ties can be direct or indirect, their intensity may vary, and the outcomes, in terms of bonding and bridging social capital, contingent to any type of network. Regarding the intensity and the outcomes of the different type of bonds related to social capital, bonding social capital (Linan and Santos (2007), based on strong ties from family or other close relationships, can generate in the cognitive dimension different values, beliefs or trust favoring individual’s perceptions. In addition to this, Bridging social capital (in spite of being based on weak ties) can also generate favorable values and beliefs towards a specific behavior.

Weak ties are loose relationships between individuals, as opposed to the close ties that would be found in a nuclear family. Weak ties are useful in obtaining information that would, otherwise, be unavailable or costly to locate. Nascent firms might, for example, rely upon weak ties such as membership to a trade organization in order to learn about the latest technological innovations. In contrast, an example of strong ties would be a sibling or parent helping out for free in some aspect of a start-up activity (Davidsson and Honig, 2003). The more personal resources one has, the less likely one is to rely on strong ties and the more attractive weak ties become (Cook and Whitmeyer, 1992). This impact would increase in the case that those weak ties derive from the individual’s relationships with specific networks such as entrepreneurial promotion agencies or entrepreneurial networks. At the same time, non-entrepreneurs may be forced to establish a direct contact with these organizations for a variety of reasons like as part of their job in a company or, maybe, because of their work for one of these organizations. It results evident that the different contacts and experiences acquired by an individual could provide him or her with higher self-efficacy so as to estimate becoming an entrepreneur as feasible and/or desirable (Linan and Santos, 2007).
Two common indicators of social capital at the individual level are social trust and membership to voluntary groups (Huang et al, 2012). According to Putnam (2000) the presence of social capital is indicated by: 1) a high degree of trust in general people and 2) a rich network resource for collective action. One of the effects on social trust is impersonal trust between random people. It differs fundamentally from personal trust by its extension to people on whom the trusting part has no direct information (Delhey and Newton, 2005; Paxton, 2007). Social trust reflects a bond that people share across the society, across economic and ethnic groups, religions or races and it provides the foundation for a cooperative spirit that brings people together for common and mutually advantageous purposes. At the same time social trust contributes to economic growth and market efficiency by reducing the transaction costs involved in economic activity. Huang et al (2012) establish that high levels of social trust lead people to expect that others are cooperative and not opportunistic in social and economic exchanges and reflects “a belief in the benevolence of human nature in general”. In addition to this, Social trust promotes the performance and character of political institutions (La Porta, Lopez de Silane, Shleifer and Vishny, 1997).

Affiliation with one or more than one voluntary groups is a general indicator of social participation and an important indicator of social capital (Glaeser et al, 1999). Voluntary groups facilitate people’s effective involvement in community life and promote a sense of community. Some research indicates group members acquire organizational skills and expand their social ties in ways that positively impact their physical and mental health (Thoit and Hewitt, 2001; House et al, 1988). A high level of voluntary participation improves the living environment and social well-being, raises civic norms among people and strengthens the foundations of a democratic society (Huang et al, 2012). It would be a logical deduction that taking part of a course (and particularly an entrepreneurship course, why not?), especially at a postgraduate level, is a form of taking part of a voluntary group.

From a different perspective the study of the impact of education on social capital at an individual level is pertinent and relevant. Social capital is an aggregate concept that encompasses the association of networks, norms and trust that facilitate collective interactions for mutual economic and social benefits (Coleman, 1990; Putnam, 1993, 1995, 2000).

We have previously mentioned that education is one of the most important determinants of individual social capital (Glaeser et al, 1999; Alesina and La Ferrara, 2000; Putnam, 2000). These last authors find a positive relationship among schooling and membership of organizations in almost every country. Acquiring a four-year university degree is associated with a 10% higher probability of an individual engaging in voluntary work (Denny, 2003). More educated people are more likely to trust other people and they tend to join more social organizations and participate in group activities more frequently. Education is one of the most important determinants of individual social capital (Alesina and La Ferrara, 2000; Putnam, 2000). It reflects an orientation towards the future by strengthening human capital and social capital for economic and social development. The educational context is the first non-familiar context in an individual’s life where moral and
cognitive capacities are trained. Furthermore, during their education period of time, students participate in a peer culture that shapes values such as reciprocity, respect and trust. Students learn and develop the basic norms and responsibilities in society as well as the functioning of democracy through civil education from schooling (Huang et al, 2011). According to several authors, the most robust correlate of social capital variables is years of schooling (Glaesser et al, 1999).

It is precisely following this line of reasoning that we consider relevant to study the impact that entrepreneurship education can have in the development of social capital. We are particularly interested in entrepreneurship education at top Business Schools due to the pervasive presence of this kind of programs in all relevant Business Schools of the world and, particularly, in the top ten of the world according to different internationally recognized rankings. Paradoxically, up to date, the literature has not studied the impact, if any, of entrepreneurship education developed in these business schools on the social capital developed by participants. Apparently students attending an entrepreneurship course develop new contacts and relationships, they know new people and they have to work very long hours in different common projects, study of cases, class discussions and the like. It would be relevant, therefore, to try to gauge if all these relationships have an impact on social capital. Following this discussion and in order to better understand these relationships, we posit the next exploratory hypothesis:

**Hypothesis 1a:** The attendance to an entrepreneurship course in a business school has a positive impact in the development of social capital in participants from the beginning of the course and that impact remains at the end of the course

**Hypothesis 1b:** The attendance to an entrepreneurship course in a business school has a positive impact in the development of social capital in participants from the beginning of the course and that impact remains time after the end of the course.

Regarding the issue of nascent entrepreneurs, it is stated that social capital can help any entrepreneurs to pursue their objectives and help them when setting up their businesses. Before a person can be considered an entrepreneur he or she normally becomes a nascent entrepreneur as an intermediate state. Following Aldrich and Martinez (2001), nascent entrepreneurs can be described as those individuals “who not only say they are currently giving serious thought to the new business, but also are engaged in at least two entrepreneurial activities, such as looking for facilities and equipment, writing a business plan, investing money, or organizing a start-up team”. A nascent entrepreneur is an individual who engages in activities that are meant to result in a feasible business start-up.

According to McGee et al (2009) individuals can be coded as nascent entrepreneurs if they have engaged in at least two of the following behaviors:

- Attending a “start your own business” planning seminar or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
Looking for a building or equipment for the business

Saving money to invest in the business, and

Developing a product or service

Education has a role in predicting who, among a cross-section of a general population, would attempt to engage in any nascent activities (Davidsson and Honig, 2003). These authors found that human capital measures such as previous start-up experience and having taken business courses were predictors of the frequency of gestation activities over time. The discovery process can be defined as asymmetrical information between entrepreneurs and the owners of resources (Shane and Venkatraman, 2000). Regarding to it, both bridging and bonding social capital may enhance the flow of information. During the discovery process, social capital assists nascent entrepreneurs as individuals by exposing them to new and different ideas, world views and providing them with a wider frame of reference both supporting and nurturing to the new potential idea or venture (Aldrich and Zimmer, 1986). Entrepreneurs frequently make decisions as a result of associations based on friendship or advise (Paxton, 1999) often consisting on social capital based weak ties. Strong ties may also assist the entrepreneur along the discovery process like the importance of family socialization by inspiring autonomy. Strong ties within the nascent venture can also yield increased efficiency in resource utilization.

After the discovery process, the exploitation process provides individuals with an opportunity to leverage social capital resources. Bonding social capital provides individuals with networks that facilitate the evaluation, procurement and utilization of resources necessary for exploitation. Bridging social capital utilizes what the person has developed within their own associations and reflects their own value structure, priorities and resource allocation. An example of this could be that we choose our friends and these relationships may provide resources (Greene and Brown, 1997). Bridging social capital can assist new firms by linking different organizations through weak ties. Bridging social capital at the inter-organizational level consists on collective relations such as organizational networks, engaging in independent activities utilizing a web of overlapping structures based on loosely coupled open systems (Burt, 1980; Galaskiewicz and Wasserman, 1993).

Social capital is also important in analyzing nascent entrepreneurial behavior both using measures of bonding and bridging capital, based on strong and weak ties. Social capital is found to be higher in the nascent entrepreneurs than in other groups. Bonding social capital based on strong ties, such as having parents who owned a business or close friends who owned businesses is a good predictor when it comes to differentiate those engaged in nascent entrepreneurship from other types of population. Bridging social capital, based on weak ties, was found to be a strong predictor of rapid and frequent gestation activities such as carrying the start-up process further (Davidsson and Honig, 2003). The above mentioned authors suggest that entrepreneurs should develop and promote networks of all sorts, particularly inter-firm and intra-firm relations. They also state that, given the rapid changes an advances in communication technologies, and the increasingly feasibility of
entrepreneurs to work in autonomous, distantly separated environments, it would be prudent to pay careful attention towards the promotion and development of social, network and mentoring capabilities.

At the same time, Davidsson and Honig (2003) question the value of any assistance programs provided to nascent entrepreneurs. Contact with agencies can be promoting bureaucratic activities but do not predict activities indicative of successful emergence, such as first sale, profit or even the speed with which the gestation activities occurred. Taking business classes is associated with increased activities but do not predict who has a first sale or who becomes profitable. Regional governments and public agencies considering intervention activities promoting entrepreneurship should focus on structural relationships rather than on programs specifically targeted to promote certain entrepreneurial activities.

This rich discussion leaves the idea that the impact of entrepreneurship education in the development of social capital (a key resource in the entrepreneurial process as we have just analyzed) along the gestation process of entrepreneurship (where nascent entrepreneurs are) is not well known. More precisely, the possible different impact of entrepreneurship education on the development of social capital by nascent and non-nascent entrepreneurs (and its evolution along the time) is not known and can be very relevant, among other issues, for the proper design of entrepreneurship courses. For these reasons and to contribute to clarify and analyze this situation, we postulate the following exploratory hypotheses:

**Hypothesis 2a:** At the beginning of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so.

**Hypothesis 2b:** At the end of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so.

**Hypothesis 2c:** Time after the end of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so.

A particular and complementary issue regarding the development of social capital has to do with the development of relationship blockers and, therefore, social capital blockers. Given the fact that, by definition, social capital is developed out of relationships, it would be interesting to explore the possible impact of relationship blockers in an entrepreneurship course. The most useful way to study this would be to analyze if the impact of relationship blockers in an entrepreneurship course is the same or different in nascent and non-nascent entrepreneurs and how this aspect evolves with time.

A relationship blocker can be any barrier or obstacle that adds difficulty to a relationship (Montoro and Mora, 2006). These relationship blockers can be of different types:
• Restrictions set by the organization: These have to do with the type of research that is taking place in a particular moment (Gluck, Blumental and Stoto, 1987), the discussion of one’s research with other members of the team (Soetendorp and Bornemann, 1996), or the delays in the publications (Oliver and Porter, 1997/1998; Brannock and Denny, 1998).

• Problems with the appropriation of results: These have to do with the appropriation by academics or students of the results of any research or common work to start their own businesses to exploit them (Bonaccorsi and Piccaluga, 1994; Chiesa and Manzini, 1998)

• Communication problems: These relate to the flow of information both inside the organization and between its members (Boyle, 1986; Wigand and Frankwick, 1989; López-Martínez et al, 1994).

• Duration of the relationship: These issues have to do with the fact that people can have and desire different scopes of time to develop particular tasks (Liyanage and Mitchell, 1994; Nimtz, Coscarelli and Blair, 1995; Acosta Ballesteros and Modrego Rico, 2000b).

• Cultural differences: these can be between academics and students, between participants and support personnel (like administrative staff) and between participants themselves (Gibson and Rogers, 1994; Davenport, Davies and Grimes, 1999a; Siegel et al, 1999).

These relationship blockers can be present in the development of social capital among participants in an entrepreneurship course but we don’t know if this is the case or not. This issue remains understudied in the literature. Studies about blockers normally focus on the field of relationships among different organizations. As we have previously said, social capital is normally found to be higher in the nascent entrepreneurs than in other groups (Davidson and Honig, 2003). This idea can lead us to realistically infer that it is that way, among other possible reasons, because nascent entrepreneurs experiment lower levels of relationship blockers that those individuals not considered so.

This is only a reasonable speculation and we don’t know if this is true or not. Implications of these findings would be crucial for the design not only of the content of the courses but also (and probably more important in this case) to the design of the structural mechanisms by which relationships among participants in an entrepreneurship course are developed. This could include issues directly related to the way the institution in which the course takes place organizes different methodologies and means for students to be and remain fluidly in touch.

In order to gain insight into these unknown relationships we postulate the next exploratory hypotheses:

Hypothesis 3a: At the beginning of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so.
Hypothesis 3b: At the end of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so.

Hypothesis 3c: Time after the end of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so.

To better understand the relationships we intend to study, we can see in Figure 1 a graphic representation of the framework of analysis of this paper.

Figure 1. Graphic representation of our theoretical model of analysis
4.3. Methodology

4.3.1. Sample

Our unit of analysis consists on participants on Entrepreneurship Education courses developed at MBA programs. We examine entrepreneurial education in MBA programs because they are the key and more extended programs in the portfolio of Business Schools. Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum.

Particularly we take, as a reference, widely recognized very recent international rankings such as the ones elaborated by: The Financial Times, The Economist, The Wall Street Journal, Forbes, America Economica, The Aspen Institute or Boomerberg-Business Week to get a reference of top Business Schools in the world. All institutions that appear consistently in these rankings like: Harvard Business School, MIT Sloan School of Business, London Business School, IESE, IMD, Chicago Booth, ESADE, Cambridge Judge Business School or IE Business School offer in their MBA programs Entrepreneurship Education courses. In these widely recognized international rankings, IE Business School and particularly its IMBA are consistently ranked among the top ten positions in the world as it can be seen in Annex 2.

Therefore we gather information from and the study is limited to the participants of the Entrepreneurial Management Course developed within the International Master in Business Administration (IMBA) at IE Business School in Madrid (Annex 2).

Before we were allowed to use this pull of students we were asked by IE’s management team of the IMBA to obtain permission from IE’s Research Committee since it’s not the policy of IEs IMBAs management team to allow any kind of research with students. A Research Project then had to be written and submitted in due time to IE’s Research Committee. Months later we finally got permission to proceed with our study only after having agreed to follow strict rules to proceed, under the close supervision of the IMBA management team and with very tight conditions regarding the results of the research and with detailed compensations to the students.

As we are going to compare the different possible impact of the entrepreneurship course among participants along the time, we need to gather data of our variables in different moments. This is the approach followed by the most representative studies regarding the impact of entrepreneurship education on entrepreneurial self-efficacy and entrepreneurial intentions. Longitudinal studies in social research lend themselves to a range of uses such as tracking and interpreting change over time may lead to the discovery of new aspects and relations between factors, which may identify the need for further or different studies.
They also provide snapshot pictures of particular groups or institutions and the relations between them, useful at the time for policy and other reasons. Because longitudinal studies usually have sizeable samples these snapshots serve as baseline data to compare similar groups and institutions in new samples at a later date in order to trace the impact of policy change (Harte and Stewart, 2010).

The literature normally use a three-step study beginning with a distribution and complexion of a questionnaire at the beginning of the program and then using two post-tests to measure change over the program (questionnaire distributed at the end of the program) and the enduring nature (six months after the final complexion of the program) of any changes observed (Begley and Tang, 2001; Cooper and Lucas, 2006; McLelland, Barakat and Windfield, 2010). We can use several reasons for choosing to capture this data using a longitudinal design. Research in the area of entrepreneurship is largely short-term (Matlay and Carey, 2007) therefore limiting contributions to the debate and policy about the longer-term desires and intentions of students to become entrepreneurs.

Most research projects discuss programs delivered over short periods of time and in some cases relate only to a limited understanding of enterprise (Harte and Stewart, 2010). Longitudinal studies in particular allow for dynamic measures such as rate of change (Matlay and Carey, 2007). Furthermore, longitudinal studies in social research lend themselves to a range of uses like: a) tracking and interpreting change over time may lead to the discovery of new aspects and relations between factors, which may identify the need for further or different studies; b) providing snapshot pictures of particular groups or institutions and the relations between them, useful at the time for policy and other reasons. Because longitudinal studies usually have sizeable samples these snapshots serve as baseline data to compare similar groups and institutions in new samples at a later date in order to trace the impact of policy change (Harte and Stewart, 2010).

According to this line of literature, the different moments in time we are going to consider to gauge the possible impact of the course on our variables are: beginning of the course, end of the course and six month after the end of the course.

At the moment we gathered data the total number of IMBA students at IE was of 971. From them, 757 developed the program in English and 214 in Spanish. These 971 students belong to three intakes that are in different moments of accomplishment of their IMBA. This will allow us to measure the impact of the course along a period of time of one year as follows:

- Intake 1 represents those participants that are at the end of the IMBA (twelve months after the beginning of the IMBA and the entrepreneurship course) and, consequently, six months after having finished the Entrepreneurship Course (385 students)
- Intake 2 represents those participants that are in the middle (six months after the beginning) of the IMBA and right at the end of the Entrepreneurship Course (194 participants)
Intake 3 represents those participants that are at the beginning of the IMBA and, consequently, at the beginning of the Entrepreneurship Course (394 participants).

