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Females Wanna-Be Entrepreneurs Need Empathic Heroes

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Keywords: Entrepreneurship; Empathy; Mentoring; Gender; Experiments

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FEMALES WANNA-BE ENTREPRENEURS NEED EMPATHIC HEROES

Abstract

Purpose - Despite the well-documented importance of empathy and mentoring in entrepreneurship, there is a need for a deeper understanding of how empathy influences individuals' "*willingness to be mentored*".

Design/methodology/approach - This paper investigates gender differences in "*Willingness to be mentored*" based on the mentor's types of empathy (cognitive vs. affective) and entrepreneurship (social vs. for-profit). Drawing on the personal identification and the entrepreneurship literature, we measured the respondents' "*Willingness to be mentored*" by manipulating the type of empathy and entrepreneurship and comparing its effect between male and female respondents. Primary survey data were collected from master's degree students in entrepreneurship from diverse business schools. An explanatory qualitative study on female start-uppers complemented the findings.

Findings – The results from the quantitative study show that female respondents prefer to be mentored by an entrepreneur who exhibits some affective empathy rather than only cognitive empathy, with a preference for a social entrepreneur. The qualitative study confirms the evidence. This research contributes to the discussion on developing social capabilities to succeed in new ventures. It extends our understanding of the importance of empathic entrepreneurs as mentors to foster entrepreneurship among women.

Originality – Theoretically, we demonstrate the existence of a gender difference in "*Willingness to be mentored*" based on the type of empathy displayed by the entrepreneur. Additionally, we introduce a new construct in the entrepreneurship literature, "*Willingness to be mentored*", and differentiate it from "*Attitude toward entrepreneurship*."

Keywords

Entrepreneurship; Empathy; Mentoring; Gender

1. Introduction

Female founders face underrepresentation (Bernard *et al.*, 2013; Dy *et al.*, 2017). An OECD report (2021) highlights that women in OECD countries are 1.5 times less likely than men to start a business. Persistent stereotypes favour men as the norm in entrepreneurship (Dy *et al.*, 2017; Gupta *et al.*, 2022), especially from a male viewpoint (Laguía *et al.*, 2022). Women are often seen as underperformers (Dean *et al.*, 2019; Marlow and McAdam, 2013) and internalise this view, reducing their self-efficacy and entrepreneurial intentions (Boudreaux *et al.*, 2019).

In this context, mentoring is a valuable strategy to counteract social and cognitive biases (Arruti, 2021; Baluku *et al.*, 2020; Theaker, 2023). Germann *et al.* (2023) report a significant positive impact of female mentorship on women-led businesses. Unfortunately, female mentors are lacking, especially those who inspire potential female entrepreneurs.

Despite extensive research on mentoring (Assenova, 2020; Baluku *et al.*, 2020; Bozeman and Feeney, 2007), cross-gender studies in entrepreneurship have yet to examine the role of empathy in influencing individuals' "*Willingness to be mentored*". In psychology, two types of empathy have been identified: cognitive and affective. We assumed that the type of empathy displayed by the entrepreneur would signal a different mentoring approach. Cognitive empathy, linked to the theory of mind, refers to understanding another's perspective and internal state (Clark *et al.*, 2019). Affective empathy entails sharing another's emotional state and possibly offering support. The distinction between these two forms is seldom explored in entrepreneurship (Packard and Burnham, 2021) or mentoring (Duffy *et al.*, 2018).

This study addresses this gap by examining mentors' empathic abilities, distinguishing between cognitive empathy, linked to providing support in problem-solving and innovation (Packard and Burnham, 2021), and affective empathy, linked to providing mentees with emotional and psychosocial support (Hayton and Cholakova, 2012).

To investigate our research question, we adopt an experimental approach, a relatively novel approach in entrepreneurship (Stevenson *et al.*, 2020). We developed four scenarios considering the types of start-uppers (social vs. for-profit) and the kind of empathy displayed (cognitive vs. affective) tested on a sample of 618 students from Business schools. Students with entrepreneurship as part of their curricula are the ideal respondents for our study, given their potential aspiration to become entrepreneurs (Liñán *et al.*, 2011). In addition, Malach- Pines and Schwartz (2008) have shown significant gender differences in willingness to start a business among business school students compared to other stages of the entrepreneurial journey. We complement the experimental research with a qualitative study, collecting testimony of women entrepreneurs.

The research intends to contribute to entrepreneurial mentoring in two ways: (a) by identifying specific factors, in terms of the type of empathy and type of entrepreneur, that could increase women's "*Willingness to be mentored*" and, therefore, reduce the gender gap and (b) by contributing to the overall discussion on developing a gender-sensitive entrepreneurship culture and offering valuable insights for entrepreneurial programs.

2. Conceptual Background and Hypotheses Development

Mentoring is essential for both professional and personal development within organisations (Eesley and Wang, 2017; Weinberg and Scandura, 2024). However, its success depends on the quality of the mentor-mentee relationship (Deng and Turner, 2024), with empathy playing a crucial role in establishing strong and effective bonds (Doty *et al.*, 2019; Lester *et al.*, 2019).

In the field of entrepreneurship, research indicates that exposure to mentors within entrepreneurial education programs positively influences individuals' intentions to become entrepreneurs, particularly when these mentors possess entrepreneurial experience (Eesley and Wang, 2017; Nowiński and Haddoud, 2019). This relationship is especially pertinent for women who typically exhibit lower entrepreneurial self-efficacy (Brush *et al.*, 2017), lower entrepreneurial intentions (Santos *et al.*, 2016), and have fewer available role models (Noguera *et al.*, 2014).

Seminal studies on women mentoring (Ragins, 1996) further highlight the necessity for a distinct approach to mentoring, identifying potential factors that can strengthen mentor-mentee relationships (Mitchell *et al.*, 2015). Consequently, this study explores the role of mentors' empathy in aligning with the mentee's expectations.

