

Citation: Padilla-Angulo, L., García-Cabrera, A. M. & Lucía-Casademunt, A. M. (2022) "Unpacking Entrepreneurial Education: Learning Activities, Students' Gender and Attitude Towards Entrepreneurship" *Academy of Management Learning & Education*, 21 (4): 1–29. <https://doi.org/10.5465/amle.2020.0043>

## UNPACKING ENTREPRENEURIAL EDUCATION: LEARNING ACTIVITIES, STUDENTS' GENDER AND ATTITUDE TOWARDS ENTREPRENEURSHIP

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### Abstract

To promote entrepreneurship among students, academic institutions should focus on developing a positive entrepreneurial personal attitude (EPA), since it is a strong antecedent of entrepreneurial intentions, which in turn predict actual entrepreneurship. Previous research finds that EPA is lower for women than men, which is related to the acknowledged gap between women and men in entrepreneurial activity. The present work builds on the elaboration likelihood model (ELM) to examine how nine different entrepreneurship-focused academic activities in school impact on students' EPA, paying special attention to gender differences. We use a sample of 918 students from a French business school to analyse gender differences in the mechanisms based on ELM central and peripheral routes to promote EPA through academic activities. Post-hoc tests are also performed to explore differences by gender at different academic levels. The results have important implications for academic institutions wishing to promote entrepreneurship since we unpack entrepreneurial education into individual academic activities. In particular, results suggest that students' gender and academic level should be considered when designing activities to promote entrepreneurship.

**Keywords:** academic activities; gender gap; entrepreneurial intentions; entrepreneurial Education

**ACKNOWLEDGEMENTS:** We are grateful to Francisco Liñán for his contribution in an earlier version of the manuscript, to Julien De Freyman for his help with the data, and to the three anonymous referees for their valuable and helpful comments during the revision process. We are also grateful to the participants of XXIX ACEDE conference, the 10th International Research Meeting in Business and Management (IRMBAM-2019) and the XIV Loyola Econ Research Seminar for their helpful comments. Financial support from Spain's National Economic, Industry and Competitiveness Department (Project: ECO2016-80518-R) is gratefully acknowledged by Antonia M. García-Cabrera and Ana M. Lucia-Casademunt. Laura Padilla-Angulo is grateful to The Spanish National Science Foundation (PGC2018-093506-B-I00) and Excelencia Junta (PY-18-FR-0007).

## Introduction

Entrepreneurship is central to economic development and the generation of employment (OECD 2019), so the need to stimulate entrepreneurial attitudes is widely recognised. In this respect, women are a target of special interest, given the acknowledged gender gap in entrepreneurship (Greene 2005; OECD 2019; Storey and Greene 2010). In effect, many regions encourage the promotion of entrepreneurship amongst women with initiatives such as the Entrepreneurship 2020 Action Plan in the EU (EC, 2013), in line with the EU current priority of "... making Europe more entrepreneur-friendly" (Eurofound 2015, p.1).

Indeed, self-employment statistics suggest that women are not pursuing entrepreneurship as a path to employment: although over the past decade the number of self-employed women increased by 4.3% and the number of self-employed men declined by 4.9% (OECD 2019), there is still a gender gap in entrepreneurship. Moreover, despite the positive trend, while in 2018 9.6% of working women and 16.9% of working men were self-employed (OECD 2019) in the EU, in 2019 this gender gap increased (10.03% of working women vs. 17.69% of working men) (Eurostat 2020).

In light of this persistent gender gap, 'entrepreneurship education' (hereafter EE) could play a vital role in the promotion of female entrepreneurship (Kickul et al. 2008; Wilson et al. 2007). To be effective, the beliefs of women about entrepreneurship acquired from childhood through socialisation, learning experience, and the educational system (Strobl et al. 2012) should be considered (Bird and Brush 2002; Byrne and Fayolle 2010; Liñán, Rodríguez-Cohard, and Rueda 2011; Santos, Roomi, and Liñán 2016). Entrepreneurship is still a stereotypically masculine career path (Ahl 2006; Lewis 2006; Shinnar, Hsu and Powell 2014; Verheul, Uhlaner and Thurik 2005) and gender stereotypes adversely affect female entrepreneurship (Gupta, Turban and Bhawe 2008;

Marlow and Patton 2005). Even with the same education and backgrounds, females often feel less confident and equipped for entrepreneurship than males (Petridou et al. 2009), one possible explanation being that *perceived* levels of competencies and qualifications are more important than *actual* levels (Bandura et al. 2001; Wilson et al. 2007), particularly when gender stereotypes influence such self-perceptions (Petridou et al. 2009). This could make entrepreneurship less attractive for females, resulting in their ‘entrepreneurial personal attitude’ (EPA) being lower.

Actions to strengthen women’s EPA are expected to influence their ‘entrepreneurial intention’ (EI), which in turn will eventually increase the number of female start-ups (Santos et al. 2016) since EI is the single best predictor of actual entrepreneurship (Bird 1988). Accordingly, in EE, it is important to have a better understanding of *how* and *why* some academic activities may strengthen students’ attitudes towards entrepreneurship and whether the effect of these activities differs between women and men. To this end, a highly appropriate theoretical framework for studying changes in individuals’ attitudes is the Elaboration Likelihood Model (ELM; Petty and Cacioppo 1986), which posits that such changes depend on arguments received through persuasive communication that will be elaborated upon “[...] (i.e., thought about)” (Jones, Sinclair, Rhodes and Courneya 2004, p. 506). Based on the ELM, academic activities represent ways to change students’ EPA through persuasive communication. However, as far as we know, ELM has not been used to study the impact of EE on students’ attitudes.

Previous literature on EE has studied inspirational triggers as events or inputs from academic activities that can “change students’ hearts and minds” in regard to becoming entrepreneurs (Souitaris, Zerbinati and Al-Laham 2007). Although Souitaris et al. (2007) did not find a positive association between a set of jointly considered inspirational triggers

– the views of a professor, of an external speaker, of a visiting entrepreneur, of classmate(s), the preparation for a business plan competition, and the views of the judges of that competition (Souitaris et al. 2007, p. 578) – and students’ EI, these authors did not consider students’ gender or academic level, even though gender is highly relevant to understanding individuals’ attitudes towards entrepreneurship (Joshi et al. 2015; Kickul et al. 2008; Rocha and Praag, 2020; Santos et al. 2016).

In order to better understand EE, it is important to address issues such as “when” and “for whom” (Frazier et al. 2004, p. 116) the participation in different academic activities strengthens students’ EPA. Accordingly, this study builds on the ELM and uses a sample of 918 students from a French business school to examine gender (referring to biological sex) differences in the impact of diverse academic activities on students’ EPA. Moreover, we explore differences in this impact depending on academic year.

This study contributes to the EE literature by responding to the recommendations of previous research to consider potential moderators (including gender and academic level) when studying the outcomes of EE (Martin, McNally and Kay 2013). We also contribute to the EE literature by answering the call of previous research highlighting the need to better understand *how* EE achieves its aims - that is, to *unpack* the ‘package’ of EE. We show how the *individual components* of an EE programme (rather than EE as a monolithic unit) impact students, which has been neglected by previous literature (Bergmann, Hundt and Sternberg 2016; Fayolle & Gailly 2008; Liñán, Urbano, and Guerrero 2011; Martin, McNally and Kay 2013; Wilson et al. 2007). In addition, our study contributes to the processual aspects of management learning and education (Petriglieri and Petriglieri 2010), as well as the “production and dissemination of managerial knowledge” (Petriglieri and Petriglieri 2010, p. 45). This literature conceptualises business schools as ‘identity workspaces’ providing a “holding

environment” (Winnicott 1975) for ‘identity work’ - in our case, being an entrepreneur. Our analysis helps identify the academic activities that enable business schools to function as identity workspaces and facilitate identity work, and the students’ characteristics that contribute to the use of the business school as an identity workspace. The structure of the paper is as follows: we present the theoretical framework and develop hypotheses; explain the data collection procedure and present participants, variables, and data analysis; present results for the regressions to test hypotheses and also for the mean-difference tests by educational level, and discuss results providing practical implications, limitations, and insights for future research.

### **Theoretical Framework and Hypotheses Development**

#### **The Entrepreneurial Personal Attitude (EPA)**

Entrepreneurial Personal Attitude (EPA), a term derived from the Theory of Planned Behaviour (TPB; Ajzen 1991; 2001), refers to the desirability of becoming an entrepreneur (Ajzen 2001) and is a strong and consistent predictor of Entrepreneurial Intention (EI) (Kautonen et al. 2015; Liñán, Moriano and Jaén 2016; Rauch and Hulsink 2015). EPA is the joint assessment of the salient beliefs about the expected consequences of becoming an entrepreneur and the desirability of these consequences (Ajzen 2001). A salient belief for entrepreneurship could be, for instance, that it provides independence. If the individual considers independence as a desirable outcome, the EPA will be higher, and vice versa.

While the entrepreneurship literature has extensively used the TPB to predict entrepreneurial activities, this article attempts to predict attitudes. An appropriate theory to explain attitudes is the ELM (Petty and Cacioppo 1986), a dual-process theory focusing on the influence of external variables in changing attitudes through persuasion. The basic principle of the ELM is that changes in individuals’ attitudes depend on “[...] the

likelihood that an issue or argument will be elaborated upon” (Jones, Sinclair, Rhodes and Courneya 2004, p. 506). The ELM identifies two routes that differ in the mental effort a person applies to thinking about a message: the central route and the peripheral route. The central route involves scrutiny and thoughtful consideration of arguments, a high level of message elaboration and durable attitude change, which is highly predictive of behaviour. The peripheral route involves association with positive or negative cues in the stimulus, such as the credibility of the sources of the message or making a simpler inference, and changes in attitudes are likely to be less enduring. According to Morris, Woo, and Singh (2005), within both the central and the peripheral route to persuasion, a change in attitude is due to affective *and* cognitive drives since the individual processes messages based on both affective and cognitive cues.

The ELM is relevant in this research because one of the objectives of EE is precisely to change attitudes towards entrepreneurship in a durable way (Nabi et al. 2017). According to the ELM theory, this would involve a central-route change in attitude (Petty and Cacioppo 1986).

