What kind of mentors do female would-be entrepreneurs need ?

Bonanni, Carole

Rennes Business School, Rennes, France

2 Rue Robert d'Arbrissel, 35065 Rennes

Stervinou, sandrine

Audencia Business School, Nantes, France

8 route de la Jonelière

44312 Nantes

Résumé :

Although empathy in entrepreneurship has been well documented, there is a lack of understanding of how empathy influences the attitude toward entrepreneurship and the willingness to be mentored. This paper aims to fill this gap by investigating how the types of empathy (cognitive vs. affective) and entrepreneurship (social vs. for-profit) influence respondents' *willingness to be mentored* considering the respondents' gender, and more precisely, which types of entrepreneur could positively influence women willingness to become an entrepreneur. Drawing on the personal identification literature and the entrepreneurship literature on attitude and intention, we measured the respondent's "*willingness to be mentored*" through four experiments by manipulating the type of empathy and entrepreneurship and comparing its effect between male and female respondents.

Our main theoretical contributions are twofold. We first differentiate between a new construct, "*willingness to be mentored*," and "*attitude toward entrepreneurship*." The second contribution is to posit that there is a gender difference in the willingness to be mentored based on the type of empathy displayed by the entrepreneur.

Mots-clés : Gender ; Empathy; Mentoring; Social entrepreneurship; Experiments

What kind of mentors do female would-be entrepreneurs need ?

1.INTRODUCTION

While some studies report that the number of female founders is increasing in the start-up industry, they are still underrepresented. Women overall tend to display less intention to become entrepreneurs, and when they launch their ventures, they tend to face more barriers and some form of systemic discrimination (Afandi and Kermani, 2015). Annie Parker, the Director of Equity and Inclusion at Microsoft for Start-ups, emphasizes that one of the barriers is the lack of role models: "*We learned that one of the major barriers to women and other unrepresented founders in feeling confident that they can be successful is a lack of relatable heroes and other founders who look like them*." Women need adapted coaching / mentoring to help them navigate the system and, above all, inspire them to become entrepreneurs. This study investigates what type of entrepreneur could be considered by women as potential mentors and could influence their attitude towards entrepreneurship. We focus on two characteristics of the potential entrepreneur-mentor: the orientation of their business (for-profit versus social) and the level and type of empathy displayed.

From the entrepreneurship literature, mentoring has been shown to improve self-efficacy (Chen et al., 1998), fill gaps in pre-entry knowledge and experience (Assenova, 2020), and facilitate entrepreneurial competency building. From the personal identity literature, the similarity-attraction paradigm has been used to explain the success of mentoring. The role of perceived similarity is an essential factor in predicting the quality of the relationship in a mentoring program. We measure the perceived similarity using one specific construct: the level and type of empathy.

Baron (2008)'s research indicated that affect plays an essential role in the entrepreneurial process from opportunity recognition to resource acquisition. More recently, Packard and Burnham (2021) claimed that more than affect, it is the empathy defined as "*vicarious mental simulation of another's experience*" (p. 1) that facilitates the opportunity recognition. We posit that cognitive empathy (i.e., perspective taking) and affective empathy (feelings of compassion or caring) may play an important role in entrepreneurship. This categorization of

cognitive versus affective empathy correspond roughly to the two aspects of empathy suggested by other researchers (Clark, Robertson and Young, 2019; Eisenberg and Miller, 1987; Romani, Grappi & Bagozzi; 2013). We posit that male and female respondents may be sensitive to different empathy types displayed by potential mentors.

Before testing this assumption through an experiment with students from business schools, we first review how gender stereotyping and the lack of role models appealing to women hinder female entrepreneurship. Second, we look at the role of empathy in entrepreneurship, differentiating between for-profit vs. social entrepreneur, and underline the importance of affective empathy to succeed as a social entrepreneur.

To test this assumption, we develop four scenarios considering the types of entrepreneurs (social vs. for profit) and the kind of empathy (cognitive vs. affective), which are tested on a sample of 351 students from business schools in six countries (France, Italy, Columbia, Brazil, China, and India)

The results support that female respondents intrinsically prefer entrepreneurs that display affective empathy as potential mentors. Their positive attitudes are even stronger when considering social entrepreneurs displaying affective empathy. These findings contribute to the field of study on entrepreneurship from different perspectives. First, the results contribute to improving our understanding of current literature on the factors that could influence entrepreneurship among women. Second, this study highlights the necessity to consider empathic ability as a key factor in entrepreneurship. Third, by considering both the personal identification literature and the entrepreneurship literature, we refine the construct attitude towards entrepreneurship by splitting it into two constructs: the construct attitude towards entrepreneurship per se and the willingness to be mentored by the entrepreneur. Third, empirically, this is the first study to emphasize the importance of signaling empathy for start-uppers.