The number of the intake has to do with the moment in time in which participants started the entrepreneurship course. Thus, Intake 1 started in November 2011, Intake 2 started in April 2012 and Intake 3 started in November 2012.

We sent the questionnaire along the month of November 2012. The reason why we chose this month has to do with the fact that it is a key month in the academic year in order to gather and analyze information of different moments of the IMBA and be able to make comparisons. At this moment of time there is one intake that start their IMBA, another intake finishes its entrepreneurial course and another intake finishes its IMBA and thus at this moment six months have past since they finally completed their entrepreneurship course. We then gathered data from the three different Intakes of the IMBA that represent, as we have said, different moments of the IMBA program (from November 2011 to November 2012).

Students received via email an invitation to freely and anonymously participate in a survey. Those students who decided to participate could answer the questionnaire online. Participants completed the questionnaire individually and freely at their home, place of study or any other place they decided. No influence from one another was them possible. Therefore answers are totally anonymous and free. This makes us confident that the answers capture the opinions held by the students. No contact or personal details were asked at any time so students could be sure about the anonymity of their answers. The questionnaire was developed both in English and Spanish since the IMBA at IE Business School is held in the two languages.

We received a total number of responses of 300 which represents a rate of response of 30.89% with a sampling error of 2.91% with a statistical confidence level of 95%. A more detailed descriptive statistics of the sample can be seen in Table 1. We can see that the average age of the sample is 29.5 Years. From them 74.6% are male and 25.3% female and the average years of work experience is 6.32 Years. As we can observe, in terms of Age and Sex the three intakes are homogenous. The average age is around 30 years in all three intakes with only a difference of a few months. Same thing happens in terms of Sex where all intakes have around 75% of male and 25% of female population.
## Table 1. Statistics of the Sample

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>84 (21.81%)</td>
<td>54 (28.12%)</td>
<td>76 (19.28%)</td>
<td>214 (22.03%)</td>
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<tr>
<td>English</td>
<td>301 (78.19%)</td>
<td>136 (71.87%)</td>
<td>318 (80.71%)</td>
<td>757 (77.96%)</td>
</tr>
<tr>
<td>Total</td>
<td>385 (100%)</td>
<td>192 (100%)</td>
<td>394 (100%)</td>
<td>971 (100%)</td>
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<tr>
<td># Responses</td>
<td>103</td>
<td>44</td>
<td>153</td>
<td>300</td>
</tr>
<tr>
<td>% Responses</td>
<td>26.75</td>
<td>22.91</td>
<td>38.83</td>
<td>30.89</td>
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<table>
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<tr>
<th>Age (Years)</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-27</td>
<td>16 (15.53%)</td>
<td>8 (18.18%)</td>
<td>43 (28.10%)</td>
<td>67 (22.33%)</td>
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<tr>
<td>28-33</td>
<td>77 (74.75%)</td>
<td>32 (72.72%)</td>
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<tr>
<td>34-37</td>
<td>9 (8.73%)</td>
<td>4 (9.10%)</td>
<td>8 (5.22%)</td>
<td>21 (7.00%)</td>
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<tr>
<td>38-41</td>
<td>1 (0.98%)</td>
<td>3 (1.98%)</td>
<td>4 (1.34%)</td>
<td>8 (2.66%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (Mean 30.1)</td>
<td>44 (Mean 29.8)</td>
<td>153 (Mean 29.2)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>74 (71.8%)</td>
<td>35 (79.5%)</td>
<td>115 (75.1%)</td>
<td>224 (74.66%)</td>
</tr>
<tr>
<td>Female</td>
<td>29 (28.2%)</td>
<td>9 (20.6%)</td>
<td>38 (24.9%)</td>
<td>76 (25.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
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<th>Region of the World</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
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<td>4 (9%)</td>
<td>17 (11.11%)</td>
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<td>14 (29.1%)</td>
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<td>4 (9%)</td>
<td>32 (20.93%)</td>
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<tr>
<td>Africa &amp; Middle East</td>
<td>7 (6.7%)</td>
<td>8 (18.2%)</td>
<td>15 (9.90%)</td>
<td>20 (6.67%)</td>
</tr>
<tr>
<td>Spain</td>
<td>16 (15.5%)</td>
<td>5 (11.6%)</td>
<td>21 (13.73%)</td>
<td>42 (14.00%)</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>21 (20.3%)</td>
<td>9 (20.4%)</td>
<td>30 (19.73%)</td>
<td>50 (16.67%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>10 (10%)</td>
<td>6 (14%)</td>
<td>16 (10.60%)</td>
<td>32 (10.67%)</td>
</tr>
<tr>
<td>4-6</td>
<td>54 (52%)</td>
<td>23 (52%)</td>
<td>79 (52%)</td>
<td>156 (52%)</td>
</tr>
<tr>
<td>7-12</td>
<td>38 (37%)</td>
<td>14 (32%)</td>
<td>52 (34%)</td>
<td>104 (34%)</td>
</tr>
<tr>
<td>12+</td>
<td>1 (1%)</td>
<td>1 (2%)</td>
<td>3 (2%)</td>
<td>5 (1.67%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous University Degree Studies</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>32 (31%)</td>
<td>19 (43%)</td>
<td>47 (31%)</td>
<td>98 (32.67%)</td>
</tr>
<tr>
<td>Science</td>
<td>3 (2%)</td>
<td>3 (7%)</td>
<td>5 (3%)</td>
<td>11 (3.67%)</td>
</tr>
<tr>
<td>Social Sciences/Humanities</td>
<td>9 (8%)</td>
<td>2 (5%)</td>
<td>12 (8%)</td>
<td>23 (7.67%)</td>
</tr>
<tr>
<td>Law</td>
<td>2 (5%)</td>
<td>1 (2%)</td>
<td>5 (3%)</td>
<td>8 (2.67%)</td>
</tr>
<tr>
<td>Economics</td>
<td>9 (8%)</td>
<td>4 (9%)</td>
<td>15 (10%)</td>
<td>28 (9.33%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>35 (33%)</td>
<td>11 (25%)</td>
<td>61 (39%)</td>
<td>107 (35.67%)</td>
</tr>
<tr>
<td>Information Technology</td>
<td>7 (7%)</td>
<td>3 (7%)</td>
<td>10 (6.67%)</td>
<td>20 (6.67%)</td>
</tr>
<tr>
<td>Other (Architecture, Hospitality, Others)</td>
<td>6 (6%)</td>
<td>1 (2%)</td>
<td>6 (4%)</td>
<td>13 (4.33%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector of Professional Experience</th>
<th>Intake 1</th>
<th>Intake 2</th>
<th>Intake 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government, NGOs</td>
<td>4 (4%)</td>
<td>2 (4%)</td>
<td>6 (4%)</td>
<td>12 (4%)</td>
</tr>
<tr>
<td>Consulting</td>
<td>11 (10%)</td>
<td>3 (7%)</td>
<td>13 (9%)</td>
<td>37 (12.33%)</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>9 (9%)</td>
<td>7 (15%)</td>
<td>16 (11%)</td>
<td>32 (10.67%)</td>
</tr>
<tr>
<td>Law, Auditing &amp; Tax</td>
<td>4 (3%)</td>
<td>1 (3%)</td>
<td>2 (1%)</td>
<td>7 (2.33%)</td>
</tr>
<tr>
<td>Pharma/Biotech/Health</td>
<td>4 (3%)</td>
<td>3 (7%)</td>
<td>3 (2%)</td>
<td>10 (3.33%)</td>
</tr>
<tr>
<td>Financial Services</td>
<td>17 (17%)</td>
<td>8 (18%)</td>
<td>34 (22%)</td>
<td>69 (22.93%)</td>
</tr>
<tr>
<td>Industry, Energy &amp; Construction</td>
<td>18 (18%)</td>
<td>7 (16%)</td>
<td>35 (21%)</td>
<td>60 (19.93%)</td>
</tr>
<tr>
<td>Media, Entertainment</td>
<td>5 (5%)</td>
<td>1 (3%)</td>
<td>1 (1%)</td>
<td>7 (2.33%)</td>
</tr>
<tr>
<td>Technology/Telecom</td>
<td>17 (17%)</td>
<td>7 (15%)</td>
<td>20 (13%)</td>
<td>44 (14.67%)</td>
</tr>
<tr>
<td>Other (Education, Transport, Tourism &amp; Hospitality, Others)</td>
<td>14 (14%)</td>
<td>5 (12%)</td>
<td>20 (13%)</td>
<td>39 (12.93%)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100%)</td>
<td>44 (100%)</td>
<td>153 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

According to the same table, again it can be observed that all three intakes are homogenous with similar percentages of students from the same regions of the world. It is interesting to note not only the markedly international profile of participants but also the
wide distribution of students from all main regions of the world. This can mean, in the eyes of the author, that any conclusion of this study could be possibly extrapolated to obtain some general conclusions that apply to different regions of the world although this is not the aim of this work.

When we observe the previous university studies of participants in all three intakes we reach the same kind of conclusion. All three different intakes are homogenous with similar percentages of students in the same fields of study. Finally, when it comes to analyze the sectors of previous activity, we also observe that all three intakes possess similar percentages of participants in all different sectors being, therefore, homogenous also in this regard.

Although we do not have information to this respect (it is not the object of our study) we obviously believe this “almost perfect” homogeneity is not a matter of serendipity but the result of probably hard work of the admissions department in order to have the most homogenous possible groups so the academic experience and performance can be enhanced to its best.

Finally, to evaluate the possible presence of any non-response bias, we performed a T test of difference of means among the participants. With a statistical confidence level of 95% there are no meaningful differences with respect to age (p=.005), previous studies (p=.076), sector of previous activity (p=.066), structural social capital (p=.024), relational social capital (p=.006) or cognitive social capital (p=.007) between those students who responded to the survey and those who didn’t. Therefore, we can be sure the non-response bias is not present in our research.

Taking into account everything stated before, it is the opinion of the author that, both the environment given at IE’s IMBA and the atmosphere of the entrepreneurship course in particular, constitute a suitable field of research to try to test in practice the hypotheses formulated in this research. As will be mentioned as a contribution of our research, the extreme difficulty and tight controls to be able to access students make the data and analysis of our research, among one of the top business schools in the world, especially valuable.

### 4.3.2 Measures

**Social Capital**

We use a set of 20 items in our questionnaire to gauge this variable (See Annex 3, items under the heading: “Taking your colleagues of your class as a social network, please answer the next questions”). For the selection of our items we have taken, as a reference, previous studies carried out by different authors when trying to gauge different dimensions of social capital:
- **Structural social capital** is measured using 7 items regarding issues like: maintaining relationships with people of the class, keeping frequent relationships, both personal and social, or the creation of new relationships or contacts, specifically through members of the class. These items are based on previous social capital studies: Renko, Autio and Sapienza (2001), Autio and Murray (2003), Maula, Autio and Murray (2003).

- **Relational Social Capital** is measured using 9 items, three of each measures a sub-category of relational social capital: a) Friendship: Items here relate to aspects like talking about personal issues and the diversity of those issues related to friendship (work, family, leisure, etc.). b) Trust: Our items tackle aspects related to issues like respect, trust, cheating, honesty or sincerity. c) Commitment: Issues addressed by our items here relate to maintaining relationships in the future, hope or effort to maintain them. These items are based in previous social capital works: Nahapiet and Ghosal (1998); Tsai and Goshal (1998); Kale, Singh and Pelmutter (2000), Renko et al (2001); Inken and Tsang (2005) and Chow and Chan (2008).

- **Cognitive Social Capital** is measured using 4 items: Here our items gather information about different aspects regarding background of participants, goals, vision, ambitions or identity. These items are also based in previous social capital literature: Nahapiet and Goshal (1998), Tsai and Goshal (1998), Kale et al (2000) and Chow and Chan (2008).

| Table 2. Cronbach’s alpha, mean and standard deviation for the three dimensions of SC |
|---------------------------------|-------------|-------|-------------|
| **Factor**                      | Cronbach’s Alpha | Mean | Standard Dev. |
| **Structural SC**               |              | 5.43 | 1.142       |
| Intake 1                        | .88          |      |             |
| Intake 2                        | .92          |      |             |
| Intake 3                        | .86          |      |             |
| Total Sample                    | .88          |      |             |
| **Relational SC**               |              | 5.75 | 1.080       |
| Intake 1                        | .93          |      |             |
| Intake 2                        | .94          |      |             |
| Intake 3                        | .89          |      |             |
| Total Sample                    | .92          |      |             |
| **Cognitive SC**                |              | 4.18 | 1.281       |
| Intake 1                        | .72          |      |             |
| Intake 2                        | .78          |      |             |
| Intake 3                        | .78          |      |             |
| Total Sample                    | .77          |      |             |
These items are very reliable with Cronbach’s alphas of 0.932 for Intake 1 (N=103), 0.939 for Intake 2 (N=44), 0.900 for Intake 3 (N=153) and 0.922 for the Total Sample (N=300).

In order to reduce the dimensionality of the items we have followed a double procedure:

1) Average Mean of the 20 items. We call this indicator “SC mean”. The value of the average mean is 5.32 with a 1.46 value for the standard deviation. Additionally, we have calculated the average mean values of each dimensions of social capital. Table 2 shows the values of the Cronbach’s alphas, mean and standard deviation for each dimension of SC.

2) Our second way to reduce the dimensionality is a confirmatory factor analysis. This is also a widely used technic (Linan and Santos, 2006; Linan and Santos, 2007). Findings from the principal components analysis with varimax rotation are presented in table 3 that shows the results of the confirmatory factor analysis we have developed for each of the SC indicators.

### Table 3. Confirmatory factor analysis for the three dimensions of Social Capital

<table>
<thead>
<tr>
<th>Social Capital Items of Factors</th>
<th>Factor loadings</th>
<th>% of Variance Explained</th>
<th>KMO</th>
<th>Bartlett’s Chi Square Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1. Structural Social Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain relationships with people of my class</td>
<td>.825</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can get new contacts/relationships within my class through those I already have in it</td>
<td>.817</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can get new contacts/relationships outside my class through those I already have in my class</td>
<td>.802</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain frequent relationships with people of my class</td>
<td>.801</td>
<td>60.83</td>
<td>.820</td>
<td>1297.78</td>
<td>.000</td>
</tr>
<tr>
<td>I have new contacts/relationships within my class made through those I have in my class</td>
<td>.766</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain personal relationships with people of my class</td>
<td>.743</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have new contacts/relationships outside my class made through those I have within my class</td>
<td>.699</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2. Relational Social Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our relationships are characterized by mutual commitment</td>
<td>.896</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our relationships are characterized by mutual trust</td>
<td>.821</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our relationships are characterized by mutual respect for our personal ways of doing or acting.</td>
<td>.813</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We make any necessary effort to keep these relationships</td>
<td>.809</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We talk about very diverse issues/problems (work, family, leisure, etc.)</td>
<td>.808</td>
<td>63.62</td>
<td>.911</td>
<td>1891.01</td>
<td>.000</td>
</tr>
<tr>
<td>In these relationships nobody cheats or takes advantage of the other (honesty, sincerity)</td>
<td>.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I hope that these relationships will be maintained in the future</td>
<td>.780</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have friendship relationships with some people in my class</td>
<td>.741</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can talk about personal issues/problems with some members of my class</td>
<td>.712</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3. Cognitive Social Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our background (education, work experience, etc.) is similar</td>
<td>.793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have a similar culture,</td>
<td>.784</td>
<td>59.45</td>
<td>.723</td>
<td>317.51</td>
<td>.000</td>
</tr>
<tr>
<td>Our vision, goals and ambitions are very similar</td>
<td>.760</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have a sense of common identity</td>
<td>.746</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Social Capital Blockers

We use a set of 7 items in our questionnaire to gauge this variable (See Annex 3, items under the heading: “Please, indicate the degree in which the following reasons have hampered relationships among members of your class”). For the selection of our items we have taken, as a reference, previous studies carried out by different authors when trying to gauge different aspects of relationship blockers: restrictions set by the organization: Gluck et al (1987); Soetendorp and Bornemann (1996); problems with the appropriation of results: Sheen (1996); Soetendorp and Bornemann (1996); communication problems: Wigand and Frankwick (1989); López-Martínez et al (1994); duration of the relationship: Dierdonck et al (1990); Samsom and Gurdon (1993) and cultural differences: Dierdonck et al (1990); Samsom and Gurdon (1993); Gibson and Rogers (1994).

These items are reliable with Cronbach’s alphas of 0.764 for Intake 1 (N=103), 0.764 for Intake 2 (N=44), 0.795 for Intake 3 (N=153) and 0.776 for the Total Sample (N=300).