### **ELM and Gender Differences in the Impact of academic activities on EPA**

Previous research finds that women have lower EPA than men (Kickul et al. 2008; Santos et al. 2016), implying that women are less likely to become entrepreneurs (Bird 1988; Santos et al. 2016). As mentioned above, the ELM states that individuals’ attitudes can change because of the effect of external variables through persuasion (Petty and Cacioppo 1986). According to this, EE - specifically, academic activities at school – is an external variable able to affect individuals’ EPA (Souitaris et al. 2007), and it is conceivable that students will pay different levels of attention to such activities and will catch the messages and cues offered by these activities to different degrees (Souitaris et al. 2007). Thus, we expect that academic activities will have different effects on each

student's EPA and gender will condition this effect (Martin et al. 2013). Along this line, previous research finds differences in the way women and men develop attitudes (e.g., Venkatesh and Morris 2000).

We focus on nine academic activities to study gender differences in the effect of EE on students' EPA. According to Souitaris et al. (2007), academic activities provide students with - besides knowledge and resources to evaluate and develop business ideas - inspiration, linked to a trigger and a target (Souitaris et al. 2007). The entrepreneurial inspiration derived from education programmes is "a change of hearts (emotion) and minds (motivation) evoked by events or inputs from the programmes and directed towards considering becoming an entrepreneur" (Souitaris et al. 2007, p. 573). From this perspective, inspirational triggers are the events or inputs from academic activities that can change students' EPA (Souitaris et al. 2007). Souitaris et al.'s (2007) work is consistent with ELM premises since ELM helps us understand how people can be persuaded by communication (Petty and Cacioppo 1986). Based on ELM, we classify inspirational triggers as derived from two types of academic activities:

First, considering the peripheral route to persuasion, activities with influential people that allow students to access these people's entrepreneurial experience (e.g., views and testimonials from external speakers, visiting entrepreneurs, etc.). Activities with influential people are of relevance because they have credibility and trustworthiness in students' eyes, which is crucial in the persuasion process (Jones et al. 2004). Students can listen to and observe them and think about the consequences of their own behaviour (Bandura 2001), making entrepreneurship a desirable behaviour (Bergmann et al. 2016) and strengthening EPA. These influential people are respected others who can act as symbolic role models that help develop students' entrepreneurial identity (Radu and Loué 2008; Byrne et al. 2019). Previous research highlights the importance of "credible and

attractive role models in order to encourage people [...] to engage with entrepreneurship” (Byrne et al. 2019, p.4).

Second, based on the central route, we consider academic activities that allow students to personally experience entrepreneurial projects (e.g., participation in a business plan competition). Based on Petty and Cacioppo (1986), through students’ own contact with a reality, it is easier to evaluate the merits of such a reality and change attitudes about it (Table A1 in the Appendix offers an overview of each educational activity analysed).

***Gender differences in the impact on EPA of Inspirational Triggers aligned with the ELM Peripheral Route: the views of influential people***

Mostly following Souitaris et al. (2007), we consider influential people as professors, external speakers, visiting entrepreneurs, and judges of business competitions. The professor is a leader within the student group and may influence students’ outcomes (Koh, Steers and Terborg 1995). For example, through communicating the desirability of entrepreneurial activity, professors can deliver messages such as how an entrepreneurial activity can improve the environment and give other social benefits provoking changes in students’ evaluation about how positive entrepreneurship can be. In addition, professors can also convey their enthusiasm for entrepreneurship (Souitaris et al. 2007) and generate ‘emotional contagion’ (Cherulnik et al. 2001) and a more positive students’ evaluation of entrepreneurship.

Also, students’ exposure to views and testimonials of other influential people - such as external speakers, visiting entrepreneurs, and judges of business competitions - that show positive outcomes of entrepreneurial activity can change their ‘hearts and minds’. According to ELM, changes in students’ attitudes may happen because those guests are competent and reliable sources of information. Furthermore, like Souitaris et al. (2007), we also study classmates since they can act as students’ ‘reference people’.



According to Bergmann et al. (2016), the effect of academic activities at schools may go beyond their impact on the students attending them and reach their classmates as well because: (1) high numbers of students participating in entrepreneurial academic activities convey the message that the school encourages entrepreneurship and that becoming entrepreneurial is a desired behaviour; (2) if comparable peers engage in entrepreneurial academic activities and increase their favourability towards entrepreneurship, students might also consider this option for themselves.

Finally, we also analyse another group of influential people not included in Souitaris et al.'s (2007): would-be entrepreneurs or recent/young entrepreneurs. We propose that meeting them can be inspirational with the added benefit that these entrepreneurs are likely to be of a similar age to the students themselves and will therefore likely be more relatable. They are probably better able than other reference people to transmit their enthusiasm to students and allow them to recognise and imagine themselves as potential entrepreneurs. All these individuals (except, in principle, classmates) have entrepreneurial expertise and/or experience and, according to the ELM model, they are peripheral cues and influence EPA. According to ELM, greater levels of trustworthiness in the source of messages tend to associate with greater ability to influence individuals' attitudes, all persuasive messages from sources of different degrees of credibility may generate changes in attitudes. Thus, we posit,

*H1: Inspirational triggers derived from participation in academic activities with influential people, aligning with ELM peripheral routes, i.e., professors (H1a), external speakers (H1b), visiting entrepreneurs (H1c), judges of competitions (H1d), classmates (H1e), and would-be entrepreneurs or recent/young entrepreneurs (H1f), will have a positive influence on EPA.*

Yet, previous research suggests that women and men differ in the extent to which they can be influenced by others (Venkatesh and Morris 2000). For example, women are socialised to be more people-oriented, while men to be more independent (Zelezny et al. 2000; Carrier 2009); along these lines, previous research suggests that women rate the opinions of others' when determining their attitudes to a given behaviour more highly than men (Venkatesh and Morris 2000). According to the ELM, this gender difference in influenceability is more likely to happen in contexts where people have low ability and/or motivation to evaluate the messages received, so that they use their learned gender roles as simple rules to accept persuasion (Petty and Cacioppo 1986). In the case of women's EE, the context can be affected by the fact that women tend to have low self-confidence about entrepreneurship (perception of lack of abilities) and disregard such male-oriented careers (lack of motivation).

Previous studies (e.g., Klyver and Grant 2010; Tynan et al. 2009; Petridou 2009; Dabic et al. 2012) find that female students tend to feel less self-confident about entrepreneurship than men and they have more a need for entrepreneurial networking, mentoring and tutoring structures (Dabic et al. 2012). Even with the same weaknesses in entrepreneurial knowledge, women were more likely to recognise those weaknesses and position themselves as being more in need of training (Jones and Tullous 2002; Kourilsky and Walstad 1998; Barnir et al. 2011). This might be because entrepreneurship is still believed to be male-gendered (Verheul et al. 2005; Ahl 2006; Hamilton 2013).

Also, because of the dominant discourse perpetuated in the media, describing entrepreneurship with masculine connotations (Hamilton 2013), women tend to disregard entrepreneurship as a professional career. Previous research suggests that career choices are affected by gender stereotypes and that women are particularly exposed to the negative effects of perceptions of career barriers, so that "[...]females often hold more

negative attitudes toward male-oriented professions” (Barnir et al. 2011, p. 274). As Barnir et al. (2011) argue, it could be elucidated by “sociological explanations of the effects of sex-role socialisation” (Barnir et al. p. 274, citing Dryler 1998; England 1992), and with feminist theories (e.g., Fischer et al. 1993; Hurley 1999). Those theories argue that “the social context associated with gender-based socialisation creates a variety of norms and expectations that reinforce gender-based stereotypes” (Barnir et al. 2011, p. 274). Relatedly, previous research finds that cultural norms reinforce entrepreneurial perceived behavioural control in men more than in women (Birley 1989; Scherer et al. 1990, Barnir et al. 2011). Accordingly, it is argued that men are likely to be less influenced by role models (i.e., specific entrepreneurial triggers) because they tend toward male-typical careers anyway, while women have less of a tendency toward male-typical careers in the absence of these specific entrepreneurial triggers (Barnir et al. 2011).

Based on all the above, we expect that women’s EPA will be more influenced by the views and testimonials of influential people (symbolic role models) than men - that is, we expect that women will be particularly susceptible to the opinions of influential people. The status and the experience of these entrepreneurship specialists legitimises their views and increases the likelihood that women will take full account of them. These views and testimonials from influential people are expected to highlight the positive aspects associated with entrepreneurial activity and hence enhance EPA. Accordingly, we hypothesise:

*H2: Inspirational triggers derived from participation in academic activities with influential people, aligning with ELM peripheral routes, will have a stronger positive influence on female than male students’ EPA.*

***Gender differences in the impact on EPA of Inspirational Triggers aligned with the ELM Central Route: the entrepreneurial experiential learning activities***

Bem's psychological theory of self-perception (1972) argues that individuals infer their own attitudes partially "from observations of their own overt behaviour and/or circumstances in which this behaviour occurs" (Bem 1972, p. 5). From the ELM approach, Petty and Cacioppo (1986) also suggest that personal experience of a reality facilitates individuals' evaluations of the merits of such a reality and the resulting change in related attitudes, and new/strengthened attitudes based on direct experience are better predictors of behaviour than new/strengthened attitudes based on indirect experiences.

During entrepreneurial activities at the school, entrepreneurial behaviour occurs through using managerial competencies and skills. We will consider Business Plan Competitions (BPC), participation in students' associations, and interdisciplinary group projects. Previous literature finds a positive impact of involvement in students' associations on EI (Padilla-Angulo 2019) and learning, since associations simulate aspects of entrepreneurial learning such as social learning and 'learning by doing' (Pittaway et al. 2010, 2015). When students create associations at school and design and develop collective activities to reach a goal, they are behaving as entrepreneurs. Besides, associations, just like BPCs, are a form of experiential learning that require continuous changes to earlier elements as they progress, led by reflective practices (Pittaway and Cope 2007), and can be conceived of as (relatively) long-lasting sentient communities "that demand and receive loyalty from their members" (Miller and Rice 1967, p. xiii). These may help the student members experience belonging to the community of "entrepreneurs" and project themselves as actual entrepreneurs, facilitating identity work, i.e., "the activities that individuals undertake to create, maintain, and display personal and social identities that sustain a coherent and desirable self-concept" (Petriglieri and Petriglieri 2010, p. 45).

As Petriglieri and Petriglieri (2010) put it (albeit referring to medical students): “This fantasised belonging reassures such students that they have a future identity and motivates them to work toward achieving it” (p.48). Furthermore, students with diverse academic profiles are mixed on some courses and activities to jointly develop interdisciplinary projects within the school. Group diversity fosters creativity and innovation, and entrepreneurship involves both elements (Alves et al., 2007; King, and Anderson, 1990; Payne, 1990; Thornburg, 1991). Accordingly, previous literature finds that interdisciplinary diversity at business schools is also essential for students’ EI (Padilla-Angulo et al. 2019).