2.HOW GENDER STEREOTYPING AND THE LACK OF FEMALE ROLE MODELS BREAK DOWN FEMALE ENTREPRENEURSHIP?

When considering the process of developing a new venture, women tend to face stereotyping. Studying eight countries in Europe, Bernard et al. (2013) concluded that gender plays a specific role in entrepreneurship despite the contextual and sociodemographic determinants. Besides, women who are launching a business venture tend to face various forms of

discrimination. An OCDE/EU Note (2017) emphasized that women are still considered less legitimate than men to launch a business, which constitutes an obstacle to mobilizing resources and developing the entrepreneurial project. Many studies have tried to explain the reasons for these discrepancies in order to propose some specific policies to sustain female entrepreneurship. Marlow and Patton (2005, p. 729) stated: "that women entrepreneurs experience barriers related to their gender when seeking finance." They recommend working on stereotypes to overcome such discrimination. One enduring stereotype is that women should display more risk aversion than men, which would lead them to select smaller projects (Cornet and Constantinidis (2004)) and rely less on external funding (Orser and al. (2006)). Social expectations seem to lead to behavior that results in women reporting lower intentions of becoming entrepreneurs and, therefore, lead to a low percentage of women among entrepreneurs. However, this underrepresentation does not preclude the fact that when it comes to business performance, as Fischer and al. (1993) mentioned, women entrepreneurs are as successful as their male counterparts. Women's performance is even higher than men's when leading large enterprises (Bernard et al., 2013). There is just one difference in the way their business is developing. Men try to grow their business, and women try to stabilize it (Cornet and Constantinidis, 2004). Gupta and al. (2019), working on sex-role stereotypes about high-growth, for-profit, and social entrepreneurs, concluded that for-profit high-growth entrepreneurship is most strongly male-typed, but there is no gender stereotype concerning social entrepreneurs.

To overcome the under-representation of women in entrepreneurship, we investigate in this study if women are more sensitive to a certain type of entrepreneur as potential role models. Previous studies (Martínez, Bañón, & Laviada (2019) and Pangriya (2019)) have demonstrated that the knowledge of another entrepreneur that has similar value has a positive influence on the intention to become an entrepreneur.

3.HOW EMPATHY IMPACTS ON ENTREPRENURSHIP?

1.1.TWO TYPES OF EMPATHY: COGNITIVE VS. AFFECTIVE

Empathy is a multifaceted term that includes the "*sensitivity to, and understanding of, the mental states of others*." (Smith, 2006: 3), and at a higher-order the ability to adopt another person's point of view (Hogan, 1969). In Psychology, since the late 1950's, empathy is

divided into two major dimensions, the cognitive one and the affective one (Clark, Robertson, & Young, 2019). Clark and al. (2019) explain that cognitive empathy consists of understanding another person's internal state, and affective empathy is about sharing another person's affective state. Affective empathy is characterized by sharing the other's emotional state, and possibly to help him/her overcome his/her ordeal. On the other hand, cognitive empathy is about rationally understanding the minds, beliefs, intentions, or needs of others without sharing their emotional state. Smith (2006) considers that affective empathy motivates humans to behave altruistically towards others and is related to compassion or sympathy, while cognitive empathy facilitates conversation and social expertise. Cognitive empathy is related to the theory of mind and can be defined as the ability of perspective-taking. According to Boyatzis, Gaskin, and Wei (2004), empathy is a social competency key to entrepreneurship.

1.2.TWO TYPES OF ENTREPRENEUSRHIP: FOR-PROFIT VS. SOCIAL

The interest in entrepreneurs' economic role is relatively recent, even if entrepreneurial activities have existed for centuries. Knight (1921) provided a first formal definition by defining entrepreneurs as individual investors with a low aversion to risk and uncertainty. Schumpeter (1947) moved the focus from uncertainty to innovation as he viewed entrepreneurs as agents who exploit innovations and thereby act as the principal-agent for the creative destruction process. According to Fayolle (2003), the entrepreneur has different facets: enthusiastic, tenacious, self-confident, he knows how to imagine something new, he manages to create or anticipate information that he will succeed in transforming into a product or service by mobilising the necessary resources. He does this primarily to gain personal advantages (prestige, power, enrichment, etc.). Fayolle adds that entrepreneurs and risk taking are completely linked. From these different definitions, a commonly accepted definition is that an entrepreneur is an innovator who bears most of the risk of creating a new venture and reap most of the rewards. This definition of an entrepreneur is mainly geared towards for-profit entrepreneurs generating. As social entrepreneurship gained in popularity in the 1980's and 1990's, it attracted the attention of the academic community. Leadbeater (1997) provided the first academic definition of social entrepreneurship as a multifaceted concept defined either by the output of the venture, its core assets (social capital), its organization (no shareholders, not-for-profit), its anchorage in a local community, or its willingness to serve a vast constituency.