In order to reduce the dimensionality of the 7 items we have followed a double procedure:

1. Average Mean of the 7 items. We call this indicator “SC blockers mean”. Values of average mean and standard deviation are, respectively, of 3.31 and 1.129.

2. Our second way to reduce the dimensionality has itself two stages: A) an exploratory factor analysis and then B) a confirmatory factor analysis. As we have previously said, this is also a widely used technic (Linan and Santos, 2006, 2007).

A) Analysis for the exploratory factor analysis with varimax rotation extracted two factors that account for 62.50% of the variance. Kaiser-Meyer-Olkin (KMO) shows a value of .756 and Bartlett’s Test of Sphericity has a Chi Square Value of 640.059 (sig. 0.000). To interpret the factors and give names to the dimensions, it is necessary to see which questions are associated which each of the two factors or components. This can be found in the rotated factor solution which is presented in table 4.

As we can see, this analysis presents particular characteristics regarding the factor structure. Detailed analysis need to be carried out as follows:

- Items associated with the first factor relate directly with resources provided for communication, tangible resources or even intangible like bureaucracy, procedures or protocols. For this reason we label this factor as “Resources-Driven Factor”. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.762.

- The second factor comprises items related to conflict. Words like rivalry, competition, risk, conflict are employed. For this reason this factor is labeled as “Conflict-Driven Factor. The Cronbach’s alpha for a scale comprising these items is robust with a value of 0.738.
Table 4. Exploratory factor analysis for SC Blockers

<table>
<thead>
<tr>
<th>SC Blockers Items</th>
<th>Factor 1 loadings</th>
<th>Factor 2 loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1. Structural Social Capital</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insufficient mechanisms in place by the business school for the establishment of relationships</td>
<td>.851</td>
<td></td>
</tr>
<tr>
<td>Excessive bureaucracy, protocols and procedures</td>
<td>.851</td>
<td></td>
</tr>
<tr>
<td>Access to limited resources of the business school</td>
<td>.810</td>
<td></td>
</tr>
<tr>
<td>High diversity of participants (education, geographical origin, professional background, etc.)</td>
<td>.455</td>
<td></td>
</tr>
<tr>
<td>Rivalry among classmates</td>
<td></td>
<td>.803</td>
</tr>
<tr>
<td>Risk of disseminating/copying key knowledge/ideas</td>
<td></td>
<td>.799</td>
</tr>
<tr>
<td>Conflict of interests, objectives, etc.</td>
<td></td>
<td>.772</td>
</tr>
</tbody>
</table>

B) Analysis for the confirmatory factor analysis with varimax rotation extracted one factor that account for 43.29 % of the variance. Kaiser-Meyer-Olkin (KMO) shows a value of .756 and Bartlett’s Test of Sphericity has a Chi Square Value of 640.059 with a gl. of 21 and sig. 000. Results of this confirmatory factor analysis can be found in the rotated factor solution which is presented in table 5.

Table 5. Confirmatory factor analysis for SC Blockers

<table>
<thead>
<tr>
<th>SC Blockers Items</th>
<th>Factor 1 loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1. Structural Social Capital</strong></td>
<td></td>
</tr>
<tr>
<td>Excessive bureaucracy, protocols and procedures</td>
<td>.743</td>
</tr>
<tr>
<td>Access to limited resources of the business school</td>
<td>.741</td>
</tr>
<tr>
<td>Insufficient mechanisms in place by the business school for the establishment of relationships</td>
<td>.740</td>
</tr>
<tr>
<td>Conflict of interests, objectives, etc.</td>
<td>.620</td>
</tr>
<tr>
<td>Risk of disseminating/copying key knowledge/ideas</td>
<td>.612</td>
</tr>
<tr>
<td>Rivalry among classmates</td>
<td>.612</td>
</tr>
<tr>
<td>High diversity of participants (education, geographical origin, professional background, etc.)</td>
<td>.499</td>
</tr>
</tbody>
</table>

Finally we performed normality tests for the variable social capital for the mean and for the factor of each of the three dimensions of social capital (Structural, Relational and Cognitive) that resulted from our factor analysis, as well as for the mean and the two factors of social capital blockers that resulted from the exploratory and confirmatory factor
analysis, by using the Kosmogorov-Smirnov test, Probability Plot (PPL) and Histogram Analysis with normal curves.

In the case of the three dimensions of social capital, although the analysis of the PPL and the Histograms allowed us to see that the mean as well as the factors follow a normal distribution, the KS test only generated significant values bigger than 0.05 for the cognitive social capital. Therefore, we’ll be prudent when interpreting the results due to the fact that only two of three tests were confirmed.

With respect to the social capital blockers, all indicators, the PPL, the Histogram Analysis and the KS test allow us to confirm that the mean as well as the factors follow a normal distribution.

**Nascent Entrepreneurs**

As we have mentioned before, according to McGee et al (2009) people can be coded as nascent entrepreneurs if they had engaged in at least two of the following behaviors: 1) Attending a “start your own business” planning seminar or conference, 2) Writing a business plan or participating in seminars that focus on writing a business plan, 3) Putting together a start-up team, 4) Looking for a building or equipment for the business, 5) Saving money to invest in the business, and 6) Developing a product or service.

This is the procedure we have followed to gauge this variable (See Annex. 3, items under the heading: “Have you participated in any of the following behaviors currently or in the past”). Participants in the program were asked to answer if they had engaged themselves in any of the above mentioned behaviors. They were particularly asked to mention “all” the behaviors they had undertaken, if any. We then added up all the behaviors undertaken for each participant. Those participants who had been engaged in more than two such behaviors will be considered as nascent entrepreneurs. This variable will take value 1 for nascent entrepreneurs and value 0 for non-nascent entrepreneurs in order to make our study more operational.

As a result of this analysis we can say that the measures we use for our empirical study are robust, solid and consistent. Therefore they can be used as a reliable tool to try to gauge our variables.

**4.4. Results and Discussion**

Once we have stated the methodology we have followed in our empirical study we then present the results of our statistical analysis to determine the degree of fulfillment of the relationships we propose at a theoretical level.

Typically a methodology like this one works comparing a baseline group (not having taken the course) with the group that has taken the course (after having taken it). Some literature
claims for studies comparing the value of variables in a longitudinal way. This allows the researcher to measure the impact of a course, which is the difference appreciated in any given item from the moment of the start and the final moment of the course. Some studies also measure the impact of entrepreneurship courses some months after the completion of the course (Cooper and Lucas 2006, 2008; Basu and Virick, 2008; Garcia and Moreno, 2008; Brown and Denny, 2009; Graevenitz et al, 2010) According with this literature, we do think that, given the nature of an entrepreneurship course in an IMBA, that lasts for a period of time between 5 and 6 months, an important measure is to gauge the impact by establishing differences from the beginning and the end of the course. Another important measure is to gauge the impact several months after the final completion of the entrepreneurship course (to see any possible enduring effects). The course of Entrepreneurship developed at the IMBA at IE Business School, as we have previously mentioned, is 6 months long and takes place in the first half of the IMBA.

Therefore, given the objective of this paper and the formulation of our hypothesis the main statistical technic we’re going to use is difference of means. Average mean and standard deviation is an indicator widely used in studies regarding the impact of entrepreneurship courses (Basu and Virick, 2008; Cooper and Lucas, 2008; Brown and Denny, 2009).

Results of the research suggest that the Entrepreneurship Course developed at the International Master in Business Administration at IE Business School has brought about a remarkable impact upon participant’s social capital at the beginning of the course. This impact remains along the time with some special characteristics. The course has a much weaker impact on social capital blockers. Concrete and more precise findings are presented below.

Regarding Hypothesis 1a that stated that the attendance to an entrepreneurship course in a business school has a positive impact in the development of social capital in participants from the beginning of the course and that impact remains at the end of the course and according to the data exposed in table 6, we have to conclude that this hypothesis is partially supported. Overall the impact is not statistically significant with mean values as follow: a) Structural Social Capital: 5.42 at the beginning of the course, with a weak decrease at the end of the course to 5.20. Here the impact is not statistically significant. b) Relational Social Capital: 5.60 at the beginning of the course, with a weak increase at the end of the course to 5.70. Here the impact is statistically significant. c) Cognitive Social Capital: 4.06 at the beginning of the course, with a weak increase at the end of the course to 4.13. Here the impact is not statistically significant. This implies that the impact of the course, from the beginning to the end, is not flat with a deeper impact in relational social capital while the impact on structural and cognitive social capital is not relevant. It is interesting to note the huge impact of the course on social capital in the first two weeks of the program (values are around 5 from the beginning) and how then this impact remains almost flat during the course.
Table 6. Difference of means for the three types of Social Capital.

### Intakes and Total Sample

<table>
<thead>
<tr>
<th></th>
<th>Structural SC</th>
<th></th>
<th>Relational SC</th>
<th></th>
<th>Cognitive SC</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Factor</td>
<td>Mean</td>
<td>Factor</td>
<td>Mean</td>
<td>Factor</td>
</tr>
<tr>
<td>Intake 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.53</td>
<td>.085</td>
<td>5.97</td>
<td>.200</td>
<td>4.39</td>
<td>.159</td>
</tr>
<tr>
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<td>103</td>
<td>103</td>
<td>103</td>
<td>103</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.182</td>
<td>1.044</td>
<td>1.102</td>
<td>1.025</td>
<td>1.229</td>
<td>.960</td>
</tr>
<tr>
<td>Intake 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
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<td>-.203</td>
<td>5.70</td>
<td>-.050</td>
<td>4.13</td>
<td>-.044</td>
</tr>
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<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.443</td>
<td>1.281</td>
<td>1.359</td>
<td>1.274</td>
<td>1.464</td>
<td>1.138</td>
</tr>
<tr>
<td>Intake 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.42</td>
<td>.001</td>
<td>5.60</td>
<td>-.120</td>
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<td>-.94</td>
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<td>153</td>
<td>153</td>
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</tr>
<tr>
<td>Standard Deviation</td>
<td>1.009</td>
<td>.868</td>
<td>.948</td>
<td>.871</td>
<td>1.250</td>
<td>.977</td>
</tr>
<tr>
<td>Total Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.43</td>
<td>.000</td>
<td>5.75</td>
<td>.000</td>
<td>4.18</td>
<td>.000</td>
</tr>
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<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.142</td>
<td>1.000</td>
<td>1.080</td>
<td>1.000</td>
<td>1.281</td>
<td>1.000</td>
</tr>
<tr>
<td>F</td>
<td>1.259</td>
<td>1.288</td>
<td>3.764</td>
<td>3.289</td>
<td>2.091</td>
<td>2.047</td>
</tr>
<tr>
<td>Sig.</td>
<td>.285</td>
<td>.277</td>
<td>.024</td>
<td>.039</td>
<td>.125</td>
<td>.131</td>
</tr>
</tbody>
</table>

Hypothesis 1b that stated that the attendance to an entrepreneurship course in a business school has a positive impact in the development of social capital in participants from the beginning of the course and that impact remains time after the end of the course and according to the data exposed in table 6, we have to conclude that this hypothesis is partially supported. Overall the impact is not statistically significant with mean values as follow: a) Structural Social Capital: 5.42 at the beginning of the course, with a weak increase at the end of the course to 5.53. Here the impact is not statistically significant. b) Relational Social Capital: 5.60 at the beginning of the course, with an increase at the end of the course to 5.97. Here the impact is statistically significant. c) Cognitive Social Capital: 4.06 at the beginning of the course, with an increase at the end of the course to 4.39. Here the impact is not statistically significant. This implies that the impact of the course is not flat with a deeper impact in relational social capital while the impact on structural and cognitive social capital is not relevant. As in hypothesis 1a it is interesting to note the huge impact of the course on social capital in the first two weeks of the program (values are around 5 from the beginning) and how then this impact remains almost flat six months after the end of the course.

With respect to hypothesis 2a that stated that at the beginning of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so and, according to the data exposed in table 7 and 8, we have to conclude that this hypothesis is supported although differences are weak. Mean values are: a) Structural Social Capital: 5.50 in the case of nascent entrepreneurs against 5.37 in the case of non-nascent entrepreneurs. b) Relational Social
Capital: 5.63 for nascent entrepreneurs and 5.58 for non-entrepreneurs and c) Cognitive Social Capital: 4.28 in the case of nascent entrepreneurs against 3.90 in the case of non-entrepreneurs. It is interesting to highlight the fact that the values for cognitive social capital are lower in both cases (nascent and non-nascent) than those of structural and relational social capital.

Regarding Hypothesis 2b that stated that at the end of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so and, according to the data exposed in table 7 and 8, we have to conclude that this hypothesis is supported although differences are weak. Mean values are: a) Structural Social Capital: 5.42 in the case of nascent entrepreneurs against 4.99 in the case of non-nascent entrepreneurs. b) Relational Social Capital: 5.77 for nascent entrepreneurs and 5.64 for non-entrepreneurs and c) Cognitive Social Capital: 4.27 in the case of nascent entrepreneurs against 4.00 in the case of non-entrepreneurs. It is interesting to highlight again in this hypothesis the fact that the values for cognitive social capital are lower in both cases (nascent and non-nascent) than those of structural and relational social capital.

### Table 7. Difference of means for the three types of Social Capital.

#### Intakes for Nascent Entrepreneurs

<table>
<thead>
<tr>
<th></th>
<th>Structural SC</th>
<th></th>
<th>Relational SC</th>
<th></th>
<th>Cognitive SC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Factor</td>
<td>Mean Factor</td>
<td>Mean Factor</td>
<td>Mean Factor</td>
<td>Mean Factor</td>
</tr>
<tr>
<td><strong>Intake 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.72 .256</td>
<td>6.09 .305</td>
<td>4.48 .226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>64 64</td>
<td>64 64</td>
<td>64 64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.081 .944</td>
<td>1.088 1.017</td>
<td>1.184 .925</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.42 -.017</td>
<td>5.77 .008</td>
<td>4.27 .068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>22 22</td>
<td>22 22</td>
<td>22 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.388 1.227</td>
<td>1.261 1.177</td>
<td>1.556 1.213</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intake 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.50 .065</td>
<td>5.63 -.097</td>
<td>4.28 .077</td>
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<td></td>
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<td>65 65</td>
<td>65 65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.997 .860</td>
<td>.894 .810</td>
<td>1.316 1.028</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.58 .134</td>
<td>5.85 .088</td>
<td>4.36 .139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>151 151</td>
<td>151 151</td>
<td>151 151</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.095 .955</td>
<td>1.052 .972</td>
<td>1.295 1.011</td>
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</tr>
<tr>
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<td>.946 1.288</td>
<td>3.218 2.925</td>
<td>.479 .409</td>
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<tr>
<td>Sig.</td>
<td>.391 .277</td>
<td><strong>.043</strong> .057</td>
<td>.620 .665</td>
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</tr>
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</table>
Table 8. Difference of means for the three types of Social Capital.

Intakes for Non-Nascent Entrepreneurs

<table>
<thead>
<tr>
<th></th>
<th>Structural SC</th>
<th></th>
<th>Relational SC</th>
<th></th>
<th>Cognitive SC</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Factor</td>
<td>Mean</td>
<td>Factor</td>
<td>Mean</td>
<td>Factor</td>
</tr>
<tr>
<td>Intake 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.21</td>
<td>-.195</td>
<td>5.78</td>
<td>.028</td>
<td>4.23</td>
<td>.048</td>
</tr>
<tr>
<td>N</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.283</td>
<td>1.147</td>
<td>1.112</td>
<td>1.029</td>
<td>1.298</td>
<td>1.017</td>
</tr>
<tr>
<td>Intake 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.99</td>
<td>-.389</td>
<td>5.64</td>
<td>-.108</td>
<td>4.00</td>
<td>-.157</td>
</tr>
<tr>
<td>N</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.496</td>
<td>1.335</td>
<td>1.477</td>
<td>1.389</td>
<td>1.388</td>
<td>1.075</td>
</tr>
<tr>
<td>Intake 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.37</td>
<td>-.046</td>
<td>5.58</td>
<td>-.137</td>
<td>3.90</td>
<td>-.221</td>
</tr>
<tr>
<td>N</td>
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<td>88</td>
<td>88</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.021</td>
<td>.875</td>
<td>.991</td>
<td>.917</td>
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<td>.922</td>
</tr>
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<td>Total Sample</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.27</td>
<td>-.136</td>
<td>5.64</td>
<td>-.089</td>
<td>4.00</td>
<td>-.141</td>
</tr>
<tr>
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<td>149</td>
<td>149</td>
<td>149</td>
<td>149</td>
</tr>
<tr>
<td>Standard Deviation</td>
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<td>1.028</td>
<td>1.101</td>
<td>1.022</td>
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<td>.463</td>
<td>.360</td>
<td>.972</td>
<td>1.053</td>
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<tr>
<td>Sig.</td>
<td>.376</td>
<td>.347</td>
<td>.631</td>
<td>.698</td>
<td>.381</td>
<td>.352</td>
</tr>
</tbody>
</table>

Regarding Hypothesis 2c that stated that time after the end of an entrepreneurship course in a business school, nascent entrepreneurs develop higher levels of social capital with their classmates than those not considered so and, according to the data exposed in table 7 and 8, we have to conclude that this hypothesis is supported although, again, differences are weak. Mean values are: a) Structural Social Capital: 5.72 in the case of nascent entrepreneurs against 5.21 in the case of non-nascent entrepreneurs; b) Relational Social Capital: 6.09 for nascent entrepreneurs and 5.78 for non-entrepreneurs, and; c) Cognitive Social Capital: 4.48 in the case of nascent entrepreneurs against 4.23 in the case of non-entrepreneurs. We have to highlight again the fact that the values for cognitive social capital are lower in both cases (nascent and non-nascent) than those of structural and relational social capital.