2.1 Gender difference in mentoring needs

Grounded in social learning theory (Bandura and Walters, 1977), mentoring is defined as support from more experienced individuals for personal and professional growth (St-Jean and Audet, 2012; Sullivan, 2000; Olayinka *et al.*, 2020). In entrepreneurship, mentoring reduces barriers, helps identify opportunities, and motivates novice entrepreneurs (Sullivan, 2000; Assenova, 2020; Minniti and Bygrave, 2001). Beyond practical skills, mentoring also inspires others to pursue entrepreneurship (St-Jean and Audet, 2012; Baluku *et al.*, 2020). The quantitative study in this paper explores the inspirational aspect of entrepreneurial mentoring.

Bozeman and Feeney (2007) identify five key components of mentoring: its dyadic and voluntary nature, improving recognition, knowledge utility, and needs fulfilment. While they acknowledge the psychosocial support role of mentoring, they do not address specific traits of the mentor. Building on their definition, we consider the mentor's empathic abilities crucial to inspiring potential entrepreneurs. This study defines mentoring as "*a voluntary dyadic relationship where potential mentees select a mentor who possesses relevant knowledge and demonstrates empathic abilities.*"

The entrepreneurship literature has explored various factors contributing to the success of the mentor-mentee relationship. Some scholars have focused on the mentor's quality (Sullivan, 2000; Meddeb and St-Jean, 2021) and mentoring ability (Baron and Ensley, 2006; Ucbasaran *i.*, 2009), while others have examined the mentee's identification processes (Ragins and Cotton, 1999). A key element in this regard is the similarity-attraction paradigm, which plays an essential role in mentor-mentee dynamics (Brush *et al.*, 2017; Fairlie and Holleran, 2012; Robinson *et al.*, 2017; Young Illies and Reiter-Palmon, 2018). Perceived similarity can involve personality, interests, and values (Eby *et al.*, 2013; Lankau *et al.*, 2005; Young *et al.*,

2018) but not necessarily gender (Høigaard and Mathisen, 2009). Empathy is crucial in establishing a sense of identification and connection between mentors and mentees (Sullivan, 2000; Miranda-Diaz *et al.*, 2020), especially for female entrepreneurs. Female entrepreneurs exhibit greater eagerness and effectiveness in utilising mentors than their male counterparts (Noe, 1988; Laukhuf *et al.*, 2015; Read *et al.*, 2020; Whitlock *et al.*, 2023). Mentoring not only helps them enhance their self-efficacy and counter negative stereotypes and social biases (Laukhuf and Malone, 2015; Langowitz *et al.*, 2006; Arruti, 2021; Baluku *et al.*, 2020; Theaker, 2023) but more importantly, it provides them with essential emotional support. Women greatly value the affective dimension in mentoring relationships (Arruti, 2021; Theaker, 2023).

2.2. Affective Empathy and "Willingness to be mentored"

Previous research (Packard and Burnham, 2021; Clark *et al.*, 2019; Romani *et al.*, 2013; Smith, 2006) differentiate between cognitive (i.e., perspective-taking) and affective empathy (e.g., feelings of compassion or caring). 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. In entrepreneurship, cognitive empathy is critical as it facilitates opportunity recognition (Packard and Burnham, 2021), creating value for customers (Baron and Ensley, 2006), introducing innovation (Santandreu-Mascarell *et al.*, 2013), negotiating with various stakeholders, leading employees (Humphrey, 2013) and developing a network of contacts (Baron and Markman, 2000; Thompson *et al.*, 2000). Affect (moods and emotions) has also been recognised to play a role in the success of entrepreneurship (Baron, 2008) in helping to take entrepreneurial ideas further, refine them, and adapt them more effectively (Hayton and Cholakova, 2012). In entrepreneurial mentoring, we expect cognitive empathy to help mentees improve opportunity recognition and decision-making skills, while affective empathy will provide emotional support, boosting self-efficacy and overcoming negative stereotypes (Hayton and Cholakova, 2012)

Regarding the mentees, researchers in psychology have shown that women are overall more empathic than men (Mestre *et al.*, 2009), with a greater disposition for affective empathy (Mestre *et al.*, 2009; Christov-Moore and Lacoboni, 2019; Löffler and Greitemeyer, 2021) and altruistic behaviour (Croson and Gneezy, 2009; Bohns and Flynn, 2020). Furthermore, based on the similarity-attraction paradigm, we can expect women to be sensitive to a similar disposition in their mentors. In addition, affective empathy increases the emotional dimension of the mentor-mentee bond, which women highly value (Arruti, 2021; Theaker, 2023).

Given the previous elements, we expect women to seek mentors with more affective empathy than their male counterparts:

Hypothesis H1: Compared to Males, *Female wanna-be entrepreneurs seek mentors with more affective empathy.*

2.3 Type of Entrepreneurship, Affective Empathy, and "Willingness to be mentored"

Fayolle (2003) defines an entrepreneur as someone who envisions and transforms new ideas into products or services by mobilising resources for personal gain, a description fitting for-profit entrepreneurs. While social entrepreneurship can be viewed through various dimensions, it is usually perceived as serving a broad constituency (Pangriya, 2019), balancing profit and purpose (Bacq and Lumpkin, 2021).

While cognitive empathy is essential in entrepreneurship, several researchers (Petrovskaya and Mirakyan, 2018; McMullen *et al.*, 2020) suggest that social entrepreneurs exhibit higher affective empathy levels (Urban and Galawe, 2019) in order to balance effectively the social and economic value creation (Petrovskaya and Mirakyan, 2018; McMullen *et al.*, 2020), thereby avoiding mission drift (Lambrechts *et al.*, 2020). Bacq and Alt (2018) further elaborate that affective empathy nurtures intentions related to social entrepreneurship, while cognitive empathy reinforces the perceived social worth, as it helps to better "*envision the potential impact of [...]*

actions on others" (ibid: 345), ultimately increasing the propensity for engagement in social entrepreneurship.