While for-profit entrepreneurs' definition is widely accepted, the one for social entrepreneurs has recorded various iterations. Dees (1998) built on Leadbeater's definition by reinforcing the importance of the social mission defined as social problems ignored by traditional institutions (Santos, 2012; Martínez, Bañón, & Laviada, 2019) and the importance of creating social value for the public good (Austin and al., 2006). Social entrepreneurs are perceived as a kind of 'super' entrepreneurs (Dees, 1998; Santos, 2012) that are innovative in solving social problems (Dees, 1998) and are less focused on economic performance (Leadbeater, 1997; Dees, 1998; Austin and al. 2006). Pangriya (2019) considers that the unique characteristic of social entrepreneurs compared to for-profit entrepreneurs is "*contentment with one's work of doing something good for the community,...*" (p15). However, social entrepreneurs and for-profit entrepreneurs are not mutually exclusive but rather orthogonal to each other, and entrepreneurs tend to select a position on this continuum. In this research, we define a social entrepreneur as an entrepreneur who solves a problem with a social dimension with sustainable solutions. We have chosen to emphasize the differences between for-profit entrepreneurs and social ones.

3. The importance of empathy for an entrepreneur to develop social capital

Since the seminal work by Davidson and Honig (2003), it is known that social capital is a robust and consistent predictor in entrepreneurship. Baron and Markman (2000) state that one critical social skill in building social capital is social perception, which they define as "*the ability to perceive accurately the emotions, traits, motives, and intentions of others, in their opinion* (Table 1, p. 110)". This ability helps to be better in some specific situations such as "*making presentations to investors and customers, attracting and selecting partners and employees, conducting negotiations* (ibid., p.110)." In Baron and Markman (2000), the term social perception is similar to cognitive empathy. As defined by Massarik et Weschler (1959, p. 37), "*social perception is the means by which people form impressions of and, hopefully, understand one another. Empathy, or social sensitivity, is the extent to which they succeed in developing accurate impressions, or actual understanding, of others*." Packard and Burnham (2021) further consider empathy as a rational imagination process, intentional and knowledge-based, linked to opportunity recognition and evaluation processes, similar to cognitive empathy. Cognitive empathy or perspective-taking ability is a crucial ability in entrepreneurship. It helps in gaining new information, in creating value for customers (Baron 2006), in introducing innovation (Santandreu-Mascarell, Garzon, and Knorr 2013), in

negotiating with various stakeholders, in leading employees (Humphrey, 2013) and in developing a network of contacts (Thompson and al., 2000).

While empathy is essential for entrepreneurship in general, Urban and Galawe (2019) emphasize that it is a trait more salient among social entrepreneurs compared with their for-profit counterparts. Sahasranamam & Nandakumar (2020) and Bacq & Alt, 2018) consider empathy a necessary ability in social entrepreneurship and should be viewed as an additional antecedent compared to traditional models of entrepreneurial intent (Hockerts, 2017; Mair and Noboa, 2006). Various authors have emphasized the role of cognitive and affective empathies specifically for social entrepreneurs. As stated above, [cognitive] empathy helps to develop a varied and extensive network of contacts (Thompson and al., 2000) and substantial social capital (Baron and Markman,2000). To succeed, social entrepreneurs often need to "*work with and build bridges among very diverse stakeholders*" (Alvord and al., 2004: 274). Cognitive empathy will help social entrepreneurs develop and communicate with a large, varied stakeholders' network, providing better access to necessary resources that are more difficult to reach for social entrepreneurs than commercial ones (Austin & al., 2006). Moreover, empathy is vital in understanding community needs or problems and answering those problems (Bacq and Alt, 2018). It is also the point of view of Kraus et al. (2014) and Wood (2012) that empathy is crucial for supporting social ventures.

However, in research in social entrepreneurship, empathy often uncovers affective empathy. Petrovskaya and Mirakyan (2018) report that social entrepreneurs rate higher than for-profit entrepreneurs in altruism, integrity, trust in others, and empathy. Bacq and Alt (2018) emphasize that "*in order to channel their empathy into social entrepreneurship intentions individuals must experience self-efficacy and social worth"* (p.345). Self-efficacy consists of "*self-oriented feelings of personal competence*" and social worth in "*other-oriented feelings of connection to and regard by others*" (ibid. p 333). They demonstrate that affective empathy will help identify an individual's self-efficacy and nurture social entrepreneurship intentions. On the other side, cognitive empathy reinforces social worth because it helps to better "*envision the potential impact of […] actions on others*" (ibid., p345) and increases intentions to engage in social entrepreneurship. Consequently, both cognitive empathy and affective empathy reinforce social entrepreneurship intentions.