Regarding Hypothesis 3a that stated that at the beginning of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so and, according to the data exposed in table 9, we have to conclude that this hypothesis is supported although differences are weak. Mean values are of 3.19 in the case of nascent entrepreneurs against 3.37 in the case of non-nascent entrepreneurs. It is interesting to point out the fact that, when it comes to social capital blockers, the mean values of both (nascent and non-nascent) are much lower (around 3) than their values when it comes to social capital (around 5). This is a very positive observation regarding the impact of entrepreneurship courses on social capital and
its blockers: it’s evident that the positive impact (means of social capital) is stronger than the negative impact (social capital blockers). This issue will be discussed.

Regarding Hypothesis 3b that stated that at the end of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so and, according to the data exposed in table 9, we have to conclude that this hypothesis is not supported although differences, again, are weak. Mean values are of 3.74 in the case of nascent entrepreneurs against 3.25 in the case of non-nascent entrepreneurs. It is interesting to point out, once again here, the fact that, when it comes to social capital blockers, the mean values of both (nascent and non-nascent) are much lower (around 3) than their values when it comes to social capital (around 5). As we have said this is a very positive observation regarding the impact of entrepreneurship courses on social capital and its blockers: it’s evident that the positive impact (means of social capital) is stronger than the negative impact (social capital blockers).

Finally, regarding Hypothesis 3c that stated that time after the end of an entrepreneurship course in a business school, nascent entrepreneurs develop lower levels of relationship blockers with their classmates than those not considered so and, according to the data exposed in table 9, we have to conclude that this hypothesis is not supported although differences, once again, are weak.

### Table 9. Difference of means for the three types of Social Capital Blockers.

<table>
<thead>
<tr>
<th>Intakes and Total Sample</th>
<th>Total Sample</th>
<th>Nascent Entrepreneurs</th>
<th>Non-Nascent Entrepreneurs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Fact 1 Expl.</td>
<td>Fact 2 Expl.</td>
</tr>
<tr>
<td>Intake 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
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</tr>
<tr>
<td>N</td>
<td>103</td>
<td>103</td>
<td>103</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.147</td>
<td>1.010</td>
<td>1.067</td>
</tr>
<tr>
<td>Intake 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.50</td>
<td>.194</td>
<td>.012</td>
</tr>
<tr>
<td>N</td>
<td>44</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.253</td>
<td>1.195</td>
<td>1.111</td>
</tr>
<tr>
<td>Intake 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.29</td>
<td>-.072</td>
<td>.050</td>
</tr>
<tr>
<td>N</td>
<td>153</td>
<td>153</td>
<td>153</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.081</td>
<td>.927</td>
<td>.919</td>
</tr>
<tr>
<td>Total Sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.31</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.129</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>F</td>
<td>.675</td>
<td>1.278</td>
<td>.537</td>
</tr>
<tr>
<td>Sig.</td>
<td>.510</td>
<td>.280</td>
<td>.585</td>
</tr>
</tbody>
</table>
Mean values are of 3.36 in the case of nascent entrepreneurs against 3.12 in the case of non-nascent entrepreneurs. It is interesting to point out, as in the cases of hypothesis 3a and 3b, the fact that, when it comes to social capital blockers, the mean values of both (nascent and non-nascent) are much lower (around 3) than their values when it comes to social capital (around 5).

In table 10 we present a summary of the empirical support of our hypotheses.

**Table 10. Summary of support of the proposed hypothesis**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Subject</th>
<th>Diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>SC Beginning to End</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>H1b</td>
<td>SC Beginning to Time after the end</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>H2a</td>
<td>SC Nascent/Non-Nascent Beginning</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b</td>
<td>SC Nascent/Non-Nascent End</td>
<td>Supported</td>
</tr>
<tr>
<td>H2c</td>
<td>SC Nascent/Non-Nascent Time after the end</td>
<td>Supported</td>
</tr>
<tr>
<td>H3a</td>
<td>SC Blockers Nascent/Non-Nascent Beginning</td>
<td>Supported</td>
</tr>
<tr>
<td>H3b</td>
<td>SC Blockers Nascent/Non-Nascent End</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3c</td>
<td>SC Blockers Nascent/Non-Nascent Time after the end</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

Bearing in mind the results of our research, discussion and implications are academically rich. It seems apparently clear that the development of social capital among participants in an entrepreneurship course takes place, is strong and gets better over the time. Our research adds useful information and breaks down a general answer for a general problem by allowing us to concentrate on some of the blind spots that otherwise receive inadequate attention. According to Vaara and Fay (2011) it is key, to properly understand what students seek and business schools offer, that value is created not only through intellectual capital (new knowledge) but also through social capital (contacts and networks) and symbolic capital (prestige). It is following this holistic approach to entrepreneurship courses that our research adds light.

If the objective of entrepreneurship courses regarding social capital is to raise its levels among participants it seems that the programs are successful. A more detailed analysis though indicates that the programs fulfill their objective “in the first two weeks” since the levels of all types of social capital are considerably raised at the beginning of the course but then those levels remain practically similar along a period of one year (since the beginning of the course until six months after the end). In other words, the bonds and tights that are built at the beginning of the course do not significantly increase over time. This can lead to a “novelty paradox” in which, when participants first meet each other they build, almost instantly (two weeks), bonds that remain in time but, at the same time, the “use and enjoyment” of those bonds along the time do not make them deeper or more intense. From the social capital point of view this can imply that short entrepreneurship courses (from one or two days long to one month) probably will accomplish the same of
long (5-6 months) entrepreneurship courses. Further future specific research would add light to this issue.

From a different perspective, taking into consideration that the basis for management education (entrepreneurship education is a kind of it) should be the search of wisdom while making sense of the unexpected, the ideal should be a reflective manager who uses the best available knowledge and ethical judgment to deal with problematic issues (Weick, 2007). By the same token, an ideal manager should be able to use the best available set of relationships to deal with such complex problems. Entrepreneurship courses, as the results of our research show, do help to enhance those relationships but, again, it does so in a short period of time which posses, from the social capital development perspective, serious challenges to the design and duration of such courses.

Regarding the different character of nascent and non-nascent entrepreneurs of the participants it is clear that entrepreneurship courses develop higher levels of social capital in nascent entrepreneurs that in those that are not, from the beginning and along the time (the end of the course and six months later). Again here (for both, nascent and non-nascent) there is a strong impact at the beginning that remains flat as time goes by adding to what we stated in the above paragraph. We can also see that this deeper impact on nascent entrepreneurs is really weak which probably leads to the idea that, even regarding entrepreneurial issues, nascent entrepreneurs do not have “special or unique” capabilities to develop social capital, this is, good and useful relationships.

This is also the case for social capital blockers. As we said these are elements that can hamper the development of good relationships. It is true that at the beginning of the course nascent entrepreneurs develop lower levels of social capital blockers than those that are non-nascent entrepreneurs (probably this means that nascent entrepreneurs are “wittier” at docking communication/relationships hazards, perhaps because of their previous experiences confronting new problems) but, at the end of the course and six month later this is not true. As time goes by non-nascent entrepreneurs develop lower levels of social capital blockers than nascent entrepreneurs. This means that, along the course, nascent entrepreneurs do not have or develop any comparative advantage over those non-nascent entrepreneurs. Further research should address this issue to try to find the reason why it is this way. If there are no new findings regarding this issue one could reasonably give ground entrepreneur’s theories that state they are not born but made.

We think a possible limitation of our study has to do with the fact that we don’t really know if the results of our research could be extrapolated to different samples. It seems they can be easily extrapolated to other entrepreneurship courses developed as part of MBA programs but these (MBAs) are a “particular” kind of programs (especially at top business schools, because of many factors such as the moment of the professional career participants are in, the truly international character of participants, the high cost of it among others). Research using different samples could add light to the issue.
In our opinion the results of our research could indicate that it would be very relevant to link the notion of social capital with what participants in an entrepreneurship course in a top business school are seeking for. Social capital is very relevant, but the “quality” (what it can provide) of this social capital is even more important. According to Vaara and Fay (2011), viewing programs as a system of exchange involving intellectual, social and symbolic capital helps to explain why the outcomes of a program may appear disappointing from a conventional learning perspective that focuses only on intellectual capital (knowledge). Is the social capital developed at top business schools of the same “quality” than the one developed at a non-top business schools? The study of the above mentioned authors regarding intellectual, social and symbolic capital of MBAs is very relevant. Are participants of programs in top business schools trying to get the best possible knowledge or trying to “buy” good connections? How important is in applicants to entrepreneurship programs at top business schools the symbolic (prestige) capital? There is an old saying about certain top educational institutions stating that it is more difficult to “get in than out of them”. How is social capital related to symbolic capital in top business schools? Whitney, Tomas and Marceau (1981) talk about the elitist features of the networks created in such places. Top business schools contacts are undoubtedly valuable for the participants, nevertheless, their exclusive alumni networks should be viewed with a critical eye since some authors (Vaara and Fay, 2011) look at them, in the worst cases, as sources of creating potential inequality and discrimination. Further specific research in different samples then would add more light to this matter.

Our results also imply, because of the low levels of social capital blockers, that top business schools provide participants with an efficient “set of resources” that make possible a good flow of relationships. This involves tangible resources (such as the quality and design of the premises, availability of group-discussion rooms, design of the classrooms to enhance debates, technology employed in and out the classrooms, etc.) and intangible ones (relaxed and participative atmosphere, quality of faculty, cultural diversity of participants, etc.). It would be also very interesting to check if those low levels of social capital blockers develop in the same low levels in entrepreneurship courses developed in different institutions.

4.5. Conclusions

As we said at the beginning of this chapter, the goal of our research was to gain insight into the impact that an entrepreneurship course can have in the development of social capital in participants. Our purpose was to better understand this issue to help to clarify this relationship but taking into account a different approach that could offer more light and a different perspective, this is: looking at that relationship among the environment of a top business school of the world and, at the same time, taking into account the different
character of being or not a nascent entrepreneur. This is an impact not well studied in the literature. Actually there is no known paper tackling these relationships.

To fulfill our objective and after a review of the literature we gathered data on a three stage empirical study. Analysis of the information of our empirical research shows a deep impact of the course on social capital at the beginning of the course. After this initial stage, this impact remains high but almost “flat” at the end of the course and several months after the final complexion of it. The difference founded in the impact among nascent and non-nascent entrepreneurs, although present, is not very relevant. Same thing happens, generally speaking, regarding social capital blockers. As explained in our discussion of results, this indicates that participants in these entrepreneurship courses develop, generally speaking, very relevant levels of social capital, but the real impact is at the beginning of the course.

In this regard, contributions of our research, from a theoretical point of view, have to do with the idea that our results challenge the possible “shallow” idea that the relationships that develop social capital grow with time. Theoretically the more people relate to each other the deeper their relationships. Our research shows that once a relationship is established (after a short period of time, in the case of our research, two weeks) its intensity doesn’t change remarkably. On the other hand, it seems another contribution of our research to highlight that, according to our results, the different character of being or not a nascent entrepreneur is not very relevant when it comes to developing social capital as a consequence of an entrepreneurship course.

Our study contributes to better understand and clarify in more detail the limitations of entrepreneurial education at top business schools when it relates to social capital. According to the analysis of our data, a person wanting to develop “good connections” by attending an entrepreneurship course in a top business school should better try to choose a short course since those “good connections” are made, mainly, in the first two weeks of an entrepreneurship program. This is especially interesting (and very relevant for business schools managers) if we consider that this is the case taking into account that the social capital blockers do not “grow” along the time in a program like this. It could be said that, along the time, social capital do not grow further because there are, as time goes by, higher levels of social capital blockers present (people start having good relationships but, because they have to interact to each other very often, if social capital blockers are at a high level, active and present, this could “spoil” opportunities for the relationships to grow). This is not the case, social capital blockers are present, from the beginning of the course, at reasonably the same levels that at the end or six month after the end of the course. Thus, social capital does not grow along time but not because of an increase in social capital blockers. So, why is it that social capital does not grow with time along an entrepreneurship course in a top business school? This would deserve further research. From an empiric point of view our study also confirms the usefulness of the longitudinal studies to try to gauge the impact of a course in participants by confirming that effects, along the time, need to be carefully observed since, only a measure in a given moment of time, could be misleading. We also, as we have previously explained, seed light for
further research developed at top business schools regarding the issue of what can be achieved by the attainment of an entrepreneurship course in such environments, especially from the point of view of good “connections”.

As we have mentioned before, a possible limitation of our study is the fact that we are not sure our results can be extrapolated to different samples. The environment of a top business school could be “really specific”. This also deserves more research developing more studies in samples different than top business schools or, even also, in other top business schools or programs. Therefore our research also poses interesting issues on the design of entrepreneurship courses. It is not clear, as we have mentioned, why undertaking long duration entrepreneurship courses (that are more expensive and time consuming) is better for the participants regarding to developing social capital. This is something business schools officials, especially from the top ones, need to explain thoroughly. This also relates to the issue of how many “formal and informal sessions, coaching sessions, outdoor activities and other methodological tools” should be employed in an entrepreneurship course and with what time frame. For instance, can we get better results using 20 sessions in two weeks of 20 sessions in 2 months? What is and how works “time” when it comes to entrepreneurship courses?

Further research should also be conducted to try to know and detect, specifically in the environment of a top business school, what social capital blockers are, especially distinguishing tangible and intangible ones in a very specific manner.
4.6. Bibliography


Aldrich, H.E. and Martinez, M.A. (2001): “Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship”. Entrepreneurship Theory and Practice, 25 (4), 41-56.


Glaeser EL, Laibson D, Scheinkman, JA and Scouther CL (1999): “What is social capital, the determinants of trust and trustworthiness” NBER working paper 7216


ANNEXES
## Annex 1.

**Empirical Studies Involving Entrepreneurial Self-Efficacy and General Self-Efficacy**

Source: AdapTED by the author from McGee et al., (2009)