In addition, activities targeted at changing attitudes sometimes offer incentives (rewards), along with persuasive communication messages, to stimulate involvement (Brown et al. 2010). For example, winning a BPC might be associated with an economic prize, and the participation in academic associations or interdisciplinary group projects with obtaining academic credits. In these cases, incentives can urge students to commit more heavily to these experiential entrepreneurial activities and make significant mental efforts on the messages involved to complete them successfully and obtain the prize.

Accordingly, because “attitude formation based on direct experience may typically require more effortful elaboration of the merits of the object” (Petty and Cacioppo 1986, p. 179), the above experiential learning entrepreneurial activities can be considered central routes of persuasion influencing EPA. Accordingly, we posit:

*H3: Inspirational triggers derived from participation in academic activities that allow students to personally experience entrepreneurial projects, aligning with ELM central routes of persuasion, i.e., BPCs (H3a), student associations (H3b), and interdisciplinary projects (H3c), will have a positive influence on EPA.*

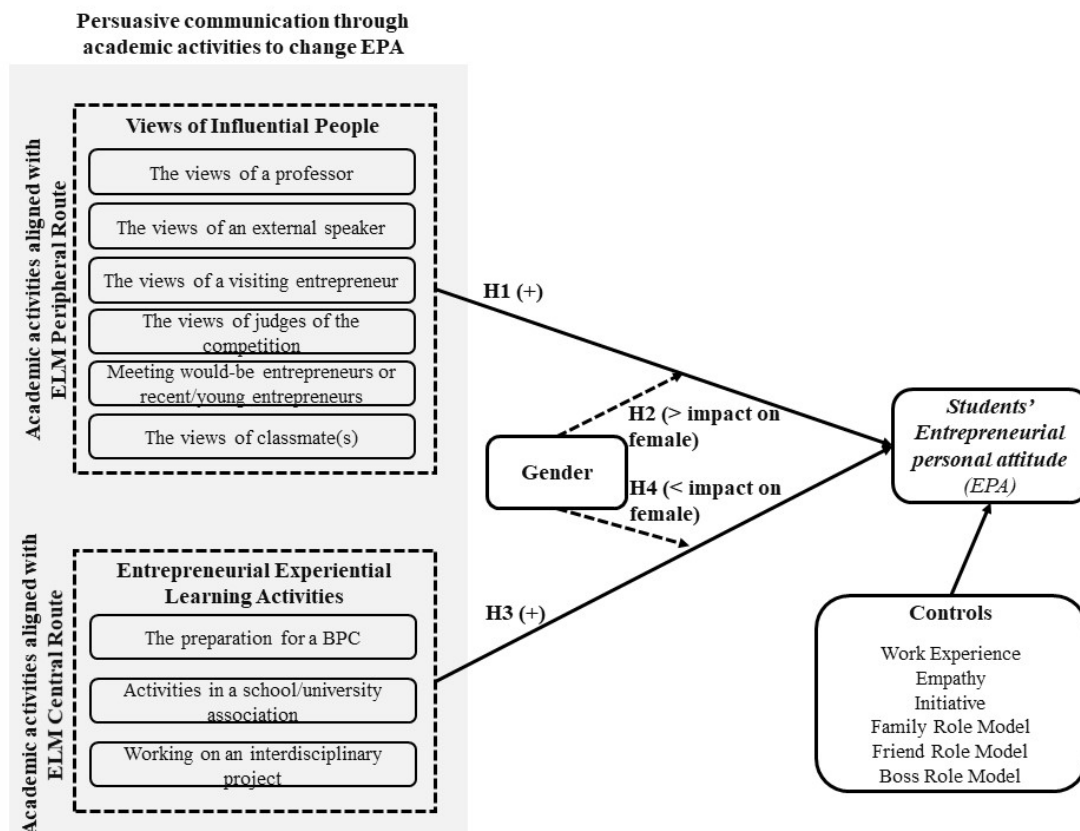
However, entrepreneurship is believed to be predominantly masculine, despite recent changes regarding the role of female stereotypes (Shinnar et al. 2014; Verheul et al. 2005). This male view is likely to negatively affect the entrepreneurial self-image of women (Verheul et al. 2005), who tend to undervalue their entrepreneurial skills and performance (Verheul et al. 2005; Wilson et al. 2007) more often than men do, and their attitude towards entrepreneurship suffers. Therefore, it is expected that this undervaluation will negatively affect women's attraction toward entrepreneurship and provoke a lesser effect of personal entrepreneurial experience on EPA. In this respect, attitude might mediate knowledge acquisition and behavioural change (Petty, Priester, and Wegener 1994). As already argued, evaluating the merits of a reality becomes easier through personal contact with it (Petty and Cacioppo 1986). However, this can be more difficult for women than for men because such realities challenge some of the beliefs about entrepreneurship that women have acquired from childhood through socialisation, learning experience and the educational system (Strobl, Kronenberg and Peters 2012). Indeed, according to the ELM, when a message contains information that is inconsistent with the individual's previous opinion, they could generate counterarguments. Consequently, although the thoughtful elaboration of arguments in the central route sometimes occurs under objective reflections, other times the process "[...] is more biased and may be guided mostly by the person's initial attitude (Petty and Cacioppo 1986, p. 128). Hence, the central route could exacerbate gender differences in EPA.

Based on this, we hypothesise:

*H4: Inspirational triggers derived from participation in academic activities that allow students to personally experience entrepreneurial projects, aligning with ELM central route of persuasion, will have a weaker positive influence on female than male students' EPA.*

Figure 1 shows our conceptual model, which predicts that the views of influential people (peripheral route) and the participation in experiential entrepreneurial academic activities (central route) will have a direct effect on students' EPA. Gender moderates the effect of both types of inspirational trigger on EPA. The model also includes control variables (explained in the methodology section), directly affecting students' EPA.

**Figure 1: Conceptual Model**



## Methodology

### Participants and procedure

We conducted the study at a French business school (Ecole Supérieure de Commerce) with about 1700 students. The behaviour of students in business schools is of inherent interest to us because one of the schools' primary objectives is to encourage entrepreneurship and innovation. The selected business school offers programmes highly

focused on entrepreneurship that students can take from the beginning of their journey at the school. The school has strong links with a local business incubator, with which it collaborates in activities to encourage entrepreneurship, such as a three-day seminar for entrepreneurs or a centre for young entrepreneurs that supports students and recent graduates in their projects to start up their own businesses.

In fact, in France, traditionally considered as not very entrepreneur-friendly due to cultural aspects such as uncertainty avoidance, low acceptance of failure, and little social consideration for the entrepreneur in general (Béranger et al. 1998; Carayannis et al. 2003), the government has been encouraging EE since the mid-to-late 1990s, following influential reports such as those by Béranger et al. (1998) and Fayolle (1999b). These reports highlighted the need to offer teaching and training programmes for entrepreneurship to promote entrepreneurship among students and to introduce BPCs as a pedagogical tool (see Klapper 2004 for a complete overview). In line with this, in 2001, a professorial initiative supported by the French government (Klapper 2004), called the *Observatoire des Pratiques Pédagogiques en Entrepreneuriat* (Observatory for pedagogical practices in entrepreneurship), was created.

The *Écoles Supérieures de Commerce* are private French business schools at the university level generally created by local chambers of commerce and industry. All of them offer, among other programmes, a generalist programme in management called *Programme Grande École*. To enrol on this programme, students must attend higher school preparatory courses, which are part of the French post-secondary education system and consist of two intensive years (extendable to three years). The admission to the preparatory courses is competitive and based on the students' high school grades. On these courses, undergraduate students study a variety of subjects such as economics and mathematics (Klapper 2004). These involve a heavy workload, with several weekly



written and oral exams, in preparation for the highly competitive, national, entry exams for the Grandes Écoles (higher education establishments, including business schools, with significant autonomy and their own specific pedagogical curricula).

Besides, the chosen French business school was suitable for our research since it organises a wide variety of activities annually to promote entrepreneurship, including a BPC. The objective of a BPC is precisely to raise students' awareness of entrepreneurship and develop their entrepreneurial spirit by developing a viable entrepreneurial project and business plan for three months and then defend it in front of a jury (see Table A1 in the Appendix for more details). Being evaluated by experienced executives, willing to advise students, generates a feeling of empowerment and a climate of recognition, resulting in a supportive learning environment. According to the organisers, most students feel close to the everyday life of an entrepreneur, discovering in the process the cycles of good and bad times. In general, students associate BPCs with a positive entrepreneurial experience. Other academic activities organised by the school include inviting external speakers and entrepreneurs, meetings with would-be entrepreneurs and recent/young entrepreneurs, participation in students' associations, and projects with students from other programmes and/or engineers/professionals.

The work was developed during the academic course 2014-15. The data was obtained through a survey, elaborated with the software Qualtrics and administered electronically at the end of the second semester, 2015. The questionnaires were anonymously answered. We selected this period to maximise the number of respondents: most of the students studying abroad that academic year, the majority during the first semester, were back to the school at that time. The academic activities happened at different points in time during the students' academic journey through school. To maximise participation, with the approval of academic directors and over about two

months, answering the questionnaire was made compulsory for students in order for them to be able to access their student account on the school's intranet. Students access their accounts to check for grades, lecture timetables and all relevant academic information, so using the intranet is unavoidable. When accessing their accounts, they were redirected to the link for the questionnaire. With this technique, we avoided self-selection problems.

We obtained 918 answers. The respondents were 58.82% female and 41.18% male, ranging between 20 and 23 years on average. Table 1 provides summary statistics of the respondents' academic programme and level for the full sample and by gender. 30.1% were first year students, 26.9% second year, 29.1% third year and 13.8% master students or equivalent (e.g., fourth and fifth levels of some degrees). The respondents were students of the Grande École Programme (a generalist programme in management): Bachelor's in International Management, Bachelor's in Tourism, Leisure and Travel Management, Bachelor's in Graphic Arts and Design, and Master's in Tourism, Leisure and Travel Management. All of these students of different programmes had a high course load on entrepreneurship and courses and projects in common, so that they would have been interacting with each other and also been exposed to entrepreneurship content during their passage at the school.

The majority of activities analysed were required for all students - in particular, those in which students could learn the views of a professor, an external speaker, a visiting entrepreneur, classmate(s), would-be entrepreneurs, or recent/young entrepreneurs - since they took place during mandatory classes, lectures and/or conferences and speeches throughout the academic year organised by the business school. Although all the students were exposed to the same profiles of influential people, they were not necessarily the same since students were enrolled in various academic programmes and at different levels.