In conclusion, while previous researchers have demonstrated that cognitive empathy is equally essential for both types of entrepreneurs, they have also indicated that affective empathy is a specific capacity for social entrepreneurs. Affective empathy allows social

entrepreneurs to successfully balance social and economic value creation and avoid mission drift (Lambrechts et al., 2020).

4. WHY COULD SOCIAL ENTREPRENEURS BE BETTER ROLE MODELS / MENTORS FOR WOMEN?

4.1. HOW AFFECTIVE EMPATHY BETTER CHARACTERIZED WOMEN THAN MEN?

In Psychology, since the late 1950's, empathy is divided into two major dimensions, the cognitive one and the affective one (Clark, Robertson, & Young, 2019). Clark and al. (2019) explain that cognitive empathy consists of understanding another person's internal state, and affective empathy is about sharing another person's affective state. Affective empathy is characterized by sharing the other's emotional state and possibly helping him/her overcome his/her ordeal. Cognitive empathy is about rationally understanding the minds, beliefs, intentions, or needs of others without sharing their emotional state. Smith (2006) considers that affective empathy motivates humans to behave altruistically towards others and is related to compassion or sympathy, while cognitive empathy facilitates conversation and social expertise. Cognitive empathy is associated with the theory of mind and is a perspective-taking ability.

The assumption that men and women differ in their ability to be empathic seems to be globally shared in psychologist research. For example, Mestre et al. (2009) demonstrated that women are more empathetic than men. They also showed that women's greater empathic disposition is even more significant for affective empathy than cognitive empathy. Christov-Moore and Lacoboni (2019) suggest that females are better at feeling others' pain, at really getting the feeling that the other person is having right now, than men. Female participants in their study showed relatively higher activation in a sensory area of the brain associated with pain than their male counterparts.

Concerning the why, no consensus is shared. Christov-Moore and al. (2014) conclude that these differences in empathy between men and women have strong roots in biology, even if cultural and social environment also plays a role. However, Löffler and Greitemeyer (2021) emphasize that contextual factors, the influence of gender roles, and stereotypical beliefs explain these differences in empathy between men and women.

4.2. How the entrepreneur's type of empathy can influence the willingness to be mentored

The importance of mentoring for entrepreneurship has long been shown for the individual entrepreneur and the ecosystem. Successful entrepreneurs should share their experience, a phenomenon coined "entrepreneurial recycling" in several studies (Bahrami & Evans, 1995; Brown & Mason, 2017; Ensign & Farlow, 2016; Mason & Harrison, 2006; Napier & Hansen, 2011) to build a vibrant entrepreneurial ecosystem. Mentoring is vital in the early phases of start-up firms (Clarysse & Bruneel, 2007; Ramaciotti, Muscio, & Rizzo, 2017).

While successful entrepreneurs should be willing to mentor, potential entrepreneurs should be willing to be mentored. In this research, we investigate if the type of empathy displayed by the entrepreneur could influence the willingness to be mentored. This assumption is based on Freud's Personal Identification Theory, in Meissner (1970). This quality or ideal is often represented in a "leader figure" with whom one identifies. Additionally, the mentoring literature offers many positive consequences associated with a close mentoring relationship involving identification processes, including internalization of desired attributes, career development, and psychosocial support (Bouquillon, Sosik, & Lee, 2005; Kram, 1983; Ragins, 1997; Ragins & Cotton, 1999). A study by the OECD/EU (2017) concluded that women would be less akin to becoming entrepreneurs due to their lower self-efficacy than men, their tinier entrepreneurial network, and the lack of role models that contradict the traditional expected role of women in society. Adapted mentoring to women's value is expected to improve women's self-efficacy and incite them to become entrepreneurs.

5.HYPOTHESIS DEVELOPMENT

Previous research has shown that empathy is a key social skill to succeed as an entrepreneur and based on personal identification theory we can expect that women will value potential mentors that possess the same type of empathy. Previous research has shown that in economic games women tend to display more altruistic behavior than men (Croson and Gneezy, 2009). Christov-Moore et al. (2014) have demonstrated that women, compared to men, show higher

levels of affective empathy. Based on these previous points, we develop the following hypothesis:

> **Hypothesis H1a**: The level of cognitive empathy perceived will affect differently the willingness to be mentored of male and female respondents.

> **Hypothesis H1b**: The level of affective of empathy perceived will affect differently the willingness to be mentored of male and female respondents.