<table>
<thead>
<tr>
<th>References</th>
<th>Specificity</th>
<th>Dimensionality</th>
<th>Sample</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna, Chandler, Jansen, and Mero (1999)</td>
<td>ESE</td>
<td>12 items loading on 4 factors</td>
<td>170 women business owners</td>
<td>The types of ESE exhibited by female business owners in traditional industries differed from female business owners in nontraditional industries.</td>
</tr>
<tr>
<td>Arenius and Minniti (2005)</td>
<td>ESE</td>
<td>1 item</td>
<td>51,721 participants in the Global Entrepreneurship Monitor project</td>
<td>SEE is positively associated with being a nascent entrepreneur.</td>
</tr>
<tr>
<td>Barbosa et al. (2007)</td>
<td>ESE</td>
<td>18 items loading on 4 factors</td>
<td>528 university students from Russia, Norway, and Finland</td>
<td>Differing cognitive styles and levels of risk preference are associated with different types of ESE.</td>
</tr>
<tr>
<td>Baughn, Cao, Le, Lim, and Neuport (2006)</td>
<td>ESE</td>
<td>16 items</td>
<td>782 upper-division university students from China, Vietnam, and the Philippines</td>
<td>Female students exhibited lower levels of ESE than their male counterparts in China, Vietnam, and the Philippines.</td>
</tr>
<tr>
<td>Baum and Locke (2004)</td>
<td>GSE</td>
<td>2 items</td>
<td>229 owners of small woodworking firms</td>
<td>GSE has a strong direct effect on venture performance.</td>
</tr>
<tr>
<td>Baum, Locke, and Smith (2001)</td>
<td>GSE</td>
<td>3 items</td>
<td>414 CEOs of woodworking ventures</td>
<td>GSE is indirectly associated with venture performance.</td>
</tr>
<tr>
<td>Begley and Tan (2001)</td>
<td>ESE</td>
<td>7 items loading on 1 factor</td>
<td>1,253 MBA students from 6 East Asian and Western countries</td>
<td>East Asian MBA students exhibited lower levels of ESE than MBA students in Western countries.</td>
</tr>
<tr>
<td>Bradley and Roberts (2004)</td>
<td>GSE</td>
<td>4</td>
<td>7,176 participants in the National Survey of Families and Households</td>
<td>GSE is positively associated with job satisfaction among the self-employed.</td>
</tr>
<tr>
<td>Chen et al. (1998)</td>
<td>ESE</td>
<td>22 items loading on 5 factors</td>
<td>140 undergraduate and MBA students and 175 small business managers and founders</td>
<td>The type of ESE exhibited by entrepreneurs differs from those exhibited by managers.</td>
</tr>
<tr>
<td>De Noble et al. (1999)</td>
<td>ESE</td>
<td>22 items</td>
<td>359 undergraduate and graduate university students</td>
<td>ESE is positively associated with entrepreneurial intentions. ESE can differentiate entrepreneurship students from Non-entrepreneurship students.</td>
</tr>
<tr>
<td>Densvcek and Glas (2002)</td>
<td>ESE</td>
<td>19 items loading on 5 factors</td>
<td>302 innovators and graduate students from Slovenia and the Czech Republic</td>
<td>The type of ESE exhibited by innovators differed from those exhibited by graduate business students.</td>
</tr>
<tr>
<td>Eriksson (2002)</td>
<td>ESE</td>
<td>6 items</td>
<td>65 British MBA students</td>
<td>The multiplicative effect of perceived entrepreneurial competence and entrepreneurial commitment is strongly correlated with entrepreneurial capital.</td>
</tr>
<tr>
<td>Florin et al. (2007)</td>
<td>ESE</td>
<td>8 items</td>
<td>220 undergraduate university students</td>
<td>GSE is associated with entrepreneurial drive. Senior university students exhibit higher self-efficacy than their undergraduate counterparts.</td>
</tr>
<tr>
<td>Forbes (2005)</td>
<td>ESE</td>
<td>15 items loading on 5 factors</td>
<td>95 Internet entrepreneurs</td>
<td>ESE is influenced by the way in which entrepreneurs make strategic decisions.</td>
</tr>
<tr>
<td>Source</td>
<td>Measure</td>
<td>Sample Details</td>
<td>Findings</td>
<td></td>
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<td>------------------------</td>
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<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Kolvereid and Isaksen</td>
<td>ESE</td>
<td>18 items loading on 4 factors, 297 Norwegian business founders</td>
<td>ESE is not significantly associated with entrepreneurial behavior.</td>
<td></td>
</tr>
<tr>
<td>Kristiansen and Indarti</td>
<td>ESE</td>
<td>2 items, 251 university students from Indonesia and Norway</td>
<td>ESE is positively associated with entrepreneurial intentions among Norwegian and Indonesian students.</td>
<td></td>
</tr>
<tr>
<td>Krueger et al. (2000)</td>
<td>ESE</td>
<td>Not given, 97 undergraduate university students</td>
<td>Perceived self-efficacy is positively associated with feasibility of entrepreneurial intentions.</td>
<td></td>
</tr>
<tr>
<td>Markman, Balkin, and Baron (2002)</td>
<td>GSE</td>
<td>8 items, 217 patent-holding inventors</td>
<td>GSE exhibited by inventors who launched a new venture differs from those exhibited by inventors who did not launch a new venture.</td>
<td></td>
</tr>
<tr>
<td>Scherer, Adams, Carley, and Wiebe (1999)</td>
<td>GSE</td>
<td>5 items, 366 undergraduate university students</td>
<td>High-performing parental entrepreneurial role models positively influence GSE.</td>
<td></td>
</tr>
<tr>
<td>Tominc and Rebernik (2007)</td>
<td>ESE</td>
<td>1 item, 603 participants in the Global Entrepreneurship Monitor project</td>
<td>GSE is lower among Hungarian early-stage entrepreneurs compared to their counterparts in Slovenia and Croatia.</td>
<td></td>
</tr>
<tr>
<td>Utsch and Rauch (2000)</td>
<td>GSE</td>
<td>5 items, 201 German entrepreneurs</td>
<td>Self-efficacy does not mediate the relationship between achievement orientation and new venture performance.</td>
<td></td>
</tr>
<tr>
<td>Utsch, Rauch, Rothliss, and Frese (1999)</td>
<td>GSE</td>
<td>6 items, 177 managers and entrepreneurs</td>
<td>Entrepreneurs exhibited higher levels of self-efficacy than managers.</td>
<td></td>
</tr>
<tr>
<td>Wilson et al. (2007)</td>
<td>GSE</td>
<td>6 items, 933 middle/high school and MBA students</td>
<td>ESE is associated with entrepreneurial intentions and education can elevate ESE.</td>
<td></td>
</tr>
<tr>
<td>Zhao et al. (2005)</td>
<td>ESE</td>
<td>4 items loading on 1 factor, 265 MBA students</td>
<td>ESE plays a mediating role between entrepreneurial intentions and formal learning, entrepreneurial experience, and risk propensity.</td>
<td></td>
</tr>
<tr>
<td>Hmieleski and Baron (2008)</td>
<td>GSE</td>
<td>23 items, 159 firms drawn from the Dun and Bradstreet Markets Identifiers Database</td>
<td>Three way interaction between self-efficacy, optimism and environmental dynamism was observed with respect to firm performance.</td>
<td></td>
</tr>
<tr>
<td>Cassar and Friedman (2009)</td>
<td>ESE</td>
<td>4 Items, 830 respondents of the PSED (Panel Study of Entrepreneurial Dynamics)</td>
<td>Self-efficacy increases the likelihood of being a nascent entrepreneur.</td>
<td></td>
</tr>
<tr>
<td>Harte and Stewart (2010)</td>
<td>ESE</td>
<td>4 sections, 500 per semester</td>
<td>There are contrasts with current literature in the components that make survey research successful.</td>
<td></td>
</tr>
<tr>
<td>Nelson et al (2012)</td>
<td>GSE</td>
<td>6 Items, 594 University students</td>
<td>Required writing assignments increased efficacy beliefs on the chosen topic.</td>
<td></td>
</tr>
<tr>
<td>Tumasjan and Braun (2012)</td>
<td>GSE</td>
<td>3 Items, 254 entrepreneurs in the UK</td>
<td>Entrepreneurs promotions focus is positively related to opportunity recognition. A high promotion focus compensates for entrepreneurs low level of creative and entrepreneurial self-efficacy in opportunity recognition.</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2.

External evaluation and description of IE Business School, its IMBA and the Entrepreneurship Course

IE Business School is recognized as one of the most prominent business schools in the world. Some examples (according to their website [www.ie.edu](http://www.ie.edu)) may include the following:

<table>
<thead>
<tr>
<th>Area</th>
<th>Classification</th>
<th>Source</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business School</td>
<td>1st in Europe</td>
<td>Financial Times</td>
<td>2012</td>
</tr>
<tr>
<td>IMBA</td>
<td>1st in Spain, 3rd in Europe, 8th in the World</td>
<td>Financial Times</td>
<td>January 2011</td>
</tr>
<tr>
<td>Executive MBA</td>
<td>1st in Spain, 7th in the World</td>
<td>Financial Times</td>
<td>October 2010</td>
</tr>
<tr>
<td>Master in Finance</td>
<td>1st in Spain, 2nd in the World</td>
<td>Financial Times</td>
<td>June 2011</td>
</tr>
<tr>
<td>Distance Learning</td>
<td>1st in the World</td>
<td>Economist Intelligent Unit. The Economist</td>
<td>February 2010</td>
</tr>
<tr>
<td>International MBA</td>
<td>1st in the World</td>
<td>Wall Street Journal</td>
<td>September 2009</td>
</tr>
<tr>
<td>IMBA</td>
<td>3rd in the World</td>
<td>Forbes</td>
<td>Agost 2009</td>
</tr>
<tr>
<td>IMBA</td>
<td>4th in the World</td>
<td>América Económica</td>
<td>May 2011</td>
</tr>
<tr>
<td>Business School</td>
<td>2º en Europa, 9º del Mundo</td>
<td>The Aspen Institute</td>
<td>October 2009</td>
</tr>
<tr>
<td>World Ranking non American Business Schools</td>
<td>3rd in the World</td>
<td>Bloomberg</td>
<td>November 2010</td>
</tr>
</tbody>
</table>

According to the same source, IE Business School is accredited by the three most relevant international accreditation bodies: AACSB International (Association to Advance Collegiate Schools of Business;) EQUIS accredited (Eutopean Quality Improvement System) and AMBA (Association of MBA's).

Description of the IMBA at IE Business School

It’s a Master in a full-time face to face format in which classes are held from Monday to Friday and it lasts for 13 months.

It's a program that is aimed at managers with relevant experience who want to combine academic training at the highest level, with personal and professional life. While students are already occupying positions of responsibility, the program responds to the double need of having a complete vision of the business world and experiencing the development of the skills necessary to lead teams and to participate in strategic decision-making. All this is
achieved through the interaction with other students, contributing its extensive experience in other areas and sectors.

The program aims to accelerate the management development through a deep knowledge of all areas of the company and its interrelations with a global approach to address general and strong management skills development.

It is a process of personal and professional transformation experienced by the student, based on the continuous updating of contents based on the following pillars:

- **Global perspective**
- **Outstanding strategy area weight**
- **New content in finance**
- **Management entrepreneurship**: part of the essence of the IE Business School as with the possibility to participate in the Venture Lab
- **Personal strategic plan**: Leadership, Talent management, Coaching, Negotiation and Conflict Management. All this within an ambitious plan that also develops in part on residential periods
- **New trends in market presence**
- **Approach to the reality of the new customer and his needs**

The global vision of the IMBA has a new map of knowledge so participants can dominate the business environment from a global perspective to be able to develop strategies that end in the execution and implementation.

Students learn and achieve their goals in small working groups. The program uses the case method to promote learning, combined with multimedia business simulations, guest speakers and the study of enterprises in real situations. Working groups are designed to challenge students to adapt, manage and achieve its objectives. Each team of 6 or 7 students includes people from different countries, cultures, functions, sectors and areas of managerial experience. The diversity is therefore one of the keys to learning.

The basic structure of the course consists of three periods: the first focuses on the global context of the business, the second focuses in creating and developing business strategies and in the third students lead to the implementation of them.

The program aims to produce an essential change in its participants and help them to draw up personal strategies for the future and their professional life. It is precisely in this context of trying to achieve a fundamental change where the entrepreneurship course takes place (specific course explanation below). Here takes place the development of entrepreneurial skills that influence personal beliefs and subsequently attitudes which in turn affect self-efficacy that finally determines entrepreneur´s intentions and behavior.

*Description of the Course of Entrepreneurship at IE’s IMBA*
It's a course that is taught in the first teaching period of the aforementioned Master. It has a clearly practical approach which combines a series of educational tools that are described below.

- **Course objectives:** to provide students with the essential knowledge, skills and tools that are required to plan, create and manage a new business venture.
- **Expected results of the course:** a) learn how to recognize and evaluate new business opportunities by understanding both the perspective of the investor and the entrepreneur. (b) to understand the issues facing an entrepreneur to start a new business adventure as well as to acquire the skills and tools that are essential when embarking on a new business project. (c) to understand the nature and purpose of a Business Plan in the context of new businesses and be able to write it, articulate it and present it.
- **Major topics of the course:** a) analyze the characteristics of the business opportunities, b) study of the main properties of the entrepreneurial process, c) analyze the industry and the market, d) business model, value proposition and financial model, e) writing a complete a Business Plan for a new company.
- **Sense of the course:** through lectures, practical exercises, coaching sessions and the creation of a Business Plan, the students will acquire a broad knowledge and understand the entrepreneurial process as well as develop the skills and tools that are required to start a new company.

The course involves skills and abilities in decision-making as well as analysis of situations, concepts, knowledge and communication. Specifically, it’s intended to help students to develop the ability to find useful solutions based on reasoning and analysis. Class sessions have the treatment of business meetings and emphasis on attendance, punctuality, preparation and realization of relevant contributions are a key issue. Students must prepare for each session and demonstrate professionalism and commitment.

The three essential teaching tools used are:

1. **Face to face classes:** They serve to focus the content that will be developed in the course, explain how to develop a Business Plan and discussion of case studies on different environments entrepreneurs can face. In the last two sessions students make a presentation of the Business Plan they have developed. In particular the content of the sessions is as follows:
   - introduction, scope, objectives and elements of entrepreneurial management
   - elements of entrepreneurial activity: the entrepreneur, ideas, opportunities and innovation
   - Business Plan. Essential concepts. Factors to be taken into account. Errors to be avoided
   - Business Plan. Analysis of information and market research.
   - Sources of financing and aspects of project assessment.
   - "Other" entrepreneurial management. Family Business and NGOs
"Other" entrepreneurial management. Corporate Venturing or entrepreneurial management in organizations.

The two last sessions are used for presentation in public in a formal way of the Business Plan developed by the groups throughout the course.

2. *Coaching sessions*: these sessions are developed in workgroups throughout the course. They have no limitation in terms of their number and duration. They take place according to the needs of students. Throughout this process, professors guide students in field work and provide them with not only practical strategic vision but also practical skills.

3. *Realization and presentation of a Business Plan in groups*. The students, divided in workgroups, must develop a full Business Plan and present it to a plenary session of the class. The process begins with the detection of an opportunity in the real business world which must be agreed upon in the group. Then students develop all aspects of a full Business Plan.
Annex 3.

Questionnaire

Thank you very much for taking a few moments to answer this questionnaire. Please, do answer freely since all data are anonymous and there is no way to know the identity of the respondent. It is very important that you give your sincere and honest answer and that you answer all questions. This research is part of a project to better understand some issues/developments that take place at the IMBA from which, as a participant in it, you’ll be benefited. As a proof of gratitude all respondents of this survey will have available the final results of the research. In addition to this, several “free access to respondents” conferences will be scheduled. Behind that, we really appreciate your help and kindness. Answering the whole questionnaire should take, approximately, between 10 and 15 minutes. As this is a part of a longitudinal study you will be asked to respond to a similar questionnaire in the future and we would kindly ask you to commit to do so. Thank you very much.

Please, tick where appropriate or write your answer.

Your Age

Gender .......................................................... Male ☐ Female ☐

Your IMBA In Take
(You have started your IMBA in) November 2011 ☐ April 2012 ☐ November 2012 ☐

Years of Work Experience

Nationality

Undergraduate Degree

☐ Business  ☐ Sciences
☐ Engineering  ☐ Information Technology
☐ Social Sciences and Humanities  ☐ Law
☐ Economics  ☐ Other (Architecture, Hospitality, others)
Sector/Industry

☐ Financial Services  ☐ Government, NGOs
☐ Industry, Energy and Construction  ☐ Media Entertainment
☐ Consumer Goods  ☐ Pharma/Biotech/Health
☐ Consulting  ☐ Law, Auditing and Tax
☐ Technology/Telecom  ☐ Other (Education, Transport, Tourism and Hospitality, others)

How do you agree or disagree with the next statements:
(Please, choose from 1 to 7, being 1 absolutely disagree and 7 absolutely agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tr>
<td>The idea of starting a new business does not appeal to me</td>
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<td>I often think about ideas and ways to start a new business</td>
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<td>At least once I will have to take a chance and start my own company</td>
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<td>I am willing to pay a high personal price for a chance to get wealthy</td>
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<tr>
<td>The experience of starting a new business is valuable even if it finally fails</td>
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<tr>
<td>The idea of leading a big company into new markets excites me</td>
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<tr>
<td>If I see an opportunity to start a company, I’ll take it</td>
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<td>The idea of a high risk/high pay-off appeals to me</td>
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<tr>
<td>I would be reluctant to start a new business even if I had a good idea</td>
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Have you participated in any of the following behaviors currently or in the past?
(Please, mark as many behaviors as you have participated in)

- Attending a “start your own business planning” seminar, course or conference
- Writing a business plan or participating in seminars that focus on writing a business plan
- Putting together a start-up team
- Looking for a building or equipment for the business
- Saving money to invest in the business
- Developing new products or services
- None
How confident are you about your current skills and ability to:
(Please, choose from 1 to 7, being 1 not confident at all and 7 extremely confident)

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<tr>
<th>Skill</th>
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<tbody>
<tr>
<td>Start a successful business if you want to</td>
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<td>Be able to persuade company managers they should take a new idea seriously</td>
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<td>Apply an abstract concept or idea to a real problem or situation</td>
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<td>Work on collaborative projects as a member of a team</td>
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<td>Recognize a good opportunity if you see it</td>
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<tr>
<td>Motivate other people to work together</td>
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<td>Lead a group of members who strongly disagree with one another</td>
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<td>Understand what it takes to start your own business</td>
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<tr>
<td>Create novel solutions to problems</td>
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<tr>
<td>Understand the language of new venture creation</td>
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<td>Pick the right marketing approach for introducing a new kind of product or service</td>
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<td>Recognize and recruit good employees for a new project venture</td>
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<tr>
<td>Sell a brand new product or service to a first time customer</td>
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<td>Estimate accurately the cost of running a new product or venture</td>
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<td>Recognize when an idea is good enough to support a major new venture</td>
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<td>Write a clear and complete business plan</td>
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<td>Estimate the number of people who are likely to buy a new product or service</td>
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<td>Know how much to place the proper financial value on a start-up company</td>
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<td>Get suppliers to support a venture with favorable prices and contract terms</td>
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<td>Persuade someone to put a sum into a new company</td>
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<tr>
<td>Meet with user and then write a set of clear requirements for products/services to meet their needs</td>
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<td>Hear a product concept based on a technology and have a rough idea if it is practical</td>
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<tr>
<td>Translate functional requirements for a product into a design of a prototype</td>
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<tr>
<td>Lead a technical team developing a new product to a successful result</td>
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<tr>
<td>Recognize an implication not mentioned in the findings while reviewing a familiar article</td>
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<td>Be aware of feelings of all the members of a group working on a shared task</td>
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<td>Find an approach that resolves a group conflict and get your team moving forward on a task</td>
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<td>Motivate others to work long hours to meet a deadline</td>
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<td>Know when it is worth investing serious time in exploring a new idea</td>
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<tr>
<td>Break a complex problem down to its key elements so it can be solved</td>
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</table>
Taking your colleagues of your class as a “social community”, please, answer the next questions:  (Please, choose from 1 to 7, being 1 absolutely disagree and 7 absolutely agree)