Previous studies indicate that women are more involved in social than for-profit entrepreneurship (Bosma *et al.*, 2016), likely due to the empathic nature of the former. Thus, social entrepreneur mentors who exhibit affective empathy are expected to resonate more with women, increasing their "Willingness to be mentored".

Hypothesis H2: *The type of entrepreneurship (i.e., social or for-profit) interacts with the type of empathy (i.e., affective or cognitive) such that - compared to males - females are more willing to be mentored by social entrepreneurs with affective empathy.*

3. Quantitative analysis

3.1. Scenario Development

We conducted two preliminary studies between January and April 2021 to (1) select the two innovative social and for-profit start-ups and (2) select the appropriate wordings to describe the different types of empathy. The scenarios were developed through a thorough iterative process, initially considering three types of empathy, i.e., neutral, affective, and cognitive, and the two types of entrepreneurs, i.e., social and for-profit. Appendix 1 presents the initial six scenarios. Each scenario started with the same basic description of the company and its product using the actual names of the start-ups (Dynamixyz and Mobidys). For the two types of empathy conditions (cognitive and affective) displayed by the entrepreneur, the narratives provided different descriptions of why the entrepreneur started his/her company using different categories of empathic wordings, maintaining the entrepreneur's gender not identifiable. The neutral narrative consisted of the company's description and the neutral-empathy description of why the entrepreneur started his/her company. A small sample of experts checked our scenarios and suggested minor wording adjustments.

Following the recommendations of Viglia *et al.* (2021), we conducted in Fall 2021 three categories of manipulation checks on a pilot sample of 120 students to see if: i) participants differentiated between the social and for-profit cases; ii) they were able to identify the two companies as innovative; and iii) they differentiated between the neutral and the other two scenarios. The results suggested that the three manipulation checks were perceived as meant. Participants differentiated between the two types of companies and the three types of empathy and perceived the two start-ups as innovative ($p = 0.000$). We dropped the neutral empathy scenario from the study. We only kept the scenarios with the affective and cognitive empathy for the large-scale study as the differentiation between the empathic and neutral cases was verified. In addition, in the entrepreneurship literature, cognitive empathic abilities are recognised as necessary, and we want to investigate the importance of affective empathy compared to cognitive empathy.

3.2. *Data Collection and Sample*

Given the focus of the study on wanna-be entrepreneurs and their "*Willingness to be mentored*", a large-scale study conducted in the Spring and Fall semesters of 2022 includes 703 master students in business schools, well above the minimum sample size of 175 recommended by a G*power estimation (Faul *et al.*, 2009), based on a medium-sized effect (Cohen, 1988) of .25, with an alpha level of $p = 0.05$, and a power of 0.80. Master students are an appropriate sample, as demonstrated by Liñán *et al.* (2011), as they are exposed to various entrepreneurs' role models and have courses on business plans and entrepreneurship.

The participants responded to the survey through a Qualtrics platform. They were randomly assigned to a 2x2 between-subject design (empathy types: affective versus cognitive) x (entrepreneurship type: social versus for-profit).

The total number of respondents decreased to 618 as we removed 85 respondents (five selected "other" as gender, nine did not respond to all the questions, and 71 students failed the attention check question). The allocation of the respondents between the four scenarios was relatively similar, with 152 in S1 (cognitive empathy–

for-profit entrepreneur scenario),155 in S2 (affective empathy – for-profit entrepreneur),155 in S3 (cognitive empathy – social entrepreneur),156 in S4 (affective empathy – social entrepreneur), with a ratio of women between 57% and 60%. We found no significant differences between the four groups regarding gender or age (the average age was between 21.44 and 21.81 with $F=.342$ and $p=.795$). These results indicated that demographic characteristics were homogeneous.

3.3. *Main Elements of the Survey Design and Measures*

The survey included five categories of questions. Questions on Entrepreneurial Preference and Disposition toward mentoring were asked before respondents read their assigned scenario. The questions from the remaining four categories were answered after reading the scenario.

3.3.1. *Entrepreneurial Preference and Disposition Toward Mentoring*

With this first block of questions, we wanted to understand the predisposition of the respondents towards entrepreneurship and mentoring. Before reading one of the four narratives (see Appendix 1), the respondents answered a one-item question regarding the type of entrepreneur they would like to be: 62.1% selected for-profit entrepreneurs (70,5% and 55,7% for male and female respondents, respectively), and 26.1% social entrepreneurs (21.5% and 29.45% for male and female respondents, respectively). They then responded to a question on a seven-point Likert scale on "*how useful they thought mentoring would be for their success.*"

3.3.2. *Measure of "Willingness to be mentored"*

Table 1 describes the four items to measure willingness to be mentored and their origins in the academic literature.

TABLE 1

Items for "Willingness to be mentored".

<i>Willingness to be mentored</i>	Nauta and Kokaly, 2001 (IOACDS)*	<i>Fellnhofner and Mueller, (2018). Adaptation of OACDS in entrepreneurship</i>
I would like to be like the entrepreneur in the description	There is someone I am trying to be like in my academic/career pursuits	
The entrepreneur in the description is particularly inspirational to me.	There is not one particularly inspirational to me in the academic or career path I am pursuing (reverse coded)	
I would like this entrepreneurial person to advise me in my professional decision-making.	There is someone who helps me consider my academic/career options.	
I would like this entrepreneurial person as my mentor.		I have a mentor in my potential entrepreneurial career field.

*Nauta and Kokaly (2001) - Influence of Others on Academic and Career Decisions Scale (IOACDS)

Originally developed as the IOACDS scale, Nauta and Kokaly's (2001) instrument aimed to explore the influence of role models and mentors on female graduate students' career choices in science. Our study sought to assess the perceived inspirational dimension of entrepreneurs acting as mentors and its impact on individuals' "*Willingness to be mentored*". Therefore, we carefully selected from Nauta and Kokaly (2001) the three most relevant items for inspirational mentoring and supplemented them with an additional item from the revised Nauta and Kokaly (2001) scale by Fellnhofner and Mueller (2018).