As we mentioned before, women would have more affective empathy than men and social entrepreneurs would also have more affective empathy than conventional ones. So, if we refer again to Freud's Personal Identification Theory (W.W. Meissner, 1970), women would be more sensitive to social entrepreneurs, who have more affective empathy, as potential role models. As such, having a social entrepreneur as a mentor could influence their willingness to be mentored.

> **Hypothesis 2a**: The level of cognitive empathy perceived will affect differently the willingness to be mentored of male and female respondents when considering the type of entrepreneur.

> **Hypothesis 2b**: The level of affective empathy perceived will affect differently the willingness to be mentored of male and female respondents when considering the type of entrepreneur.

6.RESEARCH DESIGN & METHODOLOGY

The full-scale study includes 351 participants recruited through a network of faculty members in 6 different countries (France, Italy, Brazil, China, Columbia, and India). The participants were randomly assigned to a 2 (empathy types: affective versus cognitive) x 2 (entrepreneurship type: social versus for-profit) between-subject design. The process to develop the main experiment went through an iterative process. We conducted two preliminary studies to (1) select the two companies for the scenarios, and then to develop the

scenarios with the appropriate wordings to represent the different types of empathy. We then did a pilot and some manipulation checks. Finally, we conducted the main experiment.

6.1. SELECTION OF THE TWO COMPANIES FOR THE SCENARIOS

We initially selected eight start-ups from a list of companies that had won awards over the previous two years for their innovativeness. Some were CSR oriented, and some were for-profit companies. The innovations proposed by the start-ups were technology, market, or business model-driven. In order to select two companies representative for our experiment, we ask 68 master business master students to evaluate each company along two dimensions on a 7-Likert scale (the first dimension was from purely social to pure for-profit and the second dimension to measure the level of innovativeness from incremental to radical). Once they had evaluated each company, we asked them to select two companies from the proposed list of companies in the following manner: " *Please select one social and one for-profit that you think are the most innovative. Write their names and add 'social' for the one you think is more social, and 'for-profit' for the one you think is more for-profit.*" We then retained the two start-ups with the highest ranking in terms of innovativeness for each category, social versus for-profit.

6.2. STUDIES TO IDENTIFY KEYWORDS FOR AFFECTIVE AND COGNITIVE EMPATHY SCENARIOS.

In a second study, a few weeks later, we asked the same 68 respondents to explain in their own words the difference between cognitive and affective empathy. The most recurring terms that emerged were *good listeners, comprehensive, caring, good communicator, authentic, compassionate, and intuitive*. Some minor terms were also identified, like *visionary, sensitive, and responsible*. We further checked in a sample of 17 international students if the same words were the most recurring.

These terms were then used as the basis for the storytelling in the different scenarios while considering the differences between cognitive and affective empathy. According to the respondents, cognitive empathy was defined as a capability linked to the theory of mind allowing one to understand one-another without judgment. In contrast, emotional empathy

was defined as an emotion produced by an automatic reaction to others' emotions and was often associated with negative emotions.

6.3. MANIPULATION CHECKS AND PILOT STUDY

We initially developed six scenarios, 3 (neutral, affective, and cognitive) for each of the two companies. For the company-type conditions (social vs. for-profit), the stimulus narratives used the actual name of the start-ups pre-tested in studies 1 and 2 (Dynamxyz and Mobidys). For the type of empathy conditions (cognitive, affective, and neutral), the narratives began with the same description of the company and then continued with a different description of why the entrepreneurs' started his/her company based on actual and made-up reasons. The control condition's narrative consists of the company's basic description and the neutral description of why the entrepreneur started his/her company. The entrepreneur's description was only modified to reflect the different types of empathy for the experimental conditions. We were able to hold constant the effects of other emotions not studied by first making sure that the entrepreneurs' description was gender-neutral and only the elements related to affective or cognitive empathy were modified. We also included manipulation checks, and we finally collected demographics data.

The scenarios were pre-tested with a small sample of experts who provided detailed comments on any wording or concept confusion. Based on this feedback, some minor wording adjustments were made before conducting a larger-scale validation.

We conducted three categories of manipulation checked on a pilot sample of 120 students. Participants were randomly assigned to one of the six scenarios (i.e., profit-cognitive empathy; profit-affective empathy; profit-neutral; social-cognitive empathy; social-affective empathy; social-neutral). With the first manipulation check, we wanted to see if they differentiated between the social and for-profit case and across the neutral empathy scenarios and the affective and cognitive scenarios and identified the two companies as innovative independently of the scenarios. We asked participants to rate the level of for-profit or social orientation of the start-ups on a seven-point Likert scale with two items. The results indicated a clear identification of the for-profit vs. the social start-up. The results suggested that the manipulations of the type of company were valid.