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<tbody>
<tr>
<td>I maintain relationships with people of my class</td>
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<td>I maintain frequent relationships with people of my class</td>
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<tr>
<td>I maintain personal relationships with people of my class</td>
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<td>I have new contacts/relationships within my class made through those I have in my class</td>
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<tr>
<td>I have new contacts/relationships outside my class made through those I have within my class</td>
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<td>I can get new contacts/relationships within my class through those I already have in it</td>
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<tr>
<td>I can get new contacts/relationships outside my class through those I already have in it</td>
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<td>I have friendship relationships with some people in my class</td>
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<td>I can talk about personal issues/problems with some members of my class</td>
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<tr>
<td>We talk about very diverse issues/problems (work, family, leisure, etc.)</td>
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<td>Our relationships are characterized by mutual respect for our personal ways of doing or acting</td>
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<td>Our relationships are characterized by mutual trust</td>
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<td>In these relationships nobody cheats or takes advantage of the other (honesty, sincerity)</td>
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<td>I hope that these relationships will be maintained in the future</td>
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<td>Our relationships are characterized by mutual commitment</td>
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<tr>
<td>We make any necessary effort to keep these relationships</td>
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<td>We have a similar culture</td>
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<td>Our background (education, work experience, etc.) is similar</td>
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<tr>
<td>Our vision, goals and ambitions are very similar</td>
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<td>We have a sense of common identity</td>
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Please, indicate the degree in which the following reasons have hampered relationships among members of your class:  (Please, choose from 1 to 7, being 1 not hampering effect at all and 7 extremely high hampering effect on relationships)

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<tr>
<td>Conflict of interest, objectives, etc.</td>
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<td>Risk of disseminating/copying key knowledge, ideas, etc.</td>
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<tr>
<td>Rivalry among class mates</td>
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<td>High diversity of participants (education, geographical origin, professional background, etc.)</td>
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<td>Access to limited resources of the business school</td>
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<td>Insufficient mechanisms in place by the business school for the establishment of relationships</td>
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<tr>
<td>Excessive bureaucracy, protocols and procedures</td>
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This is all. Please, do not forget to SUBMIT your answers. Thank you very much for your time and cooperation.
## Annex 4.

### Classification of Items by Phases of the Entrepreneurial Process

<table>
<thead>
<tr>
<th>Phase of the Entrepreneurial Process</th>
<th>Items</th>
</tr>
</thead>
</table>
| Searching                            | Apply and abstract concept or idea to a real problem or situation  
                                      | Recognize a good opportunity if you see it  
                                      | Recognize when an idea is good enough to support a major new venture  
                                      | Hear a product concept based on a technology and have a rough idea if it is practical  
                                      | Recognize an implication not mentioned in the findings while reviewing a familiar article |
| Planning                             | Understand what it takes to start your own business  
                                      | Create novel solutions to problems  
                                      | Understand the language of new venture creation  
                                      | Pick the right marketing approach for inducing a new kind of product  
                                      | Estimate accurately the cost of running a new project for venture  
                                      | Write a clear and complete business plan  
                                      | Estimate the number of people who are likely to buy a new product or service  
                                      | Know how much to place the proper financial value on a start-up company  
                                      | Meet with users and then write a set of clear requirements for their product to meet their needs  
                                      | Know when it is worth investing serious time in exploring a new idea |
| Marshaling                           | Be able to persuade company managers they should take a new idea seriously  
                                      | Recognize and recruit good employees for a new project venture  
                                      | Get suppliers to support a venture with favorable prices and contract terms  
                                      | Persuade someone to put a sum into a new company  
                                      | Translate functional requirements for a product into a design or prototype |
| Implementing                         | Work on collaborative projects as a member of a team  
                                      | Motivate others to work together  
                                      | Lead a group of members who strongly disagree with one another  
                                      | Sell a brand new product or service to a first time customer  
                                      | Lead a technical team developing a new product to a successful result  
                                      | Be aware of feelings of all the members of a group working on a shared task  
                                      | Find an approach that resolves a group conflict and get your team moving forward on a task  
                                      | Motivate others to work long hours to meet a dead line  
                                      | Break a complex problem down to its key elements so it can be solved |
RESUMEN EN ESPAÑOL
Objetivo de la tesis doctoral

El emprendimiento es importante para la economía de un país. La creación de riqueza y dinamismo económico depende de la competitividad de sus empresas. Esta competitividad se basa, de manera fundamental, en las capacidades de emprendedores y directivos (Cuervo, Ribeiro y Roig, 2007). Los procesos emprendedores están determinados esencialmente por el deseo de comenzar una nueva empresa o de reinventar o transformar de manera radical una compañía ya existente. Los emprendedores a título personal y los directivos emprendedores intentan darle forma al futuro de sus empresas y negocios visualizando e implementando modelos nuevos e imaginativos. El resultado esperado es una génesis organizativa, crecimiento y rejuvenecimiento basados en nuevas ventajas competitivas que conducen a oportunidades nuevas y rentables (Audrestch, Dagnino, Faraci y Hoskisson, 2010). Como consecuencia, el emprendimiento ha emergido como una de las fuerzas económicas más potentes. Al mismo tiempo, este fenómeno ha dado lugar a un notable aumento en el campo de la educación en gestión emprendedora. El reciente crecimiento y desarrollo de programas dedicados al emprendimiento y la creación de nuevas empresas ha sido muy importante (Kuratko, 2005; Mwasalwiba, 2010).

Este nivel de desarrollo se atribuye al apoyo creciente recibido desde muy diversos sectores, incluyendo el político y el académico. Existe la creencia común de que la educación en gestión emprendedora podría ayudar a influir en la cultura y en la construcción de economías más emprendedoras (Kirby, 2004; Matley, 2005 b; McKelvey, Millman, Sursani, Smith and Martin, 2006).

Por otro lado, dentro de la literatura sobre emprendimiento, conceptos tales como: emprendimiento (entrepreneurship), educación en gestión emprendedora (entrepreneurship education), auto-eficacia (self-efficacy), auto-eficacia emprendedora (entrepreneurial self-efficacy, ESE), intenciones emprendedoras (entrepreneurial intentions, EI), capital social (social capital) o emprendedores nacientes (nascent entrepreneurs), no han sido estudiados con la misma profundidad, ni las relaciones entre ellos se han estudiado con igual nivel de detalle (Ajzen, 1987; Krueger y Brazeal, 1994; Bandura, 1997; Brannback, Carsrud, Elfving, Kickul y Krueger, 2006; Li, 2007; Nelson, Poms y Wolf, 2012). Esta investigación hace una integración diferente para conseguir un conocimiento más profundo de las relaciones entre la educación en gestión emprendedora y estos conceptos.

La auto-eficacia se refiere a las creencias de las personas en sus capacidades para movilizar su motivación, recursos cognitivos y cursos de acción necesarios para ejercer el control de eventos en sus vidas (Wood y Bandura, 1989). Ésta puede servir para predecir el comportamiento y el rendimiento de una persona en una variedad de contextos, entre ellos el emprendimiento, y puede causar efectos que, en la mayoría de los casos, pueden mantenerse durante años (Stajkovic y Luthans, 1998). Cuando la auto-eficacia se refiere a nuevas intenciones emprendedoras se conoce como auto-eficacia emprendedora (ESE,
La auto-eficacia emprendedora refleja la creencia del individuo en su capacidad para desarrollar con éxito un proyecto empresarial (McGee, Peterson, Mueller and Sequeira, 2009) y es un antecedente importante de las intenciones de crear una nueva empresa (Barbosa, Gerhart y Kickul, 2007). La intención emprendedora representa, de manera específica, el deseo de fundar una nueva empresa o hacer crecer una ya existente (Bird, 1988). Fundar una empresa es, por lo tanto, un acto intencional (Krueger, Reilly y Casrud, 2000). En cuanto al capital social, éste se compone de las relaciones, formales o informales, generadas por los individuos en su interacción con otras personas. En otras palabras, capital social es el capital capturado bajo la forma de relaciones sociales (Lin, 2003) que puede ser movilizado para facilitar la acción (Adler y Kwon, 2002).

La educación en gestión emprendedora en programas MBA ha demostrado aumentar las percepciones de auto-eficacia emprendedora de los participantes (Wilson, Kickul y Marlino, 2007) que, a su vez, conduce a niveles más altos de intenciones emprendedoras (Zhao, Seibert y Hills, 2005). De acuerdo con Alberti (2004), el primer campo y el más importante de futuras investigaciones debería ser el de la efectividad de la educación en gestión emprendedora. Si entendemos la auto-eficacia y sus implicaciones sobre las intenciones podemos ayudar a los investigadores y teóricos para definir mejor las habilidades especiales que son necesarias para tener éxito como emprendedor tales como la búsqueda de oportunidades o el dominio del proceso de puesta en práctica de una idea. El estudio de cómo se forman las intenciones empresariales ayuda a entender cómo la educación puede moldearlas y, conducir, en última instancia, a la creación de una empresa (Krueger, Reilly y Carsrud, 2000). Se ha investigado que las percepciones de auto-eficacia son sensibles a cambios sutiles en determinados contextos de estudiantes, interaccionan con procesos auto-regulados de aprendizaje y pueden influir en el éxito académico (Zimmerman, 2000). Adicionalmente, la educación también es un importante determinante del capital social individual (Huang et al., 2009). Refleja una orientación hacia el futuro mediante el fortalecimiento de capital humano y social para el desarrollo económico y social (Alesina y La Ferrara, 2000; Putnam, 2000).

Por último, resulta pertinente estudiar el papel de los emprendedores nacientes (nascent entrepreneurs) y su relación con la educación para el emprendimiento y el desarrollo de auto-eficacia, intenciones emprendedoras y capital social. Estas relaciones no se han desarrollado en la literatura y sus implicaciones pueden ser profundas. Los emprendedores nacientes están implicados en el desarrollo de actividades que pretenden dar lugar al comienzo de una empresa en un futuro cercano (Aldrich y Matinez, 2001).

Por tanto, el propósito de esta investigación es estudiar el impacto de la educación en gestión emprendedora y responder a la siguiente pregunta de investigación:

¿Cuál es el impacto de los cursos de gestión emprendedora en sus participantes?

De manera más precisa, esta investigación estudia el impacto de la educación en gestión emprendedora de postgrado, particularmente en programas MBA. Para ello, este objetivo
general se desglosa en tres objetivos más específicos que tratan de contestar las siguientes preguntas de investigación:

1. ¿Cuál es el impacto de la educación en gestión emprendedora en el desarrollo de autoeficacia e intenciones emprendedoras en los participantes teniendo en cuenta, que éstos sean o no emprendedores nacientes?

2. ¿Cuál es el impacto de la educación en gestión emprendedora en el desarrollo de autoeficacia emprendedora de los participantes, en función de las diferentes fases del proceso emprendedor, teniendo en cuenta que éstos sean o no emprendedores nacientes?

3. ¿Cuál es el impacto de la educación en gestión emprendedora en el desarrollo de capital social entre los participantes teniendo en cuenta su diferente carácter de ser o no emprendedor naciente?

La siguiente figura presenta las relaciones a analizar para el logro de cada uno de estos objetivos:

Estructura de la tesis doctoral

Para afrontar mejor nuestros objetivos, esta investigación se estructura en cuatro capítulos diferentes, independientes pero inter-relacionados que describimos a continuación. Al final, después del capítulo 4, se encuentran los anexos con información relevante que
contribuye a clarificar y proporcionar una base sólida a aspectos particulares de nuestra investigación y un resumen en español de esta tesis doctoral. Para permitir un acceso más fácil, hemos optado por incluir la bibliografía correspondiente a cada capítulo al final del mismo.

**El capítulo 1** es una introducción general de la tesis doctoral. Presenta el marco teórico general que fundamenta la investigación posterior. El capítulo comienza con una revisión del concepto y la importancia del emprendimiento (qué es y por qué es relevante) y a continuación desarrolla el campo de la educación en gestión emprendedora. De esta manera podremos entender, en mayor profundidad, las relaciones entre los mismos y estaremos preparados para afrontar la relevancia del impacto de la segunda en el primero. A continuación, el capítulo establece los objetivos de la tesis, su estructura, y se recogen las conclusiones generales y sus principales contribuciones.

El emprendimiento es un proceso dinámico de visión, cambio y creación que requiere la aplicación de energía y pasión hacia la creación e implementación de nuevas ideas y soluciones creativas. Sus ingredientes esenciales incluyen el estar dispuesto a asumir riesgos calculados (en términos de tiempo, capital o carrera profesional) la habilidad para desarrollar un equipo efectivo, la habilidad de organizar los recursos necesarios, saber desarrollar un plan de negocio sólido y, finalmente, la visión para reconocer oportunidades donde otros ven caos, contradicción y confusión (Kuratko y Hodgetts, 2004).

De acuerdo con la literatura, ser emprendedor, o al menos, algunas facetas de ello, puede ser enseñado. Tanto los profesionales como los educadores del mundo de los negocios han evolucionado más allá del mito de que los emprendedores nacen, no se hacen. El emprendimiento es una disciplina y, como tal, se puede aprender (Drucker, 1985) y enseñar, o al menos, potenciar, a través de la educación en gestión emprendedora (Golman, Halon y King, 1997).

Ahora bien, el impacto de los cursos de emprendimiento es un tópico que requiere mayor investigación (Gorman, Hanlon y King, 1997). La evidencia existente indica que muchos estudios simplemente realizan descripciones de cursos sobre emprendimiento (Vesper y Gartner, 1997), discuten sobre el contenido de la “buena” educación para el emprendimiento o evalúan el impacto económico de cursos mediante la comparación de participantes y no participantes en ellos (Fiet, 2000 a). Hay estudios que encuentran un impacto positivo de la educación para el emprendimiento en el atractivo percibido y la posibilidad real de creación de una empresa y la realización de actividades emprendedoras (Fayolle, Gailly y Lassas-Clerc, 2006; Souitaris, Zerbinati y Al-Laham, 2007). Algunos estudios tienden a tener limitaciones metodológicas (Graevenitz, Harhoff y Weber, 2010) y, la mayoría, estudia participantes con una mayor predisposición hacia el emprendimiento, sesgando, de esta manera, los resultados a favor del impacto educativo (Gorman et al., 1997).
El capítulo 2 estudia el impacto de la educación en gestión emprendedora en los MBAs en la auto-eficacia y las intenciones emprendedoras de los participantes. Para ello, en primer lugar establece el marco teórico específico para analizar la relación entre la auto-eficacia y las intenciones emprendedoras y la educación. Posteriormente, se delimita el contexto del estudio empírico, la muestra, los procedimientos de recogida de datos y las medidas. El capítulo termina, presentando los resultados, así como las principales contribuciones y líneas futuras de investigación específicas de este capítulo.

La auto-eficacia es un concepto bastante desarrollado en la literatura. El concepto de Bandura de auto-eficacia se refiere a la creencia de un individuo en su capacidad personal para llevar a cabo un trabajo o un conjunto específico de tareas (Bandura, 1977). Según Bandura (1986), los individuos “acumulan” gradualmente su auto-eficacia a través de experiencias anteriores cognitivas, sociales y físicas (Gist, 1987). La realización exitosa de una tarea puede cambiar las expectativas personales y ayuda a reforzar la auto-eficacia. Bandura (1990) afirmó que la auto-eficacia afecta a patrones de pensamiento de un individuo que pueden mejorar o socavar su funcionamiento. En concreto, si uno tiene un alto nivel de auto-eficacia, es más probable que se establezca metas superiores o más desafiantes, lo que, a su vez, eleva el nivel de motivación y el rendimiento. Un alto nivel de auto-eficacia puede ayudar a las personas a mantener su esfuerzo hasta que sus objetivos se logran (Gist, 1987).