**Table 1. Participants' academic programme and level**

<b>Level</b>	<b>Programme</b>	<b>Full Sample N= 918</b>	<b>Female N=540</b>	<b>Male N=378</b>	<b>Full sample by level</b>
1	Grande École	12.9%	8.5%	19.0%	30.1%
	International Management	7.1%	7.4%	6.6%	
	Tourism Bachelor	5.4%	7.4%	2.6%	
	Design	4.7%	6.1%	2.6%	
2	Grande École	13.7%	8.5%	21.2%	26.9%
	International Management	4.6%	6.1%	2.4%	
	Tourism Bachelor	3.8%	5.6%	1.3%	
	Design	4.8%	6.1%	2.9%	
3	Grande École	17.5%	14.1%	22.5%	29.1%
	International Management	1.6%	1.3%	2.1%	
	Tourism Bachelor	4.6%	6.7%	1.6%	
	Design	5.4%	5.0%	6.1%	
4	International Management	5.2%	4.8%	5.8%	
	Design	0.2%	0.2%	0.3%	
5	Design	2.1%	2.8%	1.1%	13.8%
M1	Tourism Master	4.8%	7.4%	1.1%	
M2	Tourism Master	1.5%	2.0%	0.8%	
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

BPCs were not a required activity for the full sample, and only students from the second year on could participate in this activity. The percentage of respondents having done this activity the year of the survey is 19.17%, (27.25% of sample males, 103 individuals; 13.52% of sample females, 73 individuals), whereas the percentage of respondents having done this activity in prior years increases to 38.9% (51.05% of sample males, 193 individuals; 30.56% of sample females, 165 individuals). Teams were mostly mixed. The rest of the students (irrespective of their level) were involved in the vote on students' projects presented to the contest. In particular, the BPC teams were obliged to upload a 2-minute presentation to the school's intranet and all students were able to vote for projects.

Regarding associations, the school encourages students to join associations from the start of their time at the school, and associations are considered part of the pedagogical programme since students obtain academic credits with participation.

As most academic activities analysed were required for all students, we must not expect selection effects based on previous EPA levels or gender. In this respect, rates of sample males and sample females coincided with percentages of sample males and sample females participating in required activities with influential people. Second, regarding the BPC, since this activity was required for 19.17% of sample students (elective for the rest from the second level), and 19.73% of students participated voluntarily in this activity submitting a business plan, selection effects are again not likely. Finally, since students obtain academic credits when participating in associations and these credits are required to complete the studies, it mitigates the potential self-selection problem of entrepreneurship-minded students, and so we expect similar proportions of male and female students in this activity as in the whole sample.

## **Measures**

### *Dependent variable*

To measure EPA, we used the same items as in the EIQ Scale by Liñán, Urbano, and Guerrero (2011), namely: (1) A career as an entrepreneur is not very attractive to me (reversed); (2) If I had the opportunity and resources, (3) I would love to start a business; (4) Among various options, I would rather be anything but an entrepreneur (reversed); (5) Being an entrepreneur would give me great satisfaction, and; (5) Becoming an entrepreneur would bring me more advantages than disadvantages. The questionnaire was translated into French by native speakers. We analysed the validity and reliability of scales to ensure the appropriateness of the survey instrument in the French version in a pre-test sample of 258 students. The instrument uses a seven-point Likert scale - from *strongly disagree* (1) to *strongly agree* (7) - to measure the scale items. An exploratory factor analysis was performed (principal components estimation with varimax rotation). The results show that both the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's Test of

Sphericity ( $\chi^2$ ) offer satisfactory levels (KMO=0.774;  $\chi^2=1396.1$  \*\*\*). The variance explained rises to 64.542%.

### *Explanatory variables*

We use the same definition of “programme-derived entrepreneurial inspiration” as Souitaris et al. (2007) and the students were asked the following question: “Do you remember any particular event or input at the school/faculty that drastically changed your “heart and mind” and encouraged you to consider becoming an entrepreneur?” (possible responses: yes/no). Although in general terms, several-point scales offer more nuanced information, we considered that scores taken from a Likert-type scale provide principally a directional component regarding to information obtained (agreement vs. not agreement) and, to a lesser degree, the intensity of the response (Matell and Jacoby 1971). In addition, variations in intensity can be conditioned by bias in responses, regardless of the direction (Peabody 1962). Since we consider that differences in the intensity component may increase due to memory bias related to different intervals between the time each academic activity was performed and the time the fieldwork was done (June 2015), we focused on the direction of students’ judgment about academic activities being, for them, inspirational triggers and omitted asking for the degree or intensity. Authors such as Matell and Jacoby (1971) and Willits, Theodori and Luloff (2016) consider the use of a 2-point Likert-type rating format (or an alternative format), in which respondents indicate whether they have an opinion (yes/no), as a valid way of determining the directional component of their responses. Proceeding in that way, we could be guaranteed of obtaining definite or unequivocal students’ responses about the academic activities that changed their “heart and mind” regarding entrepreneurship.

Concerning to the trigger-list, we followed Souitaris et al. (2007) by including: *the views of a professor, the views of an external speaker, the views of a visiting*

*entrepreneur, the views of classmates, preparation for a BPC, and the views of judges of the competition.* Additionally, to take advantage of the richness of activities organised by the school, we also included meeting would-be entrepreneurs and recent/young entrepreneurs, activities in a school/university association, and working on an interdisciplinary project. Students were able to tick more than one option from the list. As explained above, we classify inspirational triggers into two categories: (1) *derived from the participation in academic activities with influential people* (i.e., views of a professor, an external speaker, a visiting entrepreneur, judges of the competition; meeting would-be entrepreneurs, classmates), and (2) *derived from participation in academic activities that allow students to personally experience entrepreneurial projects* (preparation for a BPC; participation in an association at the school, and working on an interdisciplinary project). We used dummy variables to measure each specific inspirational trigger, which was coded “1” if the student marked this activity; otherwise, it was coded “0”.

For simplicity reasons, and given that the questionnaire was quite lengthy, we did not ask students about elements that were likely to have had an impact on the influence of the different triggers for student attitudes; for example, who the guest lecturer was (age, gender, experience), how the influential people spoke about things, how the different exercises were set up, etc. Psychology models, including the ELM, state that these elements can affect, for example, the effort individuals make in processing persuasive communication. This refined analysis, although very interesting, is beyond the scope of this paper.

#### *Control variables*

Following literature, we control for *work experience* (1=yes, 0=no) (e.g., Cooper 1993; Liñán and Chen 2009; Robinson et al. 1991) since it is an important source of

information that may be relevant in the decision to start a firm (Dahlqvist, Davidsson and Wiklund 2000; Liñán et al. 2016) and *role models* (1=knows at least one entrepreneur, 0=does not know any) (e.g., Carsrud 1992; Boyd and Vozikis 1994; Scherer, Brodzinsky, and Wiebe 1991) because they facilitate vicarious learning (Bosma et al. 2012). Both background factors provide entrepreneurial knowledge that might contribute to more realistic opinions on entrepreneurship (Ajzen 2002) and affect EPA. We classify role models depending on the relationship with the respondent (*family, friends or boss*).

Since attitudes are affected by personality traits (Ajzen 1991; Krueger et al. 2000), we also control for *initiative* and *empathy*, according to UNESCO, both attributes, among others, are considered “21st century” skills and capabilities (Scott 2015), and there have been multiple calls for educators to make changes to educational programmes to ensure that students develop these abilities in light of today’s economic challenges (Boyles 2012).

Initiative is a key interpersonal skill for entrepreneurship (Rubin, Bommer and Baldwin 2002) extensively associated with entrepreneurial success (Boyd and Vozikis 1994; Chen, Greene and Crick 1998; Frese 2007; Frese and Fay 2001; Sarasvathy, Simon and Lave 1998).

Empathy is a social skill that enables cooperative interaction to solve problems and create innovations through the “ability to read and manage the emotions of self and others” (Boyles 2012, p. 47). Previous literature documents a variety of benefits of empathy to entrepreneurship, including higher resilience when facing obstacles; more effective work with stakeholders and higher innovative capabilities, among other (Humphrey 2013).

We measure *initiative* and *empathy* by constructing factors composed of items selected from the Personal Attributes Questionnaire by Spence, Helmreich and Stapp

(1973). We used 5-point likert-type scales to measure *empathy*, ranging from “*I am not at all ...*” to “*I am very ...*”: *kind; helpful to others; aware of the feelings of others; understanding of others*, etc. The factor analysis was performed (principal components estimation) with varimax rotation. The results show that the Kaiser-Meyer-Olkin (KMO) test and Bartlett’s Test of Sphericity ( $\chi^2$ ) for empathy both offer satisfactory levels (KMO=0.781;  $\chi^2=1332.1^{***}$ ). The variance explained rises to 65.760%.

The factor for *initiative* includes three 5-point likert-type scales: “*I ...*” *am not at all independent/very independent; am very passive/very active; give up very easily/never give up easily*. The results show that the Kaiser-Meyer-Olkin (KMO) test and Bartlett’s Test of Sphericity ( $\chi^2$ ) both offer satisfactory levels (KMO=0.682;  $\chi^2=580.49^{***}$ ). The variance explained rises to 65.179%.

### **Data analysis**

Table A2 in the Appendix provides correlations between the variables. Based in the general rule of thumb that the correlation between the independent variables should not exceed 0.75 (Tsui, Ashford, StClair and Xin 1995), our results indicate that multicollinearity should not be a problem.

Since our research uses a single data source and cross-sectional data, which could result in a common method variance, we followed Podsakoff, MacKenzie, Lee and Podsakoff’s (2003) advice and pre-tested the questionnaire in a sample of 258 students to assure the respondents’ understanding of the questions. Later, students were guaranteed full anonymity, and finally, we ran the Harman’s one-factor test to check that common method variance was unlikely to have affected the significance of the relationships we measured. To run the test, we introduced all 24 variables measuring EPA (dependent variable), inspirational triggers (independent variables) and work experience, empathy, initiative, and role models (controls). We find five factors with eigenvalues greater than



1. The results remained the same whether we used principal-components factor analysis without rotation (total variance explained=49.59%) or with varimax rotation (total variance explained=49.59%), or principal-axis factor analysis with varimax rotation (total variance explained=37.540%). The first factor explains 17.69%, 14.20% and 11.28% of the total variance, respectively, suggesting that common method variance is unlikely to have confounded the interpretations of our results.