With a second manipulation check, we verify if participants considered the firm's product/service as innovative or non-innovative. We asked the participants to rate the design innovativeness on a seven-point Likert scale from incremental to radical. The results indicate that the participants thought of the firms to be innovative. We did not report any significant difference between social or not- profit firms. This manipulation check confirms that participants perceived the two firms as innovative start-ups.

We determine if the respondents differentiated between the neutral empathy scenario and the two other entrepreneurs' empathy scenarios with the last manipulation check. As respondents distinguished between the neutral and the two other scenarios, we only considered in the full-scale study's affective vs. cognitive scenarios.

6.4. Main Experiment– Design and Procedure

A total of 351 subjects were recruited through their professors in six countries from business schools. There are 234 respondents from France and 115 foreigners, 45% were male and 55% female. Respondents were randomly assigned to one of the four conditions (Cognitive empathy–for-profit entrepreneur (S1); Affective empathy – for-profit entrepreneur (S2); Cognitive empathy – social entrepreneur (S3); Affective empathy – social entrepreneur (S4)), with respectively 90, 82, 87 and 92 subjects in each group. Although students do not represent the entire population of people who could become entrepreneurs, they are considered to be most exposed to sensibilization programs promoting entrepreneurship. The average age of the respondents was 22.15 for women and 22.90 for men.

We did not find any significant differences among the subjects randomly assigned to each of the four experimental groups in terms of gender, age, country of origins. This result indicated that demographic characteristics were homogeneous.

The respondents were first asked which type of entrepreneur they would like to be if they were to start their own business. 64% wanted to become for-profit entrepreneurs, and 36% were interested in social entrepreneurship. They were then asked how useful they thought mentoring would be for their success. Then they were presented with a description of the company and a scenario describing why the entrepreneur started his/her own business. The

gender of the entrepreneur was not revealed in the narrative. Afterward, we measure the perceived empathy level of the entrepreneur perceived from reading the scenario,

Then participants rated their attitude towards the entrepreneurs and their intention to become entrepreneurs on previously validated scales in the entrepreneurship literature (Linan and Chen, 2009). The scale of willingness to be mentored was adapted from (Nauta and Kokaly, 2001). We measured participants' empathy orientation with 14 items taken from Davis empathic scales and perspective-taking scale items. All the items were on seven-point Likert scales.

6.4.1.Validity, Reliability

We used principal component analysis to test the validity of the measures. Even if the items were adopted and adapted from previous studies, we checked for construct validity between intention, attitude, and willingness to be mentored. While "*intention to become an entrepreneur*" was clearly an independent construct with its five items, there was some cross-loading between mentoring and attitude. We had to drop two items from the five initial items in *"willingness to be mentored*" and one from the "*attitude towards entrepreneurship*" shown in Table 1 below.

Table 1 – Matrix of structure

	Components		
	1	2	3
ATT_3 - A career as an entrepreneur like the one in the description would be attractive for me	.832	.330	.526
ATT_1 - Being an entrepreneur like the one in the description would entail great satisfaction for me	.811		.653
ATT_5 - Among all possible professional options, I would prefer to be an entrepreneur like the one in the description	.780		.563
ATT_2 - Being an entrepreneur like the one in the description would comprise more advantages than disadvantages for me	.756		.353
Mentor_1- I would like to be like this entrepreneur	.747		.694
ATT_4 - If I had the opportunities and resources, I would like to start my own firm like the entrepreneur in the description	.696	.480	.482
INT_4 - I am determined to start a business in the future	.306	.917	
INT_1 - It is very likely that I will start a venture someday	.326	.905	
INT_2 - I am willing to make any effort to become an entrepreneur	.318	.885	
INT_5 - My professional goal is to be an entrepreneur		.866	
INT_3Reverse		.740	

Mentor_4 - I would like this entrepreneurial person as my mentor	.569		.871
Mentor_5 - I would like this entrepreneurial person to advise me in my professional decision-making	.441		.852
Mentor_2- This is an entrepreneurial person particularly inspirational to me	.636		.781
Mentor_3 - I admire this entrepreneurial person	.564		.732

Method of extraction: Principal component analysis
Method of rotation: Oblimin with Kaiser normalization

From the matrix of structure, the items for each construct are the following

Attitude: ATT2, ATT3 ; ATT4 ; ATT5
Intention: INT1 ; INT2 ; INT3R ; INT4 ; INT5
Willingness to be mentored: MENT 2; MENT 4; MENT 5

The construct reliability was examined using Cronbach's alpha-value. Cronbach's alpha measures the internal consistency between items in a scale. Table 2 below reports acceptable Cronbach's alpha.