The respondents were prompted with the following sentence: "*Please indicate as honestly as you can your agreement with the following statements*" and then were invited to rate their agreement with each statement on a 7-point Likert scale Likert-scale ranging from 1 or "totally disagree," to 7, "totally agree."

3.3.3. Measures of "Attitude toward the Entrepreneur" and "Intention to become Entrepreneur"

The participants rated their "Attitude toward the Entrepreneurs" and their "Intention to Become Entrepreneur" on previously validated scales (Liñán and Chen, 2009). The five items for intention use the exact wordings as Liñán and Chen (2009). A sample is

"Being an entrepreneur implies more advantages than disadvantages to me."

The items for attitude were slightly modified, and we added in each statement "*like the one in the description*": "Being an entrepreneur like the one in the description implies more advantages than disadvantages to me." For the intention and attitude items, respondents rated their agreement on a 7-point Likert scale ranging from 1, or "totally disagree," to 7, "totally agree."

3.3.4. Measure of respondents' empathy

We measured empathy orientation with 14 items from Davis's (1983) empathic scales and perspective-taking scale items on seven-point Likert scales.

3.3.5. Demographic Questions

At the end of the survey, we included some demographic questions: age, gender (coded as 1=male, 2=female, and 3=others), place of birth, place of permanent residence, and experience living abroad. We only used the gender variable in our study.

3.4. Validity, Reliability

We used principal component analysis to test the validity of the measures. The KMO value of .92 indicates that the data are adequate for factor analysis. Bartlett's test of Sphericity indicates significance ($p < .001$) and provides evidence to suggest that the data are normally distributed.

Even if the items came from previous studies, we checked for construct validity between *Intention*, *Attitude*, and "*Willingness to be mentored*." While "*Intention to*

become an entrepreneur" is an independent construct with its five items ($\alpha = .91$), we identified, using an oblimin rotation method (average factor correlation greater than .3), some cross-loading between "*Attitude*" and "*Willingness to be mentored.*" We ran a second-factor analysis between these two factors using the oblimin rotation method. We had to drop one item from the four initial items in "*Willingness to be mentored*" and one from "*Attitude towards Entrepreneurship,*" as shown in Appendix 2. Cronbach's alphas for the three "*Willingness to be mentored*" and four "*Attitude*" items were .84 and .78, respectively.

4. Analysis of the Data

4.1. Gender Differences Across Constructs

There is a significant difference in "*Intention to become an entrepreneur,*" $t(616)=4.99, p=0.000$, with men ($M=4.47, SD= 1.55$) reporting a higher intention than women ($M=3.85, SD=1.53$). This result confirms that our sample displays characteristics similar to those reported in other studies (Gupta and Fernandez, 2009), with female respondents having a statistically lower intention to become entrepreneurs than their male counterparts.

The difference is not significant for "*Attitude toward the entrepreneur*" ($t(616)=1.965, p = .51$), with the average "*Attitude*" slightly above 4, the mean value, for both groups (men, $M= 4.42, SD=1.21$; women, $M=4.35, SD=1.24$).

We notice no statistical difference in "*Importance of mentoring*" ($t(616)= -0.596, p=.55$). Both groups perceive mentoring as crucial in entrepreneurship. This finding is in line with the human capital theory. Business school graduate students have a higher level of human capital and, therefore, an absorptive capacity to process the external knowledge from mentoring (Cohen and Levinthal, 1990). However, there is a statistically significant difference between male and female respondents regarding their "*Willingness to be mentored*", $t(616) =-2.459, p= .014$, with women reporting a higher value on average ($M= 4.68, SD=1.20$) than men ($M=4.46, SD=1.22$). This result is in line with findings that women are more eager to be mentored than their

male counterparts (Noe, 1988; Laukhuf *et al.*, 2015; Read *et al.*, 2020; Whitlock *et al.*, 2023)

We completed our sample analysis by measuring the respondents' empathy type and level. Male and female respondents differ in affective empathy ($t(616)=-8.33, p<.00$) and cognitive empathy ($t(616) =-1.79, p=.036$), with female respondents reporting a highly statistically significant higher level of affective empathy ($M=5.44, SD=1.12$) than men ($M=4.69, SD=1.08$), supporting the findings of previous researchers (Mestre *et al.*, 2009; Christov-Moore and Lacoboni, 2019; Löffler and Greitemeyer, 2021).

4.2 Interaction Effect Between Mentee Gender and Mentor Empathy on Willingness to be Mentored

We perform a two-way ANOVA (Table 2) to analyse the interaction effect between gender and the two types of empathy (cognitive, affective) on "*Willingness to be mentored*". Our data verifies the three assumptions of normality, equality of variance, and independence.

The results in Table 2 report a significant main effect for *gender* ($F(1,610) =5.04, p = .025, \eta^2 = .008$), indicating that the average "*Willingness to be mentored*" was significantly higher for female respondents ($M= 4.68, SD=1.20$) than male ($M=4.46, SD=1.22$). The main effect for empathy was non-significant ($F(3,610) = 0.91, p =.436, \eta^2 = .001$). However, the interaction effect between gender and empathy was significant, $F(3,610) = 4.26, p = 0.40, \eta^2 = .007$.