We did also mean-difference tests. Table 2 provides the results of an analysis to explore gender differences in the levels of EPA. As a robustness check, we also asked about the level of attractiveness of “running your own business” and “being employed by someone else”. In particular, students answered the following questions: “*Considering all the advantages and disadvantages (economic, personal satisfaction, social recognition, job security...), indicate the attractiveness of the following professional options from 1 (totally unattractive) to 7 (highly attractive): running your own business; being employed by someone else*”.

**Table 2. Descriptive statistics of comparison of entrepreneurial attitudes of female and male students**

Personal Attitude	Gender	N	Mean	SD	Confidence interval 95%		p-value
					Lower bound	Upper bound	
Entrepreneurial Personal Attitude (EPA)	Female	540	4.586	1.397	4.467	4.704	0.000
	Male	378	5.054	1.191	4.934	5.174	
Attractiveness of running own business	Female	540	4.331	1.764	4.182	4.481	0.000
	Male	378	4.937	1.679	4.767	5.106	
Attractiveness of being employed	Female	540	4.811	1.527	4.682	4.940	0.000
	Male	378	4.362	1.620	4.199	4.526	

We found significant gender differences in the mean scores for EPA. In line with previous literature (Santos et al. 2016; Kickul et al. 2008), men obtain higher mean scores than women. We also found significant differences in the degree of attractiveness of “running your own business”, which is higher for men. In contrast, the attractiveness of

“being employed by someone else” is higher for women. All these measures were collected at the end of the academic year.

To test our hypotheses, we ran regressions for the full sample and for female and male students (Models 1, 2 and 3, in Table 3), where the dependent variable is EPA, and the explanatory variables are the inspirational triggers. We also included personal attributes and other variables as controls to discover the additional variance of EPA explained by inspirational triggers. That is, we analysed the moderating effect of gender in Figure 1 by dividing our database in subsamples by gender and doing the regression analysis separately. Regarding this, Ajzen (2006) warns about the unlikeliness of increasing a target variable (EPA) if there is little room for change in such a target. Extending Jones et al.'s (2004) ideas, strengthening male students' EPA in a homogenous sample of male students enrolled at a business school who may already have a positive opinion about entrepreneurship may be ineffective because of a ceiling effect explaining the lack of significant effects. To test if that ceiling effect exists and is generating our results, we considered the male EPA mean as a cut-off point (5.054, in Table 2), selected a subsample of female students with EPA higher than this cut-off point (206 women with high EPA), and ran the linear regression analysis only for female students with high EPA (Model 4 in Table 3). Since results for the total female subsample are similar to the high EPA female subsample, we did not find evidence suggesting it is a ceiling effect (instead of gender moderating effect) causing the differences between the male and female subsamples.

Finally, to explore differences in the relationships between inspirational triggers and the EPA of female and male students at different academic levels, we did post-hoc tests with mean-difference tests. We selected participants from each academic level and for each inspirational trigger. We split the sample into two subsamples of students who

1) remember a particular event/input as an inspirational trigger and 2) do not remember this particular event/input as an inspirational trigger, and we studied differences in their EPA mean values. That is, we differentiated students that remembered a given academic activity as an event/input that had “changed their hearts and minds” and made them consider becoming an entrepreneur and those that did not remember the same academic activity as one that had “changed their hearts and minds”. We analysed male and female subsamples separately.

### **Results**

After validating the regression model’s assumptions, we estimated hierarchical lineal regression models (Table 3) for the full sample (Model 1), distinguishing between female and male students (Models 2 and 3, respectively). We entered control variables in step 1 and then inspirational triggers in step 2.

Five out of our six controls were relevant in explaining students’ EPA (Model 1, step 1). Comparing Models 2 and 3, we found gender differences in step one regressions: while *initiative* and *family role model* have the expected positive and significant influence on EPA for female and male students, *empathy* and *work experience* are only relevant for male students.

**Table 3. Linear regression analysis**

Variables	EPA Full Sample		EPA Female Students		EPA Male Students		High EPA Female Students	
	Model 1 N=918		Model 2 N=540		Model 3 N= 378		Model 4 N=206	
	Step 1 Controls	Step 2 Controls+ Main Effects	Step 1 Controls	Step 2 Controls+ Main Effects	Step 1 Controls	Step 2 Controls+ Main Effects	Step 1 Controls	Step 2 Controls+ Main Effects
<b>Controls</b>								
Work Experience	.64*	.66*	.024	.023	.124***	.120**	.039	.018
Empathy	.071	.077*	.010	.014	.230***	.229***	.069	.074
Initiative	.183***	.166***	.200***	.192***	.140**	.127*	.222***	.214***
Family Role Model	.152***	.160***	.131***	.136***	.160***	.165***	.140**	.172**
Friend Role Model	.69*	.52	.041	.015	.061	.059	.034	-.003
Boss Role Model	.69*	.51	.061	.049	.064	.051	.001	.023
<b>Inspirational triggers</b>								
The views of a professor		.064		<b>.100**</b>		.034		<b>.189**</b>
The views of an external speaker		.012		.054		-.042		-.128
The views of a visiting entrepreneur		.039		-.002		.070		-.008
The views of judges of the competition		-.058		-.073		-.052		-.105
Meeting would-be entrepreneurs or recent/young entrepreneurs		.054		<b>.126***</b>		-.031		.056
The views of classmate(s)		.030		.024		.021		.075
The preparation for a BPC		<b>.109**</b>		<b>.134***</b>		.085		<b>.134*</b>
Activities in a school/university association		.050		.063		.064		.042
Working on an interdisciplinary project		.009		-.013		-.012		-.091
$\Delta R^2$	12.5%	4.4%	8.7%	7.7%	22.8%	2.4%		6.1%
$\Delta F$	21.728	5.311	8.439	5.352	18.275	1.280		1.543
Final adjusted R <sup>2</sup>		15.5%		14.0%		22.1%		9.6%
$F$		12.248***		6.835***		8.146***		2.455**
Condition Number		8.555		8.444		9.127		11.791
VIF Lower -Upper limits		1.058-1.630		1.000-1.172		1.000-1.037		1.043-1.130

\*p < 0.10; \*\*p < 0.05; \*\*\*p < 0.01

The rise in the adjusted R<sup>2</sup> when including inspirational triggers is significant in all the regressions, especially for the full sample, with a 4.4% increase ( $\Delta F=5.311$ \*\*\*), female students, with a 7.7% ( $\Delta F=5.352$ \*\*\*), and male students with 2.5% ( $\Delta F=1.364$ \*).

The F-statistic and the Block Chi-square is significant for all samples at the  $p < 0.001$  level. All these statistics considered, the experience at the business school is particularly relevant for explaining females' EPA.

From Model 1 (step 2), inspirational triggers from the participation in academic activities with influential people such as professors (H1a), external speakers (H1b), visiting entrepreneurs (H1c), judges of competitions (H1d), classmates (H1e), and would-be entrepreneurs or recent/young entrepreneurs (H1f) do not influence students' EPA, so these hypotheses do not find support. Inspirational triggers from participation in entrepreneurial experiential learning activities, such as BPC (H3a) positively influence students' EPA, whereas the participation in student associations (H3b) and interdisciplinary projects (H3c) do not have an influence on EPA. Thus, H3a find support while H3b and H3c do not.

Concerning H2 and H4, the most remarkable observations relate to how gender differences impact the inspirational triggers for EPA. Results indicate that inspirational triggers have an impact at the  $p < 0.05$  level *only* on females' EPA, suggesting that these inspirational triggers are only effective for developing a positive attitude towards entrepreneurship in female students. Participation in academic activities with influential people only affect the EPA of female students, specifically with professors and recent or would-be-entrepreneurs. Results also show that participation in entrepreneurial experiential learning activities do not influence males' EPA, but only females' EPA. Results suggest that this influence is exerted by the preparation for a BPC. Overall results support H2 but not H4 because whereas activities with influential people have a stronger influence on female students, entrepreneurial experiential learning activities do not have such a strong influence on males' EPA.

**Post hoc tests: EPA comparison between students who remember and those who do not remember a given event/input as an inspirational trigger (by gender and academic level)**

We performed post-hoc tests, by academic level, with mean-difference tests for the EPA of male and female students who remembered a given school event/input as an inspirational trigger, compared to those who did not remember it as an inspirational trigger. While these tests only provide evidence of the relationships between variables, and not of influences or causes, they are useful to identify differences by academic level for female and male students. To do this, and after selecting students from a given academic level (first, second or third<sup>1</sup>) and gender (female or male), our sample was split into two subsamples by inspirational trigger: (1) students that remembered the trigger (the specific inspirational trigger variable is “1”); and (2) students that did not remember the trigger (inspirational trigger variable is “0”). Tables 4, 5 and 6 present results.

As with regressions, results suggest that the inspirational triggers are more relevant for female than for male students. At early educational stages (Table 4), none of the triggers are effective for males. The most effective triggers are participation in academic activities with people of higher legitimacy (professors, external speakers, visiting entrepreneurs, would-be entrepreneurs), compared to people with less legitimacy (classmates) and participation in entrepreneurial experiential learning activities.

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<sup>1</sup> Students from levels four and five, as well as from the master's, were excluded due to their low number for comparisons between gender.

**Table 4. Difference in means EPA by inspirational triggers. First-Year Students**

Inspirational Triggers	Female			Male		
	Average EPA= 4.59 (sd=1.31)			Average EPA= 4.87 (sd=1.22)		
	n=159			n=117		
	Remembered trigger	Non-remembered trigger	Differ. (p. value)	Remembered trigger	Non-remembered trigger	Differ. (p. value)
The views of a professor	5.53	4.39	<b>1.14***</b> ( <b>0.001</b> )	5.18	4.85	0.32 (0.497)
The views of an external speaker	5.73	4.38	<b>1.35***</b> ( <b>0.000</b> )	4.75	4.88	-0.13 (0.752)
The views of a visiting entrepreneur	5.50	4.41	<b>1.09***</b> ( <b>0.003</b> )	5.02	4.86	0.165 (0.683)
The views of judges of the competition*	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Meeting would-be entrepreneurs or recent/young entrepreneurs	5.41	4.45	<b>0.95**</b> ( <b>0.045</b> )	4.56	4.90	-0.33 (0.456)
The views of classmate(s)	4.48	4.96	0.48 (0.342)	5.00	4.87	0.128 (0.883)
The preparation for a BPC*	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Activities in a school/university association	5.29	4.47	0.82 (0.106)	6.00	4.84	1.16 (0.105)
Working on an interdisciplinary project	5.50	4.49	1.01 (0.447)	4.25	4.89	-0.64 (0.371)

\* Students do not have BPC in their first academic level.