Table 2– Cronbach's Apha

Willingness to be mentored	.821
Attitude towards the entrepreneur	.816
Intention towards entrepreneurship	.91

6.4.2.Characteristics of our sample

Previous research (Christo-Moore et al., 2014) claimed that women would display a higher level of affective empathy than men. Table 3 reports that male and female respondents differ in affective empathy but not cognitive empathy—women report a statistically higher level of affective empathy than men (t=-4.80, DF=340, and sig=0.000). Our sample has the same characteristics as the whole population.

Table 3 – Respondents Empathy (std dev)

	Affective	Cognitive
Women	5.33 (1.17)	5.2 (.96)
Men	4.73 (1.14)	5.05 (.91)
t-test	-4.80***	-1.51

As shown in Table 4, men have an overall higher positive attitude and higher intention to become entrepreneurs than women. Intention and attitude have roughly the same mean for the male respondents, while the intention is lower than the attitude for female respondents. Male and female respondents differ strongly in terms of intention to become an entrepreneur under the assumption of similar variance (t=4.71, DF=340 and sig=0.000), while the difference is less statistically significative for attitude (t=1.965, DF=340 and Sig = .05)

Table 4 – Mean (std dev) intention and attitude

	Intention	attitude
Women	3.90 (1.53)	4.38 (1.26)
Men	4.69 (1.54)	4.64 (1.17)
t-test	4.71***	1.96**

Table 4 confirms that our sample displays similar characteristics as the whole population, with women having statistically lower intention to become entrepreneurs than men.

Table 5 reports the results measuring the respondents' perception of the importance of mentoring and if they are willing to be mentored. We notice no statistical difference between the means and that they are pretty similar for men and women. They both perceived mentoring as crucial in entrepreneurship and are relatively willing to be mentored.)

Table 5 – Willingness to be mentored and importance of mentoring (std dev)

	Importance of mentoring	Willingness to be mentored
Women	5.43 (1.23)	4.74 (1.12)
Men	5.42 (1.31)	4.67 (1.16)
t-test	-.035	-.468

6.4.3.Testing Hypothesis 1a and 1b: Willingness to be mentored when differentiating between cognitive vs. affective empathy displayed by the entrepreneur.

Table 6 below reports that the interaction effect gender and empathy type of the entrepreneur influence the willingness to be mentored**.**

Table 6 – Test of Between Subjects effects: Entrepreneur Empathy Type and Gender

Dependant Variable: Willingness to be mentored						
Source	Sum of square	df	Mean square	F	Sig.	partial eta-squared
Modèle corrigé	8.613[a]	3	2.871	2.25	0.082	0.02
Constante	7566.697	1	7566.697	5930.527	0	0.946
Gender	0.311	1	0.311	0.243	0.622	0.001
Empatype	0.137	1	0.137	0.107	0.744	0
Gender * Empatype	8.006	1	8.006	6.275	0.013	0.018
Erreur	431.251	338	1.276			
Total	8047.375	342				
Total corrigé	439.863	341				

a. R-square = .020 (adjusted R-square =.011)

Looking at the results differentiating between cognitive versus affective scenario: we notice that while, on average male respondents report a higher willingness for the cognitive scenarios than the affective scenarios, the difference is not statistically significant as shown in table 7 below. Women report a higher willingness to be mentored for the affective scenario than for the cognitive scenario, and the difference is statistically significant.

Table 7 - Willingness to be mentored and type of empathy displayed by the entrepreneur

Willingness to be mentored	Cognitive	Affective	t-test
Male	4.83 (1.06)	4.56 (1.23)	1.47
Female	4.58(1.09)	4.93(1.13)	-2.12**

6.4.4.Testing Hypothesis 2a and 2b: Willingness to be mentored when considering the types of empathy and entrepreneurship.