TABLE 2

Means, Standard Deviations, and Two-Way ANOVA

Willingness to be Mentored	Cognitive		Affective		ANOVA				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Effect</i>	<i>F ratio</i>	<i>Df</i>	<i>p</i>	η^2
Male	4.51	1.16	4.40	1.28	Gender	5.04*	1,610	.025	.008
Female	4.53	1.20	4.83	1.19	Empathy	0.91	3,610	.339	.001

	Gender*	4.26*	3,610	.040	.007
	Empathy				

*p<.05

We want to uncover what pairwise interaction contributes most to the significant interaction effect between gender and empathy. Table 3 reports the results of planned contrast tests. We notice that there are no statistical differences in "*Willingness to be mentored*" between male and female respondents for the cognitive scenario and a positive gender difference for the affective scenario, $F(1,614) = 9.39$, $p=.002$, $\eta^2 =.015$, for which women reported a higher statistically significant "*Willingness to be mentored*."

TABLE 3

Post-Hoc Contrasts Test – Statistically significant gender difference in "Willingness to be mentored" within each scenario

	Mean Square	df	F	p	η^2
Affective Scenario	13.70	1,614	9.39	.002	.015
Cognitive Scenario	0.24	1.614	0.16	.889	.000

The findings support Hypothesis 1 as they indicate that aspiring female entrepreneurs, compared to males, prefer mentors with higher affective empathy, valuing the emotional connection in mentor-mentee relationships (Arruti, 2021; Theaker, 2023).

4.3. Interaction Effect Between Mentee Gender and the Combination of Entrepreneurship and Empathy Types on Willingness to be Mentored

To investigate the issue further, we combined the type of entrepreneur (for-profit, social) and the type of empathy (cognitive, affective). A two-way ANOVA analysis provides the between-subject effects reported in Table 4. Results indicated a significant mean difference in "*Willingness to be mentored*" based on gender with

$F(1,610) = 5.04$, $p = .025$, $\eta^2 = .008$, and borderline for the interaction effect between gender and scenario with $F(3,610) = 2.59$, $p = .052$, $\eta^2 = .013$.

TABLE 4

Means, Standard Deviations, and Two-Way ANOVA

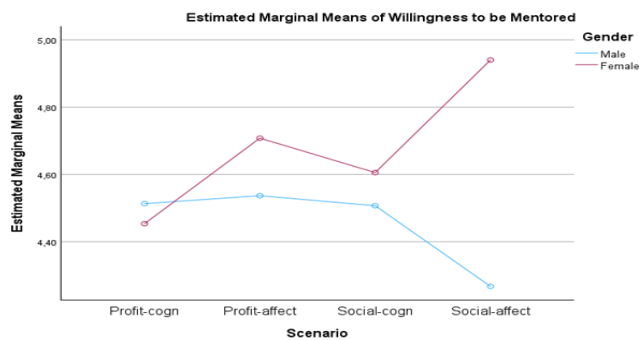
Variable	Scenario 1		Scenario2		Scenario 3		Scenario 4		ANOVA			
	M	SD	M	SD	M	SD	M	SD	Effect	F ratio	df	η^2
Willingness to be Mentored												
Male	4.51	1.25	4.54	1.38	4.51	1.07	4.27	1.18	Gender	5.04*	1,610	.008
Female	4.45	1.20	4.71	1.16	4.61	1.20	4.94	1.21	Scenario	0.39	3,610	.002
									Gender*	2.59($p=$	3,610	.013
									Scenario	.052)		

* $p < .05$

Figure 1 below clearly distinguishes between the four scenarios and the estimated marginal means of "Willingness to be mentored." On average, males' "Willingness to be mentored" is relatively similar for the two cognitive scenarios (for-profit and social) and the-profit-affective scenarios. Their "Willingness to be mentored" dropped relatively for the social-affective scenario. For women, it is the opposite; the "Willingness to be mentored" is lowered for the for-profit cognitive empathy scenario.

FIGURE 1

Estimated Marginal Means



Reporting a borderline significant interaction effect between gender and scenario, we perform planned contrasts to identify which scenarios show a statistically significant difference between female and male respondents. Table 5 reports that the only statistically significant difference in "Willingness to be mentored" is for the Social-affective scenario, $F(1,610) = 11.8$, $p < .001$, $\eta^2 = .019$, for which women report a

higher statistically significant mean. Women's "*Willingness to be mentored*" is influenced not only by the type of empathy but by a combination of types of empathy and entrepreneurship.

TABLE 5

Pairwise comparison and Post-Hoc Contrasts Test – Statistically significant difference between the scenario by gender in Willingness to be mentored

	<i>Mean Willingness to be mentored</i>		<i>Pairwise Comparison</i>		<i>Post-Hoc Contrast Test</i>				
	<i>Male</i>	<i>Female</i>	<i>Mean Difference</i>	<i>p</i>	<i>Mean Square</i>	<i>df</i>	<i>F</i>	<i>P</i>	<i>η2</i>
Profit-Cogn	4.51	4.45	0.59	.766	0.13	1,610	0.88	.766	.000
Profit Affec	4.54	4.71	-.171	.383	1.11	1,610	0.76	.383	.001
Social Cogn	4.51	4.61	-.099	.615	0.37	1,610	0.25	.615	.000
Social Affec	4.27	4.94	-.673	<.001	1.46***	1,610	11.8	<.001	.019

These results suggest that while female respondents display a lower intention to become entrepreneurs, their "*Willingness to be mentored*" is positively influenced by an empathic entrepreneur and preferably by an empathic social entrepreneur.

Previous studies have shown that the quality of mentoring/role modelling contributes to the "*Intention to become an entrepreneur.*" (Sullivan, 2000; Assenova, 2020; Minniti and Bygrave, 2001). We could, therefore, expect that as the mentor profiles can impact the "*Willingness to be mentored,*" this positive effect could trickle down to the intention to become an entrepreneur.

This result supports Hypothesis 2, showing that women are more inclined to seek mentorship from social entrepreneurs displaying affective empathy. Women are generally more attracted to social entrepreneurship (Bosma *et al.*, 2016), particularly when the mentor displays affective empathy.