La educación en gestión emprendedora puede influir en las actitudes, creencias e intenciones hacia un comportamiento emprendedor. Por lo tanto, es muy relevante estudiar cómo los programas de gestión emprendedora pueden generar cambios en los niveles de auto-eficacia de los participantes para que puedan sentirse positivamente desafiados y motivados a probar nuevas actividades y persistir frente a la dificultad (Cooper y Lucas, 2006). Como ya hemos mencionado, la literatura ha encontrado que las percepciones de auto-eficacia son sensibles a cambios sutiles en determinados contextos de estudiantes (Zimmerman, 2000).

Esta investigación apoya la idea de que es clave estudiar el impacto que puede tener la educación emprendedora sobre la auto-eficacia y las intenciones emprendedoras. Entender cómo se desarrollan las intenciones puede ofrecer un camino para explicar y predecir actividades y acciones emprendedoras (Azjen, 1991). Las influencias exógenas (la educación es una de ellas) normalmente afectan al comportamiento de manera indirecta a través de cambios de actitud. De la misma manera, algunas investigaciones han establecido que las intenciones tienen “poder predictivo” sobre comportamiento y también pueden predecir, de manera no sesgada, acciones futuras (Bagozzi, Baumgartner y Yi, 1989). Las intenciones tienen, así mismo, relación con las elecciones de carrera profesional que realizan los estudiantes (Zellweger, Sieger y Halter, 2011).

Con base en lo expuesto establecemos hipótesis para estudiar las relaciones existentes entre la educación en gestión emprendedora y el desarrollo de auto-eficacia e intenciones emprendedoras teniendo en cuenta el carácter de emprendedor naciente o no de los participantes. Los resultados confirman sólo de manera parcial el impacto de la educación...
en gestión emprendedora en el desarrollo de auto-eficacia emprendedora con un mayor impacto en aquellos individuos no considerados emprendedores nacientes. No se confirma un impacto positivo en el desarrollo de intenciones emprendedoras y sí podemos confirmar mayores niveles tanto de auto-eficacia como de intenciones emprendedoras en aquellos individuos que son emprendedores nacientes, tanto al principio como al final del curso.

**El capítulo 3** desarrolla la relación existente entre la educación en gestión emprendedora, la auto-eficacia emprendedora, el proceso emprendedor y los emprendedores nacientes. El capítulo estudia el impacto de la educación en gestión emprendedora a lo largo del proceso emprendedor y sus diferentes fases, en el desarrollo de auto-eficacia emprendedora, pero estudiada aquí como un concepto con varias dimensiones.

Mueller y Goic (2003) prestan apoyo a la necesidad de examinar individualmente las distintas dimensiones de la auto-eficacia emprendedora. En su estudio comparativo internacional, adaptaron un modelo de proceso de creación de empresa de cuatro fases propuesto originalmente por Stevenson, Roberts y Grousbeck (1985) y crearon una medida separada de ESE para tareas específicas asociadas con las cuatro fases del proceso emprendedor (búsqueda, planificación, reunir recursos y ejecución). En relación con este proceso, es relevante el estudio de los emprendedores nacientes, ya que, éstos, son personas inmersas en la realización de actividades que pretenden dar lugar a la creación de una empresa viable en un futuro cercano (Aldrich y Matinez, 2001).

El análisis de la información de nuestro estudio empírico muestra un impacto débil, aunque diferente, del curso sobre la auto-eficacia emprendedora de los participantes en todas las fases del proceso emprendedor. El mayor impacto se produce en la fase de planificación del proceso, seguido de la fase de organizar los recursos necesarios para el proyecto. En el resto de las fases (búsqueda de oportunidades e implementación) el impacto es realmente débil. Un hecho particularmente relevante es que el impacto se debilita aún más varios meses después del final del curso. La diferencia encontrada entre empresarios nacientes y no nacientes, aunque presente, no es muy relevante.

**El capítulo 4** afronta el impacto de los cursos de gestión emprendedora en el desarrollo de capital social teniendo en cuenta el diferente carácter de emprendedor naciente o no de los participantes.

Podemos definir el capital social como la información, confianza y normas de reciprocidad inherentes a la red social de un individuo (Woolcock, 1998). El capital social resulta de un proceso de inversión en las relaciones humanas que requiere recursos y tiempo (Lin, 2003), facilita el acceso a la información y reduce los costes de transacción, ya que permite la coordinación de actividades y facilita la toma de decisiones colectiva (Grootaert y Van Bastelaer, 2001). Además, el capital social permite acceder a otras formas de capital, como capital humano (Coleman, 1988), a la vez que puede ser acumulado con su uso y también depreciado o incluso destruido (Svendsen y Svendsen, 2004).
El contexto educativo es el primer contexto no familiar en la vida de un individuo donde se entrenan sus capacidades cognitivas y morales. Además, durante su período educativo, los estudiantes participan en una cultura de compañerismo que da forma a valores como reciprocidad, respeto y confianza. Los estudiantes se apoyan y desarrollan las normas y responsabilidades básicas para la sociedad, así como el funcionamiento de la democracia a través de la educación civil (Huang et al., 2009). Según varios autores, la más sólida correlación de variables de capital social es años de escolaridad (Glaesser et al, 1999). A pesar de todo esto, la literatura no conoce el desarrollo de capital social en educación de postgrado y, particularmente, en cursos de emprendimiento desarrollados en MBAs. Al mismo tiempo, también consideramos relevante para nuestra investigación, estudiar aquí a los empresarios nacientes y su relación con la educación en gestión emprendedora y el desarrollo del capital social. Estos individuos, como hemos comentado, son personas que se dedican a actividades que pretenden dar lugar a la creación de una empresa (Aldrich y Matinez, 2001).

Con base en lo expuesto formulamos nuestras hipótesis para estudiar las relaciones existentes entre la educación en gestión emprendedora y el desarrollo de capital social por parte de los participantes. Los resultados confirman un impacto positivo en el desarrollo de capital social, tanto desde el principio como al final y tiempo después del curso. No obstante, es importante resaltar que la intensidad del impacto se produce en los primeros momentos del curso ya que, posteriormente, básicamente se mantiene constante con ciertas variaciones. En general, los emprendedores nacientes desarrollan mayores niveles de capital social y menores niveles de bloqueadores de las relaciones que aquellos participantes que no lo son.

**Metodología**

**Muestra**

La unidad de análisis de este estudio son los participantes en cursos de educación para el emprendimiento desarrollados en programas MBA. Examinamos la educación emprendedora en programas MBA porque estos programas son la clave y los más extendidos en la cartera de las escuelas de negocios. Cada año miles de estudiantes internacionales en los cinco continentes asisten a estos programas. Prácticamente todos ellos ofrecen educación para el emprendimiento como parte de su currículo.

De acuerdo a los rankings internacionales más reconocidos (tales como los elaborados por The Financial Times, The Economist, The Wall Street Journal, Forbes, América Económica, el Instituto Aspen o Boomerang Business Week), IE Business School, y particularmente su IMBA, se encuentran, de manera reiterada, entre las primeras diez posiciones mundiales. De ahí que para esta investigación se recopilara la información de los participantes del curso de gestión emprendedora desarrollado dentro del Máster
Internacional de Administración de Empresas (IMBA) en el IE Business School de Madrid.

Así, en el momento de realizar el estudio de campo el número total de estudiantes del IMBA en el IE era de 971. De ellos, 757 desarrollaba el programa en inglés y 214 en español. Estos 971 estudiantes pertenecen a tres promociones que se encuentran en diferentes momentos de la realización de su IMBA. Esto permite medir el impacto del curso a lo largo de un período de tiempo de un año de la siguiente manera:

- Promoción 1 representa aquellos participantes que están en el final del IMBA (doce meses después del inicio del IMBA y del curso de emprendimiento) y, en consecuencia, seis meses después de haber terminado el curso de emprendimiento (385 estudiantes). Esta promoción empezó el programa en Noviembre de 2011.
- Promoción 2 representa aquellas personas que se encuentran en el medio (seis meses después del inicio) del IMBA y al final del curso de emprendimiento (194 participantes). Esta promoción comenzó su programa en Abril de 2012.
- Promoción 3 representa aquellas personas que están al principio del IMBA y, en consecuencia, al principio del curso de emprendimiento (394 participantes). Esta promoción comenzó el programa en Noviembre de 2012.

La información se recopiló mediante un cuestionario online (en inglés y en español) durante los últimos meses de 2012. El número total de respuestas fue de 300, lo que representa el 30.89% con un error muestral del 2,91% para un nivel de confianza del 95%. El 74,6% son del género masculino y el 25,3% del género femenino. Tienen una media de 6,32 años de experiencia profesional y 29,5 años de edad, también como media, con muy pocos meses de diferencia de una promoción a otra. Si observamos las regiones del mundo de donde proceden los participantes observamos, de la misma manera, similares porcentajes de las mismas regiones mundiales en las diferentes promociones. Es interesante resaltar no solamente el marcado carácter internacional de los participantes sino también la amplia representación de, prácticamente, todas las regiones relevantes del mundo. Cuando observamos los estudios universitarios realizados por los participantes con anterioridad al curso llegamos a una conclusión similar, las tres promociones son homogéneas con similares porcentajes de participantes en los mismos campos del conocimiento. Finalmente, al analizar los sectores de actividad en los que han desarrollado su experiencia profesional previa al curso, también observamos que las tres promociones tienen porcentajes similares de participantes en los mismos sectores de actividad.

**Medidas**

Como ya se ha indicado, las variables implicadas en esta investigación son: la autoeficacia emprendedora, la intención emprendedora, el capital social, y el carácter de
naciente o no del potencial emprendedor. A continuación, de forma resumida se presenta la medición de estas variables.

- **Auto-eficacia emprendedora.** Para medir esta variable se empleó un conjunto de 30 ítems. Para la selección de estos ítems hemos tomado como referencia estudios empíricos que han empleado esta variable, especialmente los llevados a cabo por el Education and High Growth Innovation (EHGI) Research Group que ha desarrollado un conjunto de medidas muy sólidas especialmente diseñadas para cubrir la necesidad de un sistema fiable de medida de la auto-eficacia emprendedora (Lucas y Cooper 2004, 2005; Cooper y Lucas, 2006a, 2006b; Harte y Stewart, 2010).

En el capítulo segundo esta variable se hace operativa de dos formas: la media aritmética del total de ítems; y un análisis factorial exploratorio que genera 5 factores. En el caso del capítulo tercero, de acuerdo a estudios previos (Mueller and Goic, 2003; McGee et al, 2009) este conjunto se clasifica entre las cuatro fases del proceso emprendedor (búsqueda, planificación, reunión de recursos y ejecución). Como resultado de esta clasificación se desagregó la variable unidimensional ESE en otras cuatro variables: ESE de búsqueda, ESE de planificación, ESE de reunión de recursos y ESE de ejecución. Cada una de estas cuatro variables se hace operativa con la media aritmética de los ítems que la conforman y con un factor resultado de un análisis factorial confirmatorio.

- **Intención emprendedora.** Utilizamos un conjunto de 9 ítems. Esta variable se hace operativa de dos formas: la media aritmética y un análisis factorial exploratorio que genera 2 factores. Para la selección de estos ítems también se han tomado como referencia los estudios llevados a cabo por el Education and High Growth Innovation (EHGI) Research Group que hemos mencionado (Lucas y Cooper 2004, 2005; Cooper y Lucas, 2006a, 2006b; Harte y Stewart, 2010).

- **Capital Social.** Para medir esta variable, por un lado, utilizamos un conjunto de 20 ítems. Para la selección de los mencionados ítems hemos tomado como referencia estudios previos realizados por diferentes autores que medían diferentes dimensiones de capital social: capital social estructural se mide mediante 7 ítems (Renko et al 2001; Autio y Murray, 2003), capital social relacional se mide mediante 9 ítems (Tsai y Goshal 1998; Inken y Tsang 2005), capital social cognitivo se mide mediante 4 ítems (Kale, Singh y Permutter, 2000; Chow y Chan 2008). Con el fin de reducir la dimensionalidad de los mencionados ítems hemos seguido un doble procedimiento: la media aritmética del total de los 20 ítems, y las medias aritméticas de cada una de las tres dimensiones (capital social estructural, capital social relacional y capital social cognitivo). Además realizamos un análisis factorial confirmatorio para cada una de las tres dimensiones del capital social.

Por otro lado, para completar el análisis del capital social se ha recogido información con 7 ítems sobre aspectos que pueden bloquear el desarrollo del mismo. Para la selección de estos ítems hemos tomado como referencia estudios realizados por diferentes autores, entre ellos, Gluck, Blumental y Soto (1987) y Soetendorp y Bornemann (1996). Esta variable se ha hecho operativa con la media aritmética de los 7 ítems, con un análisis
factorial exploratorio que genera dos factores, y con un análisis factorial confirmatorio para la creación de un solo factor.

- **Emprendedores nacientes.** Para medir esta variable, de acuerdo con McGee et al (2009), se ha preguntado a los participantes que indiquen si han seguido alguno de los siguientes comportamientos: asistir a un seminario o conferencia sobre cómo comenzar o planificar su propio negocio; escribir un plan de negocios o participar en seminarios que se centren en la redacción de un plan de negocios; organizar un equipo para comenzar un negocio; buscar un edificio o equipamiento para un negocio; ahorrar dinero para invertir en el negocio; o desarrollar de un producto o servicio. Tras sumar el número total de opciones que han seguido los encuestados, esta variable toma valor 1 cuando el participante en el curso se ha visto involucrado en más de dos de cualquiera de estos comportamientos, y 0 en caso contrario.

**Conclusiones**

El propósito de esta investigación ha sido el estudio del impacto de la educación en gestión emprendedora de postgrado, particularmente en programas MBA. Para lograr este objetivo general, el estudio se ha desglosado en tres objetivos más específicos que han analizado el impacto de la educación en gestión emprendedora en el desarrollo de: 1) autoeficacia e intenciones emprendedoras en los participantes teniendo en cuenta que éstos sean o no emprendedores nacientes; 2) autoeficacia emprendedora de los participantes en función de las diferentes fases del proceso emprendedor, teniendo en cuenta que éstos sean o no emprendedores nacientes; y 3) capital social entre los participantes teniendo en cuenta su diferente carácter de ser o no emprendedor naciente.

El análisis de la información de nuestro estudio empírico muestra un impacto débil del curso en autoeficacia emprendedora y un impacto aún más débil en intenciones emprendedoras de los participantes. Este impacto se debilita aún más varios meses después del final del curso. La diferencia encontrada entre empresarios nacientes y no nacientes, aunque presente, no es muy relevante. Particularmente importante es el hecho de que, aunque el impacto del curso no es muy profundo en términos de aumento o disminución de autoeficacia o intenciones emprendedoras como consecuencia el mismo, esos niveles son muy altos entre los participantes. Esto, razonablemente, nos permite pensar que resulta difícil, utilizando un curso de gestión emprendedora, elevar los niveles de autoeficacia o de intenciones emprendedoras en los participantes que ya tienen niveles muy altos. Por el contrario, es muy importante observar que esos niveles no disminuyen, experimentan débiles aumentos, lo que puede mostrar percepciones de “reafirmación” en autoeficacia e intenciones emprendedoras como consecuencia del curso de emprendimiento.

Así mismo, es particularmente curioso es el hecho de que, aunque el impacto del curso no es muy profundo en términos de aumento o disminución de ESE a lo largo de las cuatro
fases del proceso emprendedor, esos niveles son muy altos entre los participantes. De manera general, esto nos permite concluir que resulta difícil elevar los niveles de ESE mediante el uso de un curso de gestión emprendedora en los participantes que ya tienen niveles muy altos de ellos. Vemos que, además de esta idea general, el impacto es más fuerte en la dimensión de planificación de ESE.

Por lo que respecta al impacto sobre el capital social, el análisis de la información de la investigación empírica muestra un profundo impacto del curso en el capital social al principio del curso. Después de esta etapa inicial, este impacto sigue siendo alto pero casi "plano" tanto al final del curso como varios meses después del final del curso. La diferencia encontrada en el impacto entre empresarios nacientes y no nacientes, aunque presente, no es muy relevante. Por lo general, sucede lo mismo con respecto a los bloqueadores de capital social. Como se explica en nuestra discusión de resultados, esto indica que los participantes en estos cursos de emprendimiento desarrollarán, en términos generales, niveles muy relevantes de capital social, pero el impacto real está al principio del curso.