However, on subsequent courses, participation in experiential learning activities, such as BPCs and associations in second and third years (Tables 5 and 6), are associated with higher levels of females' EPA. Participation in a BPC is the most important trigger for males, effective at both second and third year. The two other triggers playing a role for men are participation in associations and activities with influential people such as a visiting entrepreneur, but they are effective only in the third year.

**Table 5. Difference in means EPA by inspirational triggers. Second-Year Students**

Inspirational Triggers	Female Average EPA= 4.60 (sd=1.47) n=142			Male Average EPA= 5.24 (Sd=1.25) n=105		
	Remembered trigger	Non-remembered trigger	Differ. (p. value)	Remembered trigger	Non-remembered trigger	Differ. (p. value)
	The views of a professor	5.94	4.52	<b>1.42***</b> ( <b>0.008</b> )	5.28	5.23
The views of an external speaker	6.25	4.56	<b>1.69**</b> ( <b>0.049</b> )	5.37	5.22	0.15 (0.691)
The views of a visiting entrepreneur	5.57	4.55	<b>1.02*</b> ( <b>0.073</b> )	5.71	5.17	0.54 (0.164)
The views of judges of the competition	5.13	4.59	0.54 (0.611)	5.29	5.23	0.06 (0.913)
Meeting would-be entrepreneurs or recent/young entrepreneurs	5.56	4.57	0.99 (0.185)	5.27	5.23	0.04 (0.917)
The views of classmate(s)	4.25	4.60	0.35 (0.814)	5.50	5.22	0.28 (0.630)
The preparation for a BPC	5.80	4.51	<b>1.29***</b> ( <b>0.007</b> )	5.86	5.16	<b>0.70*</b> ( <b>0.077</b> )
Activities in a school/university association	5.90	4.50	<b>1.4***</b> ( <b>0.003</b> )	5.82	5.20	0.62 (0.200)
Working on an interdisciplinary project	6.00	4.58	1.42 (0.176)	5.69	5.22	0.47 (0.463)

**Table 6. Difference in means EPA by inspirational triggers. Third-Year Students**

Inspirational Triggers	Female Average EPA= 4.78 (sd=1.52) n=146			Male Average EPA= 5.13 (sd=1.19) n=122		
	Remembered trigger	Non-remembered trigger	Differ. (p. value)	Remembered trigger	Non-remembered trigger	Differ. (p. value)
	The views of a professor	5.25	4.76	<b>.442***</b> ( <b>.000</b> )	5.17	5.12
The views of an external speaker	5.57	4.70	<b>0.49**</b> ( <b>0.040</b> )	5.33	5.11	0.22 (0.592)
The views of a visiting entrepreneur	5.21	4.72	0.49 (0.221)	5.60	5.03	<b>0.57*</b> ( <b>0.093</b> )
The views of judges of the competition	4.50	4.79	-0.29 (0.621)	5.56	5.10	0.46 (0.287)
Meeting would-be entrepreneurs or recent/young entrepreneurs	6.18	4.68	<b>1.50***</b> ( <b>0.002</b> )	5.34	5.11	0.23 (0.597)
The views of classmate(s)	5.91	4.71	<b>1.2**</b> ( <b>0.031</b> )	5.67	5.10	0.57 (0.257)
The preparation for a BPC	5.73	4.69	<b>1.04**</b> ( <b>0.024</b> )	5.69	5.07	<b>0.62*</b> ( <b>0.086</b> )
Activities in a school/university association	5.54	4.71	<b>0.83*</b> ( <b>0.070</b> )	6.14	5.05	<b>1.09***</b> ( <b>0.008</b> )
Working on an interdisciplinary project	6.25	4.76	1.49 (0.170)	6.13	5.11	1.02 (0.234)



## **Discussion and Conclusions**

This work builds on the ELM to examine how nine different entrepreneurship academic activities at a business school impact students' EPA, paying special attention to gender differences and academic year. We find that women respond differently to academic initiatives designed to stimulate entrepreneurial attitude than do men (i.e., they recognise different inspirational triggers, and more of them). Our results suggest that the inspirational triggers are mainly effective for promoting female EPA, and that the degree of effectiveness differs depending on the academic year. Our results go beyond previous literature reporting gender differences in the influence of EE. The general finding is that education seems to have a greater effect on females than males (Kickul et al. 2008; Wilson et al. 2007), and Packham et al. (2010) finds that gender moderates the effectiveness of EE on EPA. But previous EE literature has neglected to say how EE achieves its aims and how the individual components of an EE programme (rather than EE as a monolithic unit) impact students (Bergmann, Hundt and Sternberg 2016; Fayolle & Gailly 2008; Liñán, Urbano, and Guerrero 2011; Martin, McNally and Kay 2013; Wilson et al. 2007). We contribute to the EE research with findings on nine academic activities that can become inspirational triggers and affect students' EPA differently, depending on gender and academic level (see Table A1), so unpacking the 'package' of EE. Specifically, according to the standardised Beta values, the most effective inspirational trigger for women is preparation for a BPC. Overall, we find that the positive impact of experiential learning activities is larger for females than for males (women obtain more positive signs with higher significances), contrary to what was expected. We contribute to the work of Pittaway and Cope (2007), and Pittaway et al. (2010, 2015), by showing that EE can benefit from the use of experiential learning activities not only because they promote

entrepreneurial learning, but also because they are effective as *inspirational triggers* and for overcoming gender stereotypes about entrepreneurship, especially BPCs.

Relatedly, previous research finds that the effects of prior experiences - like participation in experience-based activities - are larger on the perceived self-efficacy of women than men (Scott and Ciani 2008). As previously argued, women tend to perceive a larger entrepreneurial knowledge gap than men (Barnir et al. 2011). In this case, the practising of entrepreneurial skills somehow *overcomes* a much larger informational gap among women and could explain the greater change in women perceived self-efficacy, and in turn EPA. Along this line, social cognitive theory and social cognitive career theory (Lent et al. 1994) suggest that perceived self-efficacy is developed through (successful) task completion (besides observing others complete tasks or being encouraged by respected others; Bandura 2001; Lent et al. 1994; Barnir et al. 2011).

According to the ELM, this activity corresponds to the central route and it likely generates stronger and more enduring effects. Participating in such an intensive engagement, jointly with teachers and entrepreneurs, helps students start to develop their identities as entrepreneurs (Pache and Chowdhury 2012). In effect, EE demands a strong experiential component because much entrepreneurial knowledge is tacit and difficult to codify (Tracey and Phillips 2007). Our results for women also align with previous research which finds that female students perceive the ability to prepare business plans as the most important skill for initiating entrepreneurial activity (Petridou et al. 2009). The preparation for a BPC over a three-month period within a stable group can be viewed as a community providing references for social comparison. This is particularly helpful for females in training this skill, which they perceive as vitally important, and to “comprise relationships that can offer feedback and serve as ‘emotional anchors’ in the process of personal learning” (Higgins and Kram 2001, p. 278, cited in Petriglieri and Petriglieri

2010). In addition, meeting would-be entrepreneurs or recent/young entrepreneurs and the views of professors are also very relevant for women. These results suggest that their entrepreneurial expertise is particularly relevant as a peripheral cue and influences women's EPA. Regarding professors, one possible explanation according to the ELM might be the repeated nature of the students' contact with them. Teachers can play a crucial role in making female students feel that entrepreneurship is an attractive option. Previous research finds that female students have more of a need for mentoring and tutoring structures (Klyver and Grant 2010; Petridou et al. 2009; Tynan et al. 2009), and that women prefer close or intimate role models to those more distant and not personally known to them (Singh et al. 2006). Regarding would-be-entrepreneurs, they probably enhance students' feelings of "personal relevance", since they are likely to be of a similar age to the students themselves, allowing students to visualise themselves as potential entrepreneurs. These recent entrepreneurs are probably able to transmit their enthusiasm to students and increase their attraction towards entrepreneurship. Other studies also highlight that (in this case, symbolic) role models should be similar to potential entrepreneurs in some way (Krueger and Brazeal 1994; Lockwood and Kunda 1997; Byrne et al. 2019) so that it is easy for potential entrepreneurs to identify with them.

No academic activity proves to be effective as an inspirational trigger for men, suggesting that it is the student's circumstances prior to entering the business school that conditions their EPA. Therefore, the EPA of men is less malleable through business school's academic activities than is the case for women. In addition, when academic activities are required and teachers focus on "average" students (in our case, not on female students with lower EPA, nor on male students with expected higher EPA), convergence effects may appear (Fayolle and Gailly 2015). The weak impact of inspirational triggers involving the views of influential people on males' EPA could be explained by the socialisation of males to be more independent and competitive than females (Zelezny et

al. 2000; Carrier 2009); they internalise this self-concept and develop this role (Ozden 2008).

We also find that factors such as initiative, family role model, empathy, and work experience condition male EPA, which suggests that there is even more explained variance in the estimated models for male EPA than for female EPA, or for full samples. For females, in turn, the inspirational triggers have a significant effect on EPA. According to the ELM, it might be that men believe, in general, that they have more prior entrepreneurial knowledge than women and have a less malleable entrepreneurial attitude. This could produce a hysteresis effect and explain why some studies do not find a positive impact of EE on the target variable (in our case the entrepreneurial attitude) (Fayolle and Gailly 2015; Nabi et al. 2018). In the case of male students already having a higher EPA, we suggest that these activities serve mainly to provide students with opportunities to learn and incubate resources and less to inspire them (Souitaris et al. 2007).