4.4. Gender Perception of the Entrepreneur/Mentor

As seen in Appendix 1, the description of the entrepreneur is gender-neutral. In a follow-up study, we wanted to test the "*think entrepreneur – think male*" stereotype reported by various scholars (Gupta and Fernandez, 2009; Laguía *et al.*, 2022) and analyse the respondents' perception of the entrepreneur's gender. We conducted a new study with 81 new respondents from one business school in the spring 2023 semester. The sample comprised roughly the same number of male (43) and female respondents (38).

Female respondents identified the entrepreneur more often as a female than the male respondents, independently of the scenario, and the difference is statistically significant ($F(1,80) = 9.68, p = .003, \eta^2 = .117$), as shown in Table 6

TABLE 6
Two-Way ANOVA – Perceived gender of the entrepreneur

Effect	ANOVA			
	F ratio	df	p	η^2
Gender	9.68	1,80	.003	.117
Scenario	0.07	3,80	.802	.013
Gender*Scenario	0.02	3,80	.973	.003

These findings corroborate the conclusions of Gupta and Fernandez (2009) that male respondents tend only to perceive male attributes in entrepreneurs, while women would notice male but also be more sensitive to female characteristics.

5. Qualitative Study on Women Entrepreneurs and Mentoring

As per the logic presented in Kutaliqi *et al.* (2024), our *a posteriori* qualitative study complements the quantitative study and offers more fine-grained insights into the type of mentors women seek, relying on existing theory to build hypotheses relating to "*Willingness to be mentored*".

Our sample comprises seven women of different ages (named **A.**, **B.**, etc.), all with higher education qualifications, the vast majority having studied at a business school. They are also at various stages of the entrepreneurial journey. Using the GEM classification of entrepreneurs, our sample ranges from nascent entrepreneurs (involved in setting up a business), owners-managers of a new business (up to 3.5 years old), and owners-managers of an established business (more than 3.5 years old). The interviews took place between July and November 2023, lasting 30 minutes to over 1 hour. The open-ended interview questions inquire about their motivation, attitude toward risk, mentoring, and perceived specificities of female entrepreneurship. A certain amount of redundancy appeared throughout the interviews, which led us to believe that, despite the small number of interviewees, we had reached the data saturation point. We also interviewed a program director for female start-uppers (**H.**). She shared her experience and thoughts after managing a one-year support program that had just ended, which included 24 female start-ups. Her analysis echoed ours on many points.

The interviews were recorded, transcribed, and analysed with N-Vivo. Two researchers independently conducted the content analysis of the transcripts and compared their results. The researchers identified recurring themes as the coding progressed (Braun and Clarke, 2006). Thus, starting with generic codes linked to the interview questions, more precise codes emerged from a finer-grained analysis clustered into the following two key themes, presented in Table 7:

- **Theme 1:** *Need for mentors with cognitive empathic ability to understand the women entrepreneurs' specific challenges and values.*
- **Theme 2:** *Need for mentors with affective empathic ability to support women entrepreneurs emotionally.*

TABLE 7: Themes with illustrative verbatim comments

Theme	Sub-Theme	Verbatim
Theme 1: Need for mentors with cognitive empathic ability to understand the women entrepreneurs' specific challenges and values	<i>The mentor is expected to be able to...</i> Appreciate women's abilities and legitimacy as an entrepreneur	<i>The ideal [mentor] would encourage women to take more risks. However, I think encouraging men to take fewer risks would be just as good. And, if we could trust women more in the fact that they have, well, the ability to do things and stop mothering them too much, babysitting them. (D.)</i>
	Comprehend and respect their values	<i>I'm a bit afraid that coaching, or someone who is there for me on a day-to-day basis, will influence my way of thinking and that I'll get a bit lost on my roadmap. So today, I've preferred to build things up on my own, so I tell myself I'm going to go as far as I want to go, but I know there is going to come a time when I'm going to have to get support because I'm finally going to have to face up to my limits (C.)</i> <i>..., but [her former job] is, it's no longer, I mean, I'm no longer aligned with my values, it's not possible, it's not for me. [...] because when you're trying to have a positive social impact through your business, well, maybe you're not always going to prioritize dividends as a result." (B.)</i>
	Understand and respect their specific approach to evaluate and take risk	<i>Risk-taking is completely calculated. Women take risks. They're not afraid of taking risks [...]. (D.) But it is "conscious risk-taking" (terms used by A.). "Women think a lot and then act, whereas men in entrepreneurship act first and think later." (D.)</i> <i>We [women] have much to do with the consequences of our choices. Many men do not care. For example, [...], the consequence of choosing when to have a child when you are a woman [entrepreneur]. [...] men do not ask themselves the same question, [for them] it's transparent. Right now, I'm thinking, if I get pregnant at the same time as my [female business] partner, it is going to be 'shit'. How are <u>we going</u> to run the <u>business?</u> (D.)</i>
	Acknowledge the specific hurdles they face	<i>It's a big boys' club. [...] In fact, it's just because the founders are white men aged 50 who, on top of that, have been to business schools and engineering schools and who practice a form of social reproduction that is hyper brutal, hyper-violent, and hyper closed. (B.)</i>
Theme 2: Need for mentors with affective empathic ability to support women entrepreneurs emotionally	<u>Listen to personal issues</u>	<i>"Sometimes he (his mentor) can... you can share your stories and your life with him. Like if I have anything with my boyfriend, this kind of relationship problem, I will also talk to him. So, it's more like a friend always by your side. And so, it's not <u>only</u> [about] <u>work</u>." (G.)</i>
	Accompany the mentee himself/herself	<i>"And it's true that the mentor, in fact, the right mentor, will mentor the entrepreneur more than the company. In fact, in the end, it's not so much the company itself, it's the entrepreneur." (H.)</i>
	Build an affective dimension in the relationship	<i>I don't know, they're women who are still tough, who send things out, who are hard-headed. I don't know. These women are tough, they're aggressive, they're very strong-willed. [...] "you have to be a shark to succeed in entrepreneurship in a start-up environment." [...] "the impression is that successful women have found the key to the equation and will keep it precious". (D.)</i>

In conclusion, two predominant themes emerge regarding the empathic abilities required of mentors. Firstly, interview data indicate high expectations for mentors to acknowledge women's legitimacy, understand and respect the unique path to developing their projects, apprehend risk, and be attuned to their values. Secondly, there is an expectation for mentors to cultivate an affective dimension in the mentor-mentee relationship, thereby facilitating the women's personal growth and supporting the emotional dimension vested in the venture. Women prefer no support over a mentor, lacking empathetic engagement, characterised by a nurturing and respectful attitude. Notably, women entrepreneurs do not necessarily identify with female mentors. Successful women founders are often perceived to lack empathic abilities due to adopting cognitive codes linked to "hard" masculine traits. Thus, the ideal mentor should possess 'ambidextrous empathic abilities,' balancing affective and cognitive empathy.