Con relación a las contribuciones de nuestro trabajo podemos considerar las siguientes: Primero: Empleamos un innovador marco de análisis basado en la relación entre la educación en gestión emprendedora desarrollada en programas MBA, la auto-eficacia emprendedora, las intenciones emprendedoras, los emprendedores nacientes, el proceso emprendedor y el capital social. Segundo: Nuestra investigación comprueba de manera empírica las relaciones propuestas en las hipótesis, en el contexto de una de las mejores escuelas de negocios del mundo. Tercero: Los resultados de nuestra investigación ayudarán, tanto a los responsables de poderes públicos como a decanos y juntas de gobierno de universidades, escuelas de negocios y otras instituciones académicas, así como a investigadores en el campo de la gestión emprendedora, a refinar, tener mayor seguridad al asignar recursos y hacer diseños más ricos y específicos de programas MBA y, de manera particular, de cursos de gestión emprendedora. Cuarto: La metodología que empleamos en nuestro estudio empírico sigue un modelo en tres etapas a lo largo del tiempo, muy innovador y que permite la contrastación entre participantes en los cursos en diferentes momentos de sus estudios a lo largo del tiempo. Quinto: Analizamos, de manera muy innovadora, el diferente impacto que la educación en gestión emprendedora puede tener en la auto-eficacia emprendedora teniendo en cuenta, al mismo tiempo, la diferencia existente entre los individuos considerados emprendedores nacientes y aquellos que no se consideran así. Sexto: Empleamos un marco analítico distinto y novedoso que mide, de una manera dinámica, el impacto de la educación en gestión emprendedora en la autoeficacia emprendedora, a lo largo de las diferentes fases del proceso emprendedor permitiendo, por lo tanto, el acceso a una información mucho más útil y específica. Séptimo: También empleamos un novedoso modelo de análisis que estudia la relación entre los mencionados cursos de gestión emprendedora y el desarrollo de capital social, teniendo en cuenta, además, la característica de ser o no un emprendedor naciente.

Ahora bien, dado que el ambiente de una escuela de negocios reputada internacionalmente podría ser "muy específico", estas conclusiones deben ser consideradas con cierta
prudencia en la medida en que se puedan generalizar sólo para contextos similares. Esto es, es posible que estos resultados no sean extrapolables a muestras diferentes con niveles más bajos de ESE o EI. Este tópico merece más atención e investigación que desarrolle nuevos estudios en muestras con niveles más bajos de ESE previos a los cursos. De igual modo, se recomienda realizar investigaciones adicionales para comprender la razón de por qué los cursos de gestión emprendedora tienen impactos diferentes en las distintas dimensiones de ESE. Asimismo, a pesar de haber tomado como referencia escalas de medición internacionalmente reconocidas, sería conveniente realizar nuevos esfuerzos por mejorar y ampliar dichas medidas. Nuestra investigación también plantea cuestiones interesantes en el diseño de cursos de gestión emprendedora. No está claro por qué asistir a cursos largos sobre gestión emprendedora (que son más costosos y requieren una inversión de tiempo mayor) es mejor para los participantes en cuanto a desarrollo de capital social. Adicionalmente, podrían realizarse otras investigaciones para tratar de conocer y detectar, específicamente en el ambiente de una escuela de negocios, cuáles son los bloqueadores de capital social.
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RESUMEN EN INGLÉS
Objective, Structure and Methodology

It is the purpose of this research to study the relationship among education in entrepreneurship and the development of entrepreneurial self-efficacy, entrepreneurial intentions and social capital with the innovative approach of taking into consideration the different character of being or not the participants nascent entrepreneurs. It is in this context (the impact of entrepreneurship education) where our research takes place.

The overall purpose of this research, then, is to study the impact of entrepreneurship education on participants and answer the next research question:

**What is the impact of entrepreneurship education on course’s participants?**

More precisely, this research intends to study the impact of higher education in entrepreneurship (in MBA programs) on participants. At a more operational level, this general purpose of our research breaks down into three more specific goals answering the next research sub-questions:

4. What is the impact of entrepreneurship education in the development of entrepreneurial self-efficacy and entrepreneurial intentions on participants, being them nascent or non-nascent entrepreneurs?
5. What is the impact of entrepreneurship education in the development of entrepreneurial self-efficacy of participants, being them nascent or non-nascent entrepreneurs, along the different phases of the dynamic entrepreneurial process?
6. What is the impact of entrepreneurship education in the development of social capital among the course’s participants, being them or not nascent entrepreneurs?

The empirical context in which our study examines entrepreneurial education is in MBA programs. This is because they are the key and more extended programs in the portfolio of Business Schools. Every year thousands of international students across the five continents attend these programs. Practically all of them offer entrepreneurship education as part of their curriculum. If we take, as a reference, different internationally recognized MBA rankings such as the Financial Times Global MBA Ranking 2012, The Economist, The Wall Street Journal and the like, to study the offer of entrepreneurial education that the best Business Schools in the world have in their MBA curriculum, we can see that all of them offer entrepreneurship education. This is a clear indicator that this education is really relevant. Paradoxically, up to date, we don’t really know what kind of real impact entrepreneurship education can have on participants. Furthermore, there is not relevant previous research studying these phenomena along the different phases of the entrepreneurial process as well as we don’t know, to date, studies addressing the problem of the impact of this education on nascent entrepreneurs or on social capital.

The general relationships that are developed in deeper detail in the following chapters are outlined in figure 1:
We develop our empirical study at IE Business School in Madrid, and specifically at the entrepreneurship course that takes place at the International Master in Business Administration. At the moment we gathered data the total number of IMBA students at IE was of 971. From them, 757 developed the program in English and 214 in Spanish. These 971 students belong to three intakes that are in different moments of accomplishment of their IMBA. This will allow us to measure the impact of the course along a period of time of one year. We received a total number of responses of 300 which represents a rate of response of 30.89% with a sampling error of 2.91% with a statistical confidence level of 95%. A more detailed descriptive statistics of our data can be seen in the sample section of each chapter.

To better tackle its goals this dissertation is structured in four different, independent but interrelated chapters, each of one dedicated to give answers to each of our research objectives. Specifically, this dissertation is structured as follows:
Chapter 1 is an introduction about the field of entrepreneurship and entrepreneurship education. It states what entrepreneurship is and why it is important. It also tackles main issues related to the field of entrepreneurship education.

Chapter 2 studies the impact of entrepreneurship education in MBAs on entrepreneurial self-efficacy and intentions. It begins by an introduction that outlines general ideas about entrepreneurship and entrepreneurship education. The chapter then makes a revision of the theories and establishes the hypotheses to explore the relationship among Self-Efficacy, Entrepreneurial Self-Efficacy and Education. Having done that the chapter analyses the relationships among Entrepreneurial Intentions and Entrepreneurship Education and finally studies the relationships among Education, Self-Efficacy and Entrepreneurial Intentions. The chapter states a particular theoretical framework and then it describes the methodology we have followed in our research by delimitating the context of the empirical study, the sample, data collection procedures and measures. The research we develop in this chapter is pertinent and relevant for the understanding of the formation of self-efficacy and intentions, particularly in educational settings. If we consider that the role of management education is to prepare students to contribute to their organizations and the larger society and to grow personally and professionally throughout their careers (Nelson, Poms and Wolf, 2012), it is reasonable to think that one way by which management education can accomplish this objective is by developing the appropriate level of self-efficacy in students so that they will pursue and follow through on actions that will improve organizations and society (Nelson et al, 2012). It is crucial then to try to gain insight about the impact that education can have in the formation of self-efficacy and intentions. It is important to consider the growth of self-efficacy as a major goal of business education because self-efficacy can indirectly support the acquisition of knowledge and skills (Ford, Kraiger and Merritt, 2009). Therefore our research helps to offer light on this complex issue. Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.

Chapter 3 develops the relationship among nascent entrepreneurs, the entrepreneurial process, self-efficacy and entrepreneurial education. It begins with an introduction that establishes the above mentioned general concepts that are about to be studied. It then makes a revision of the theories and establishes hypotheses. It studies the multi-dimensional and uni-dimensional measures of Entrepreneurial Self-Efficacy and the concept of Nascent Entrepreneurs related to a variety of populations sampled. The chapter sets a particular theoretical framework and then it describes the methodology we have followed in our research by delimitating the context of the empirical study, the sample, data collection procedures and measures. In this chapter we develop a relevant research because we try to gain insight into the crucial issue of the formation of self-efficacy in
educational settings, in this case, by using a very thorough and innovative method of measurement by disaggregating self-efficacy in different dimensions. By doing so we will be able to establish the different impact (if any) of education in the different dimensions of self-efficacy and, therefore reaching a better understanding of it. This will offer light and can provide suggestions on how to “focus” educational efforts towards developing self-efficacy in educational settings. The literature has established that students with higher levels of self-efficacy are more likely to pursue activities related to the knowledge and skills they have developed. As a consequence of this, students can help transfer what is learned as part of educational experience into an organizational setting and give individuals continued opportunities for practice, thus helping to grow knowledge and skills throughout the professional career. If efficacy is recognized as an important outcome of business education, it is important to gain an improved understanding of interventions for boosting self-efficacy in educational settings (Nelson et al, 2012). Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.

- Chapter 4 studies the impact of entrepreneurship courses that take place in MBA programs on the development of social capital. To do so the chapter makes an introduction in which it tackles, in a general manner, issues like the concept, importance, types and effects of Social Capital. The chapter then makes a revision of the literature about social capital and postulates the hypotheses to study the relationships among the course, Social Capital and Nascent Entrepreneurs. Again, having done this, the chapter sets a particular theoretical framework and then it describes the methodology we have followed in our research by delimiting the context of the empirical study, the sample, data collection procedures and measures. The research we develop in this chapter is relevant from various points of view since it contributes to better understand how the formation of social capital takes place, particularly in an educational setting. For instance, if social capital represents an ideal means for founders to acquire and utilize the resources necessary to facilitate the firm-founding process (Stam, 2010) or if an increase in the number of ties is positively associated with founding activities and, at the same time, social capital interacts with the firm’s formalization to promote internal knowledge sharing (Kreiser, Patel and Fiet, 2013), it would be really key to try to gain insight into how does education potentiate (if it does) the formation of social capital. There is an increased appreciation for the importance of social relationships in entrepreneurship (Gedajloviv, Honig, Moore, Payne and Wright, 2013) and it has been established that social capital has the potential to inform entrepreneurship, but also to be informed by entrepreneurship research (Murphy, 2011). It is crucial then to try to tackle the impact that, in this case, education can have in the development (positive or negative) of social capital. Finally, at the end, the chapter presents the results, discussion, limitations, contributions and future research suggested of this particular chapter.
Finally we can find Annexes with relevant information that contribute to clarifying and underpin some particular aspects of our research as well as a Summary in Spanish of this dissertation. In order to facilitate an easier access, we have opted for including the bibliography at the end of each chapter.

Conclusions, Contributions and Future Research

The goal of our research is to dig deeper into the possible impact that entrepreneurship courses could have in entrepreneurial self-efficacy, entrepreneurial intentions and social capital of participants. This impact is not well known in the literature. Many papers claim that this impact is certainly remarkable while at the same time there are also studies that challenge this view. Our purpose was to better understand this issue to help to clarify these relationships but taking into account different approaches that could offer more light and a different perspective, this is: looking at those relationships among the environment of a top business school of the world and, at the same time, taking into account the different character of being or not a nascent entrepreneur.

In order to fulfill our objective and after a review of the literature we gathered data on a three stage empirical study. Analysis of the information of our empirical study show a weak impact of the course on entrepreneurial self-efficacy and an even weaker impact on entrepreneurial intentions of participants. This impact weakens even further several months after the final complexion of the course. The difference founded among nascent and non-nascent entrepreneurs, although present, is not very relevant. Particularly important is the fact that, although the impact of the course is not very deep in terms of increase or decrease of ESE or EI as a consequence of the course, those levels are really high among participants which, generally speaking, allows us to conclude that it is difficult to raise the levels of ESE or EI using an entrepreneurship course in participants that already have very high levels of them. On the contrary it’s very important to observe that those levels do not decrease, they have a modest increases, what can show re-affirming perceptions of ESE and EI on participants as a consequence of the entrepreneurship course. Generally speaking same thing happens regarding social capital. Analysis of the information of our empirical research shows a deep impact of the course on social capital at the beginning of the course. After this initial stage, this impact remains high but almost “flat” at the end of the course and several months after the final complexion of it. The difference founded in the impact among nascent and non-nascent entrepreneurs, although present, is not very relevant. Same thing happens, generally speaking, regarding social capital blockers. As explained in our discussion of results, this indicates that participants in these entrepreneurship courses develop, generally speaking, very relevant levels of social capital, but the real impact is at the beginning of the course.

Contributions of our research from a theoretical point of view have to do with the fact that our results challenge the pervasive literature that establishes that entrepreneurship courses significantly raise the levels of ESE and, to some point of EI, on participants. Our study
contributes to clarify and to understand in more detail the limitations of entrepreneurial education. We test the constructs of ESE and EI using a more refined measure by using the concept of nascent and non-nascent entrepreneurs and measuring the different impact of entrepreneurship courses taking into account that conditions. In addition to this, we do test the ESE and EI constructs in the setting of a top business school and we take into account the entrepreneurial process and its different phases. Results are challenging again since, as we see, even in a top business school, the impact of entrepreneurship courses on ESE and EI is limited while, at the same time, the impact on social capital is strong at the beginning with a flat behaviors after the course. From an empiric point of view our study confirms the usefulness of the longitudinal studies to try to gauge the impact of a course in participants by confirming that enduring effects, along the time, need to be carefully observed since only a measure in a given time could be misleading. We also “open the door” for further research developed at top business schools regarding the issue of what can be achieved by the attainment of an entrepreneurship course in such environments.

This research then makes the following particular contributions:

- First, we employ a novel analytical framework based on the relationship among MBA entrepreneurship education, entrepreneurial self-efficacy, entrepreneurial intentions, nascent entrepreneurs, the entrepreneurial process and social capital. This combination of variables has never been studied in the literature before.

- Second, our research empirically tests the relationships proposed in the hypothesis in the context of one of the Top 10 Business Schools of the World. This is also an objective never studied in the literature before.

- Third, the results of our research aim to provide policy makers, deans and academic governing bodies of Universities, Business Schools and other academic institutions as well as entrepreneurship researchers with suggestions that will refine, provide security and make richer the design of MBA programs and, particularly, of entrepreneurship courses.

- Fourth, the methodology of the empirical study follows an innovative three stage model that allows comparison among participants in different stages of their studies. This constitutes a more refined measure of the impact of entrepreneurship education in MBAs since it allows us to know in much more detail until what point the impact is enduring over the time.

- Fifth, we analyze, in an innovative way, the different impacts entrepreneurial education can have on entrepreneurial self-efficacy regarding the participant’s nature of nascent or non-nascent entrepreneurs. By doing so we contribute too to a more specific and refined measure of the impact of entrepreneurship education.

- Sixth, we employ an advanced analytical framework that measures the impact of entrepreneurial education on entrepreneurial self-efficacy along different phases of the entrepreneurial process allowing, therefore, having more specific and useful
information. Our findings can help to better design entrepreneurship courses in the future.

- Seventh, we employ an original framework based on the relationship between entrepreneurship courses in MBAs and social capital regarding the different character of nascent or non-nascent entrepreneur in participants which constitutes an avant-garde approach to measure the impact of entrepreneurship education on the development of social capital.

Although we have taken as a reference for our empirical study internationally recognized scales of measures it would be desirable to develop new efforts to enhance and refine these measures. We also have to point out the fact that we are not sure our results can be extrapolated to different samples with lower levels of ESE or EI. The environment of a top business school could be “really specific”. This also deserves more research developing more studies in samples with lower levels (previous to the course) of ESE or EI to measure the impact of entrepreneurship courses in them.

Our research poses interesting issues on the design of entrepreneurship courses. It is clear that aspects such as innovation, creativity and decision taking need to be boosted in the curricula of the courses. It seems clear that entrepreneurship courses not only have to inform participants about very explicit issues (for instance about how to develop a business plan) but to form in them a deep criteria about more tacit and soft skills such as the above mentioned. This also raises questions about the special teaching skills and education needs of entrepreneurship professors: is it possible to really be a good entrepreneurship instructor by being just a theoretician?, Is it possible that a person that has never been entrepreneurial, creative or innovative can be a good entrepreneurship instructor just because of theoretical academic credentials? Or, should it be better a mix in the profile in which, along with robust academic credentials there is the existence of a proven practical entrepreneurial record? How this proven practical entrepreneurial record will be measured in terms of academic promotions so it can be interesting for promising scholars? More research regarding this controversial issue and its deep academic implications would be needed. Further research would also be needed to particularly tackle the issue of ESE. Probably a useful way of doing so could be to continue assessing ESE not as a uni-dimensional issue but as a multi-dimensional one and continue taking into account novel different perspectives like the different phases of the entrepreneurial process and trying to dig deeper with nascent and non-nascent entrepreneurs.

Regarding Social Capital our research also poses interesting issues on the design of entrepreneurship courses. It is not clear, as we have mentioned, why undertaking long duration entrepreneurship courses (that are more expensive and time consuming) is better for the participants regarding to developing social capital. This is something business schools officials, especially from the top ones, need to explain thoroughly. This also relates to the issue of how many formal and informal sessions, coaching sessions, outdoor activities and other methodological tools should be employed in an entrepreneurship course and with what time frame. For instance, can we get better results using 20 sessions
in two weeks of 20 sessions in 2 months? What is and how works “time” when it comes to entrepreneurship courses? Further research should also be conducted to try to know and detect, specifically in the environment of a top business school, what social capital blockers are, especially distinguishing tangible and intangible ones in a very specific manner.