Concerning the academic journey through school, our exploratory analysis suggests that at early educational stages, women's EPA is related mainly to triggers derived from participation in academic activities with influential people who transmit their views and testimonials to students. However, at subsequent stages, triggers based on participation in experiential academic activities (i.e., BPCs and associations in second and third years) also acquire relevance. These results suggest that participation in experiential activities reinforces female students' attraction towards entrepreneurial careers only after these entrepreneurial careers are validated by the views of influential people. For example, the views of a professor or an external speaker are associated with higher levels of female EPA at all academic levels. We believe this may indicate that women have a less developed view of their career options as entrepreneurs at the time of

entering business school. The views of influential people may be very relevant in helping women realise entrepreneurship is a realistic option for them, with these activities generating and reinforcing that idea during every academic year at the business school. Indeed, previous literature suggests that these types of activities are helpful in raising business students' awareness of the different dimensions of entrepreneurship by exposing them to the real-life entrepreneurial experiences of guest speakers (Pache and Chowdhury 2012). Only after assimilating the idea that entrepreneurship is a realistic option for them do women receive additional persuasion from other learning activities based on experiential learning that require more significant mental effort to process the information and messages involved, raising awareness of entrepreneurship. Also remarkable is the large and highly significant coefficient for meeting would-be-entrepreneurs and the views of classmates in the third year for women, suggesting that, at later educational stages, similar reference people are particularly effective triggers. Would-be-entrepreneurs help female students imagine themselves as entrepreneurs when approaching graduation, and classmates form relevant sentient communities that facilitate identity work by providing social comparison, feedback and reassurance (Parker et al. 2004; Gersick et al. 2000).

In contrast, participation in a BPC is the most important 'triggering' element for male students, while participation in school activities or associations and in activities with visiting entrepreneurs are effective only in the third year. This may indicate that the majority of male students have already considered entrepreneurship as a viable option for themselves before entering the business school. They can get inspiration at late educational stages through those learning activities that allow them to train in entrepreneurial competences (i.e., participation in BPCs and in school activities or associations) and, to a lesser degree, while listening to visiting, experienced entrepreneurs.

In addition, according to the ELM, as the relevance a person gives to an issue decreases, peripheral cues (in our case, the views of influential people) become “relatively more important determinants of persuasion.” (Petty and Cacioppo 1986, p. 152). Conversely, as scrutiny of an argument intensifies, peripheral cues become relatively less important determinants of persuasion (Petty and Cacioppo 1986, p. 152). In our case, personal relevance regarding becoming an entrepreneur increases when approaching graduation. Thus, it might be that the views of influential people have more impact at early educational stages than at later educational stages. At later educational stages, students’ *argument scrutiny* is expected to be higher, and direct experience (enabling argument scrutiny) might become more relevant.

It is possible to establish some parallelism between these differences in the impact of inspirational triggers, depending on the academic year, and previous research such as Tracey and Phillips (2007), proposing an approach to integrate (social) entrepreneurship students into EE involving techniques such as case analysis and entrepreneurship speaker engagements at early educational stages, and business planning and social enterprise internships at later stages. The logic behind this order is probably the maturity and knowledge gained by students, and the consolidation of their entrepreneurial identity throughout their academic journey. Relatedly, we find that the only relevant inspirational triggers (and only for women) in the first year are views of influential people, and that experiential learning activities start to have an impact in the second year and are the most relevant triggers for both men and women in the third year.

### **Practical implications**

Scholars have argued that EE should consider the beliefs of women about entrepreneurship (Bird and Brush 2002; Byrne and Fayolle 2010; Liñán, Rodríguez-Cohard, and Rueda 2011; Santos et al. 2016) acquired from childhood through

socialisation, learning experience and the educational system (Strobl et al. 2012), and our study offers several practical implications for academic institutions. Our results suggest that to effectively support female entrepreneurship, it is vital to take into account gender differences in the impact of inspirational triggers on EPA so that activities can be properly designed to overcome gender stereotypes regarding entrepreneurship and effectively reach female students (Table A1 in the Appendix). First, results indicate that the inspirational parts of programmes play a role in developing attraction toward entrepreneurship among students and must, therefore, be carefully designed to have the largest impact. In general, the need to consider gender and academic level differences is advisable when designing initiatives to promote entrepreneurship through the development of positive attitudes toward entrepreneurial careers. Second, results from our post-hoc exploratory analysis also indicate that the most effective long-term activity for promoting EPA in female students is preparation for a BPC, particularly for second- and third-year students. Hence, academic institutions wishing to foster female EPA should combine long-term academic activities such as BPCs with the promotion of close contact with ‘reference people’ by organising events at the institution that favour networking. In addition, they should focus on developing women’s abilities and feelings, since results indicate that they play a key role in explaining female attraction toward entrepreneurship. Third, and in essence, the results point to the importance of training teachers not only to teach entrepreneurship, but also to “inspire” students and encourage them to seriously consider becoming an entrepreneur by overcoming gender stereotypes.

The practical implications mentioned above can help inspire educators in the planning of suitable academic activities at each academic level that can become inspirational triggers and promote female (and male) EPA, and could be very useful for shaping policies that must continue to focus on providing women with a higher level of infrastructural support to facilitate their decision to start up their own venture (Marlow

and Patton 2005), as well as to promote EE, which must play a vital role in the advocacy of female entrepreneurship (Kickul et al. 2008; Wilson et al. 2007).

### **Limitations and Future Research**

This work suffers from some limitations that, if properly addressed, might help to advance future research. Firstly, we use a cross-sectional design; future research could introduce longitudinal methodologies to study the impact of inspirational triggers on the evolution of male and female students' EPA and EI during their time at the school and of their subsequent entrepreneurial behaviour after leaving the school. According to the ELM, it should be of special interest to study differences in the lasting effects of inspirational triggers that change attitudes through the central route and the peripheral route. In addition, while we find that BPCs are effective at increasing EPA, some research warns that such activities, being core to EE, have not provided enough evidence for their value as predictors of future entrepreneurial success. For example, neither at the individual level (Honig, 2004) nor at the firm level in the context of nascent organizations, and when investigating outcomes of business planning (Honig and Karlsson, 2004), are relationships between BPCs and entrepreneurial success found; so future research may benefit again from the use of longitudinal designs to advance in the study of such relationships.

Secondly, this research does not consider the gender and experience of influential people participating in academic activities or other issues related to the planning and performing of academic activities. For example, we do not consider the nature of the message by influential people or the information during other activities, which could be either female- or male-gendered, since it is difficult to codify questions regarding this aspect in a survey. However, previous studies suggest that this influences EI, work identity development, the impact of role models and gender differences in business



opportunity evaluations (Ahl 2006; Singh et al. 2006; Gupta et al. 2008; Gupta et al. 2014; Sealy 2010).

Thirdly, considering Higgins's (1998) distinction between the goals of promotion and prevention, a limitation of this work relates to the absence of information on the content of activities that could determine their focus on promotion - e.g., attaining gains, achievement, advancement, customer acquisition - and/or prevention - e.g., maintaining non-losses, safety, responsibility, security, customer retention -. Future research could also consider the content of academic activities to try to identify those activities that trigger focus on promotion or prevention among males and females. In effect, given that focus on promotion positively affects start-up funding, while focus on prevention negatively affects it, this has strong implications for entrepreneurial investment decisions (Kanze et al. 2018).

Fourthly, we focus on biological sex, and not on gender defined as “what is regarded as masculine or feminine and is independent of a person's biological sex.” (Ahl 2006, p. 596). For instance, Severiens and Ten Dam (1997) find that gender identity can explain different uses of learning styles, and Liñán et al. (2020) find that gender-role orientation affects female entrepreneurial activity. Additionally, and regarding the teams of students that participated in the BPC, neither their composition (e.g., number of members, gender, complementary background, cultural diversity, etc.) nor processes (e.g., communication, conflict management, cooperation, participatory decision-making, etc.) were considered. Future research could incorporate the above elements in the analysis. It seems plausible to expect that female speakers will have a greater impact on female students (Rocha and Praag, 2020).

Lastly, we limit our analysis to students at a single business school located in France; results could be conditioned by the academic and geographical context. We

recommend comparing our results with other business schools and geographical locations. Future research could extend our analysis to other academic institutions and countries and compare results to check for generality of results. Our context (the school) and sample are gender-balanced, but according to Dresden et al. (2018), it would be of interest to explore changes in the impact of activities on female and male EPA depending on the context: male-dominated vs. female-dominated. Furthermore, future research could test whether the composition and processes of student teams moderate the influence of students' team-based activity participation in strengthening their EPA. As moderating factors, team composition and team processes will allow researchers to address issues such as "when" or "for whom" (Frazier et al. 2004, p. 116) participation in the BPC will strengthen entrepreneurial attitude.

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**TABLE A1. Overview of Inspirational Triggers and Students' EPA**

INSPIRATIONAL TRIGGERS		BRIEF DESCRIPTION	REFERENCES	FINDINGS OF THIS RESEARCH: SIGNIFICANT RELATIONSHIPS BETWEEN INSPIRATIONAL TRIGGERS AND STUDENTS' EPA BY GENDER					MAIN ARGUMENTS TO EXPLAIN EFFECTS OF INSPIRATIONAL TRIGGERS ON EPA		
				Gender	Statistical estimation technique			1 <sup>st</sup>		2 <sup>nd</sup>	3 <sup>rd</sup>
					Linear Regression Models	Difference in Means by academic year					
						1 <sup>st</sup>	2 <sup>nd</sup>				
PERIPHERAL ROUTE: THE VIEWS OF INFLUENTIAL PEOPLE	Views of a professor	Interactions with professors during lectures and all the related activities lead by professors.	Byrne et al. (2019); Cherulnik et al. (2001); Klyver and Grant (2010); Koh et al. (1995); Petridou et al. (2009); Radu and Loué (2008); Singh et al. (2006); Souitaris et al. (2007); Tynan et al. (2009).	Women	+	+	+	+	Professors are leaders for students and may have an influence on them; they are likely to generate enthusiasm for entrepreneurship and 'emotional contagion'; they can act as symbolic role models that help in the development of students' entrepreneurial identity. Female students have more of a need for mentoring and tutoring structures and prefer close or intimate role models to those more distant and not personally known.		
				Men							
	Views of an external speaker	Interactions with external speakers (academics, researchers, public officials...) invited by the school to give speeches and share their views and testimonials with students.	Byrne et al. (2019); Pache and Chowdhury (2012); Radu and Loué (2008); Souitaris et al. (2007).	Women		+	+	+	Students' exposure to views and testimonials of influential people such as external speaker that show positive outcomes of entrepreneurial activity convey enthusiasm for entrepreneurship. They can act as symbolic role models that help in the development of students' entrepreneurial identity. The views of influential people may be very relevant in helping women realise entrepreneurship is a realistic option for them, with these activities generating and reinforcing that idea during every academic year at the business school.		
				Men							
	Views of a visiting entrepreneur	Interactions with visiting entrepreneurs invited by the school to give speeches and share their views and testimonials with students.	Byrne et al. (2019); Pache and Chowdhury (2012); Radu and Loué (2008); Souitaris et al. (2007).	Women		+	+		Students' exposure to views and testimonials of visiting entrepreneurs has similar effect than the exposure to external speaker, as they both are influential people that may show positive outcomes of entrepreneurial activity (see file above). The exposure to the real-life entrepreneurial experiences of visiting entrepreneurs is helpful in raising business students' awareness of the different dimensions of entrepreneurship and particularly in helping women during the first and second course at the business school realise that entrepreneurship is a realistic option for them		
				Men				+			
	Views of judges of a competition*	Interactions with the members of the BPC jury (teachers or business executives) before of which students must orally defend their business.	Byrne et al. (2019); Radu and Loué (2008); Souitaris et al. (2007).	Women		N.A.			Students' exposure to views and testimonials of other influential people such as judges of a competition may also convey enthusiasm for entrepreneurship among the students. The perspective that comes from being evaluated by experienced executives, willing to contribute their time to advise them, generates a feeling of empowerment and a climate of recognition, resulting in a supportive learning environment. Although such positive effect is found for women in the second		
				Men		N.A.					