6. Discussion and Conclusion

Previous research has reported the importance of mentoring in the intention to become an entrepreneur (St Jean and Audet, 2012; Baluku *et al.*, 2020) and in entrepreneurial success (Sullivan, 2000; Assenova, 2020; Minniti and Bygrave, 2001). These positive effects are expected to be particularly pronounced for women (Laukhuf and Malone, 2015; Langowitz *et al.*, 2006; Arruti, 2021; Baluku *et al.*, 2020; Theaker, 2023), who face underrepresentation due to social stigma and cognitive barriers (Dy *et al.*, 2017; Bernard *et al.*, 2013). Notably, the gender gap in willingness to become entrepreneurs is wider among business master's students (Malach-Pines and Schwartz, 2008).

To address these challenges, there have been calls for mentoring programs tailored to meet women's expectations (OECD, 2021; Germann *et al.*, 2023; Theaker, 2023), especially at the initiation stage where gender-based barriers are more experienced (Banerjee-Batist *et al.*, 2019). Our study explores the type of empathy and entrepreneurs that may influence women's "*Willingness to be mentored*" and, consequently, their inclination toward entrepreneurship.

The efficacy of the mentor-mentee relationship hinges on perceived similarity-attraction (Brush *et al.*, 2017; Fairlie and Holleran, 2012; Robinson *et al.*, 2017; Young Illies and Reiter-Palmon, 2018), encompassing shared personalities, interests, and values (Eby *et al.*, 2013; Lankau *et al.*, 2005; Young Illies and Reiter-Palmon, 2018). Within this dyadic relationship, empathy emerges as a critical ability for mentors, allowing them to adapt their approach to meet mentees' expectations and foster successful bonds (Duffy *et al.*, 2018). Previous research indicates that women tend to exhibit higher levels of empathy (Mestre *et al.*, 2009; Christov-Moore and Lacoboni, 2019; Löffler and Greitemeyer, 2021) and place significant emphasis on the affective connection within mentor-mentee relationships (Arruti, 2021; Baluku *et al.*, 2020; Theaker, 2023). Drawing upon the similarity-attraction paradigm, our first hypothesis examines the significance of affective empathy within the mentor-mentee relationship for women wanna-be entrepreneurs compared to their male counterparts.

Additionally, we propose a second hypothesis that considers entrepreneurial types. This secondary factor arises from prior research on empathy in entrepreneurship (Urban and Galawe, 2019), which indicates that social entrepreneurs exhibit higher levels of empathy (Bacq and Alt, 2018) compared to traditional entrepreneurs, particularly in the domain of affective empathy (Petrovskaya and Mirakyan, 2018; McMullen *et al.*, 2020). In the second hypothesis, we differentiate the effect of cognitive and affective empathy on "*Willingness to be mentored*", considering the respondent's gender and the entrepreneurship type (i.e., social or for-profit).

6.1. *Academic Contributions*

Two antecedents have been reported as affecting entrepreneurial intention: the attitude towards entrepreneurship (Liñan and Chen, 2009; Amofah and Saladrighes, 2022) and entrepreneurial mentoring (St-Jean and Audet, 2012; Radu-Lefebvre and Redien-Collot, 2013; Baluku *et al.*, 2020). We contribute to the conceptual development of mentoring by focusing on a potential antecedent of its success: "*Willingness to be mentored*".

Our research contributes threefold to the entrepreneurship literature.

1. A new construct, "*Willingness to be mentored*": Drawing from existing mentoring research conducted by Nauta and Kokaly (2001) and Fellnhofer and Mueller (2018), we adapt their items to align with the unique context of entrepreneurship. The "*Willingness to be mentored*" concept complements the notion of coachability (Kuratko *et al.* 2021). While Kuratko *et al.* (2021) focused on established entrepreneurs' coachability, our research shifts the lens upstream to the intention stage. By introducing the construct of "*Willingness to be mentored*", we found it necessary to revisit the existing "*Attitude towards entrepreneurship*" (Liñan and Chen, 2009) as these two constructs exhibited some overlaps, prompting us to refine them.
2. From a *methodology perspective*, we applied an experimental method (Viglia *et al.*, 2021) and designed four scenarios thoroughly to consider the type of empathy and entrepreneurs. We complemented with a qualitative *a posteriori* study to validate our findings (Kurtaliqi *et al.*, 2024).
3. From an *empirical standpoint*, this is the first study considering gender differences in "*Willingness to be mentored*". Our research contributes to studies that have examined aspects such as gender differences in mentee coachability (Kuratko *et al.*, 2021) or the influence of mentoring on women's entrepreneurial intentions (Amofah and Saladríguez, 2022). Our findings reveal some interesting nuances. Specifically, female respondents value affective empathy more when evaluating potential mentors. In a follow-up study, drawing from existing literature that identifies affective empathy as a critical trait for social entrepreneurs (Urban and Galawe, 2019), we report that female respondents express stronger attraction toward social entrepreneurs who display affective empathy.