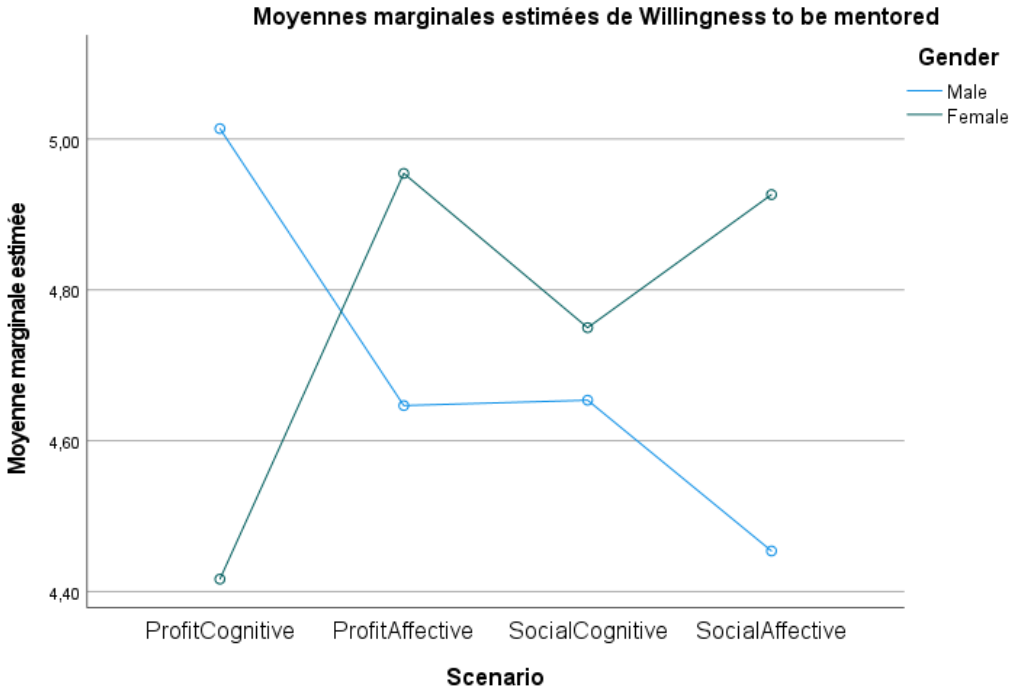
A two-way ANOVA analysis with SPSS 27 provides the between-subject effects reported in table 8. The Sig. provides information if the independent variables, scenario and/or gender influence the dependent variable, willingness to be mentored. We notice that the interaction term Scenario and Gender is statistically significant.

Table 8 – Test of Between Subjects effects: Scenario and Gender

Dependent variable: Willingness to be mentored						
Source	Sum of squared Type III	df	Mean squared	F	Sig.	Partial Eta-squared
Modèle corrigé	14.937[a]	7	2.134	1.677	.114	.034
Constante	7454.982	1	7454.982	5859.762	.000	.946
Scenario	.599	3	.200	.157	.925	.001
Gender	.407	1	.407	.320	.572	.001
Scenario * Gender	14.024	3	4.675	3.674	.012	.032
Erreur	424.926	334	1.272			
Total	8047.375	342				
Total corrigé	439.863	341				
a. R-square = .034 (adj. R-square = .014)						

Looking at the graph 1 below, we notice that male respondents have a higher willingness to be mentored by a cognitive and for-profit entrepreneur. In contrast, female respondents report higher score for the other three scenarios. In conclusion, while female respondents display a lower intention to become an entrepreneur, their willingness to be mentored by an empathic entrepreneur could contribute to their intention to become entrepreneurs.

Graph 1 - Estimated Marginal Means



7. CONCLUSION, DISCUSSION, AND FUTURE DIRECTION

This research aims to identify any differences between male and female respondents in the type of entrepreneurs they would like as mentors. In this study, the entrepreneurs were differentiated according to the kind of empathy and start-up type. Empathy is a crucial competency in entrepreneurship in recognizing opportunities, dealing with internal and external stakeholders, and, therefore, in succeeding as an entrepreneur. Would-be entrepreneurs are expected to be willing to be mentored by entrepreneurs displaying empathy; however, male and female respondents seem to be sensitive to a different type of empathy as women value more affective empathy.

This study participates in the discussion started by Morris et al. 2013, regarding the necessity to build behavioral competencies and not just functional capabilities to help our students transition to successful entrepreneurs. Morris et al. (2013) had pointed out the following behavioral competencies of opportunity recognition, opportunity assessment, resource leveraging, and developing business models. As shown by previous researchers (Baron, 2008; Packard and Burnham, 2021), empathy is a capability that facilitated opportunity recognition and resource leveraging. Korte, Smith, and Li (2018) and Lambrechts et al.(2020) emphasize the need to develop the empathy ability of would-be social entrepreneurs.

Morris et al. (2013) emphasized that business schools should develop the intention to become an entrepreneur and the capabilities to become a successful one. The capabilities encompass empathic abilities as well as functional abilities to train successful, responsible entrepreneurs. We argue that Business Schools should consider gender differences as factors influencing "willingness to be mentored" and potentially "intention to become an entrepreneur." Empathic mentors, especially those displaying affective empathy, are more appealing to women.

This paper emphasizes gender differences in the willingness to be mentored by different types of entrepreneurs (social vs. for-profit), displaying various kinds of empathy. We assumed that willingness to be mentored could influence the intention to become an entrepreneur. More specifically, by adapting the type of mentor to women's expectations, hopefully, the representation of women in entrepreneurship could increase. This assumption should be further tested in a forthcoming paper by developing experiments in real settings. Additionally, we should also test the impact of mentoring type on the overall model of entrepreneurial intention.

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