INSPIRATIONAL TRIGGERS	BRIEF DESCRIPTION	REFERENCES	FINDINGS OF THIS RESEARCH: SIGNIFICANT RELATIONSHIPS BETWEEN INSPIRATIONAL TRIGGERS AND STUDENTS' EPA BY GENDER					MAIN ARGUMENTS TO EXPLAIN EFFECTS OF INSPIRATIONAL TRIGGERS ON EPA
			Gender	Statistical estimation technique				
				Linear Regression Models	Difference in Means by academic year			
					1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
							course and for men in the third course, such effect is not statistically significant.	
<b>Meeting would-be entrepreneurs or recent/ young entrepreneurs</b>	Interactions with visiting entrepreneurs invited by the school to give speeches and share their views and testimonials with students.	Byrne et al. (2019); Krueger and Brazeal (1994); Lockwood and Kunda (1997); Radu and Loué (2008).	<b>Women</b>	+	+		+	These types of entrepreneurs are particularly able to transmit their enthusiasm to students and allow them to recognise and imagine themselves as potential entrepreneurs because they are of a similar age. Can act as symbolic role models that help in the development of students' entrepreneurial identity. Symbolic role models should be somehow similar to potential entrepreneurs so that it is easy for students potentially entrepreneurs to identify with them. At different educational stages, similar reference people are effective triggers particularly for women.
			<b>Men</b>					
<b>Views of classmate(s)</b>	Interactions with classmates in the school	Bergmann et al. (2016); Souitaris et al. (2007); Parker et al. (2004); Gersick et al. (2000).	<b>Women</b>				+	Classmates are 'reference people' for students. (1) higher numbers of students participating in academic activities related to entrepreneurship convey to all the students the message that the school encourages entrepreneurship and that becoming entrepreneurial is a desired behaviour; (2) if comparable peers engage in entrepreneurial academic activities and increase their favourability towards entrepreneurship, students might also consider this option for themselves. At later educational stage, similar reference people are particularly effective triggers for women. Classmates become relevant sentient communities that facilitate identity work by providing social comparison, feedback, and reassurance.
			<b>Men</b>					

CENTRAL ROUTE: THE ENTREPRENEURIAL EXPERIENTIAL LEARNING ACTIVITIES									
CENTRAL ROUTE: THE ENTREPRENEURIAL EXPERIENTIAL LEARNING ACTIVITIES	<b>BPC Preparation*</b>	Students work in teams of 3 to 4 members to develop a viable entrepreneurial project. Later, students work collaboratively on building a business plan, coached by teachers and professionals, over 3 months. Next, students must orally defend their business plan before an internal jury composed of teachers from the school in the first round, and of business executives in the second round, to qualify for a €3500 prize. Entrepreneurs participate in examination juries and validate all the steps of the project. Entrepreneurs might also become sponsors.	Bandura (2001); Barnir et al. (2011); Higgins and Kram (2001); Lent et al. (1994); Miller and Rice (1967); Pache and Chowdhury (2012); Petridou et al. (2009); Petriglieri and Petriglieri (2010); Scott and Ciani (2008).	<b>Women</b>	+	N.A.	+	+	Long-lasting sentient communities facilitate identity work. In addition, personal experience of a reality facilitates individuals' evaluations of the merits of such a reality and the resulting change in related attitudes, such as entrepreneurial attitude. Accordingly, action learning activities positively affect students' EPA. The effects of prior experiences -like the entrepreneurial experience acquired with the participation in experience-based activities- are larger on the perceived self-efficacy of women than men. Women tend to perceive a larger entrepreneurial knowledge gap than men, and the practising of entrepreneurial skills somehow overcomes a much greater informational gap among women and could explain the greater change in women perceived self-efficacy, and in turn EPA. Social cognitive theory suggest that perceived self-efficacy is developed through (successful) task completion (besides observing others complete tasks or being encouraged by respected others). Participating in such an intensive engagement, jointly with teachers and entrepreneurs, helps students start to develop their identities as entrepreneurs. Female students perceive the ability to prepare business plans as the most important skill for initiating entrepreneurial activity. The preparation of a BPC over a three-month period within a stable group can be viewed as a community, providing references for social comparison and help females train this skill.
				<b>Men</b>		N.A.	+	+	
	<b>Activities in a school/ university association</b>	Students participate in different types of associations, including sports, cultural, professional, and humanitarian, among others. Associations organize events such as workshops and competitions, search for sponsors of events, manage funds and do networking. The school encourages students join associations or to create their own from the start of their tenure at the school. The participation in associations give academic credits.	Padilla-Angulo et al. (2019); Pittaway et al. (2010); Petriglieri and Petriglieri (2010).	<b>Women</b>			+	+	University associations simulate aspects of entrepreneurial learning such as 'learning by doing' and social learning and so boost EPA. When students create associations at school and boost those already exiting by designing and developing collective activities to reach an end, they are behaving as entrepreneurs. Participation in entrepreneurship clubs and societies, a type of student association, positively impacts student self-efficacy. In addition, participation in university associations may help the student members who demand and receive loyalty from other members experience belonging to the community of "entrepreneurs" and project themselves as actual entrepreneurs, facilitating identity work. At later educational stages, participating in university associations is an effective trigger particularly for women.
				<b>Men</b>				+	
	<b>Work in interdisciplinary project</b>	Participation in projects (e.g., course group assignments...) were students from different programs at the school are mixed. It involves the election of group members, in-class and outside class group work, writing of reports and oral presentations.	Padilla-Angulo et al. (2019); Thornburg (1991); King and Anderson (1990) Payne (1990) Alves et al. (2007)	<b>Women</b>					Group diversity fosters creativity and innovation and entrepreneurship is an act of creativity and innovation, and. Thus, interdisciplinary diversity during activities at business schools may increase students' EPA. Such positive effect is found for women in the first, second and third course and for men in the second and third course, albeit the effect is not statistically significant.
				<b>Men</b>					

Note: \* Students do not have BPC in their first academic level.

**Table A2. Pearson Correlations and p-statistics among model variables**

	1	2	3	4	5	6	7	8	9	10	11	12.	13	14	15	16
1.EPA	1															
2.Work Experience	.147*** (0.000)	1														
3.Initiative	.203*** (0.000)	.208*** (0.000)	1													
4.Empathy	.278*** (0.000)	.254*** (0.000)	.587*** (0.000)	1												
5.Family role model	.209*** (0.000)	0.057 (0.085)	0.061 (0.066)	.151*** (0.000)	1											
6.Friend role model	.157*** (0.000)	.141*** (0.000)	.116*** (0.000)	.196*** (0.000)	.190*** (0.000)	1										
7.Boss role model	.129*** (0.000)	.074** (0.025)	-0.014 (0.673)	.104*** (0.002)	.167*** (0.000)	.154*** (0.000)	1									
8.Views professor	.131*** (0.000)	0.016 (0.638)	-0.037 (0.268)	-0.017 (0.604)	0.027 (0.415)	0.026 (0.426)	0.010 (0.759)	1								
9.Views external speaker	.117*** (0.000)	-.067* (0.042)	0.006 (0.864)	0.004 (0.907)	0.039 (0.241)	.078** (0.018)	0.012 (0.720)	.329*** (0.000)	1							
10.Views visiting entrepreneur	.150*** (0.000)	-0.011 (0.740)	-0.015 (0.644)	0.021 (0.533)	0.044 (0.183)	.066** (0.047)	0.044 (0.187)	.332*** (0.000)	.457*** (0.000)	1						
11.Views classmate	.094*** (0.004)	-0.034 (0.299)	-0.032 (0.333)	0.010 (0.759)	-0.038 (0.247)	0.029 (0.381)	0.028 (0.401)	.286*** (0.000)	.309*** (0.000)	.220*** (0.000)	1					
12.Views would-be entrepreneur	.124*** (0.000)	-0.038 (0.245)	-0.013 (0.688)	0.025 (0.447)	0.019 (0.564)	0.054 (0.101)	0.043 (0.197)	.276*** (0.000)	.279*** (0.000)	.367*** (0.000)	.176*** (0.000)	1				
13.BPC	.158*** (0.000)	0.015 (0.653)	0.037 (0.260)	.066** (0.046)	-0.054 (0.104)	0.059 (0.073)	0.032 (0.330)	.149*** (0.000)	.271*** (0.000)	.320*** (0.000)	.242*** (0.000)	.186*** (0.000)	1			
14.Views judges competition	0.028 (0.403)	-0.046 (0.166)	-0.029 (0.374)	0.023 (0.490)	-0.043 (0.197)	0.017 (0.615)	0.022 (0.499)	.158*** (0.000)	.182*** (0.000)	.180*** (0.000)	.237*** (0.000)	.217*** (0.000)	.364*** (0.000)	1		
15.Activities association	.160*** (0.000)	0.056 (0.090)	.080** (0.015)	.141*** (0.000)	-0.044 (0.180)	.078** (0.018)	0.046 (0.168)	.303*** (0.000)	.237*** (0.000)	.320*** (0.000)	.363*** (0.000)	.205*** (0.000)	.348*** (0.000)	.313** (0.000)	1	
16.Interdisciplinary project	0.048 (0.144)	-0.035 (0.283)	-0.049 (0.135)	-0.033 (0.322)	-0.003 (0.925)	0.012 (0.708)	0.008 (0.802)	.157*** (0.000)	.159*** (0.000)	.141*** (0.000)	.133*** (0.000)	.123*** (0.000)	.135*** (0.000)	0.059 (0.075)	.135*** (0.000)	1

Notes: Pearson correlations, where \* Significant at 10%, \*\*Significant at 5%, \*\*\*Significant at 1%.