By shedding some light on the significance of "*Willingness to be mentored*", we contribute to the broader discourse on entrepreneurial intention and mentorship

dynamics and enrich the entrepreneurship mentoring theory (Bozeman and Feeney, 2007).

The qualitative component of our study confirms these trends. Empathic mentors who understand the specific challenges of female entrepreneurs and are open to their approaches play a vital role. For instance, our findings indicate that women are not inherently more risk-averse than men (Brindley, 2005; Dawson and Henley, 2015) but face information asymmetry, which hinders objective risk assessment. Mentorship is, therefore, key to navigating a biased entrepreneurial landscape. However, women tend to be highly emotionally invested in their ventures. Therefore, mentors must balance practical guidance with emotional support, acting as "ambidextrous empathic mentors".

6.2. *Practical Implications*

Mentorship is pivotal in the entrepreneurial journey (Langowitz *et al.*, 2006; Baluku *et al.*, 2020). However, recent scholars (Warnecke, 2016) mention the need to cultivate a gender-sensitive entrepreneurship culture. We propose rethinking the mentor-mentee relationship to encourage women to engage successfully in entrepreneurial ventures. Some studies (Radu-Lefebvre and Redien-Collot, 2013; OECD, 2021; Germann *et al.*, 2023) advocate that women entrepreneurs are ideal mentors for female mentees. Conversely, other researchers have demonstrated that gender is not decisive in establishing enduring and effective dyadic relationships (Ragins and Cotton, 1999; Høigaard and Mathisen, 2009). We explore an alternative mentoring approach that transcends gender boundaries. The conclusions of our qualitative study emphasise the importance of mentor "sensitisation" to the specific hurdles women face and an appreciation for women's distinct approaches and emotional investments in their entrepreneurial projects. Our proposed perspective on mentoring integrates traditional practical guidance with deep empathic connections.

Our research supports expanding entrepreneurial training beyond trait-based or intention-driven models (Souitaris *et al.*, 2007) to include empathic capabilities. While cognitive empathy aids opportunity recognition and resource utilisation (Baron, 2008;

Packard and Burnham, 2021; Lambrechts *et al.*, 2020), it should be complemented by affective empathy to improve outcomes. Affective empathy is crucial in helping entrepreneurs refine and adapt their ideas (Hayton and Cholakova, 2012). Individuals with higher affective empathy are better at emotion regulation, communication (Thompson *et al.*, 2022), and prosocial behaviour.

A more inclusive entrepreneurial culture, supported by improved mentorship, would benefit society by valuing diverse approaches to entrepreneurship. This could shift resources away from what Hartmann *et al.* (2022) term "Veblenian entrepreneurs"—a leisure-driven, exclusive boys' club model that fosters co-optation and insularity, ultimately reducing effectiveness (Hartmann *et al.*, 2022).

7. Limitations and Future Research Agenda

While our study enhances our understanding of the role of empathy in "*Willingness to be mentored*," we acknowledge that it is not without limitations. First, we assume that the relationship between mentoring and the intention to become an entrepreneur extends to "*Willingness to be mentored*" and "*Intention to become an entrepreneur*". This should be tested in a longitudinal study. Second, we examine the association between empathy and the "*Willingness to be mentored*" within an experimental context involving a student population rather than nascent entrepreneurs. We aim to explore a factor that might impact entrepreneurial intentions among business school students where the gender gap is high (Malach-Pines and Schwartz, 2008). Notably, the distinction between potential mentors and role models in our student sample becomes less distinct in their cognitive perception, a phenomenon not necessarily applicable to nascent entrepreneurs. Third, we limited the study to the impact of affective empathy on the "*Willingness to be mentored*" of people self-identifying as female. A further study could include relevant intersecting factors such as race, sexual orientation, socio-economic class, disability, and neurodivergence (among others) to contribute to the research on how the combinations of factors affect the entrepreneur's journey (Dy *et al.*, 2017; Dy and Agwunobi, 2019) and could inform a more inclusive opportunity-driven entrepreneurship culture.

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ONLINE APPENDIX 1

Narratives for each scenario

NARRATIVES	FOR-PROFIT	SOCIAL
<p>COGNITIVE EMPATHY</p>	<p>B., one of the co-founders of Dynamixyz, has worked for more than twelve years as a researcher on facial analysis in a large technology company.</p> <p>B. decided to start Dynamxyz after observing and listening carefully to managers and developers in the video game and special effects industries and understanding their need to reproduce human facial expressions accurately.</p> <p>After showing a prototype that appealed to the actors in the industry, B decided to develop a Performer Solution' with a team of engineers and customers to capture and render in real-time facial expressions.</p> <p>As an entrepreneur, B. displays a collaborative mindset and good communication skills with team members, customers, and other stakeholders.</p>	<p>B., one of the co-founders of MOBIDYS, has worked for more than eighteen years as a consultant for large I.T. consulting companies.</p> <p>B. decided to start MOBIDYS after observing and listening carefully to various stakeholders in the education industry and understanding their needs for adaptive e-reading solutions.</p> <p>After showing a prototype that appealed to the actors in the industry, B. decided to develop "the FROG" (Free cognitive eBook) with a team of engineers, educators, and user-experience designers.</p> <p>As an entrepreneur, B. displays a collaborative mindset and good communication skills with team members, customers, and other stakeholders.</p>

NARRATIVES	FOR-PROFIT	SOCIAL
AFFECTIVE EMPATHY	<p>After twelve years as a researcher on facial analysis in a large technology company, <i>B. realised that there was more to life than working for a large company and decided to start Dynamixyz to be able to also contribute to society.</i></p> <p>As a volunteer in a non-profit organisation, <i>B. has been deeply moved by the pain and struggle of autistic children in reading facial expressions.</i></p> <p>This is why B. decided to study how to adapt the 'Performer Solution', initially developed for the video game industry, to help autistic children communicate better and recognise human expressions.</p> <p>As an entrepreneur, <i>B. forms personal bonds with the company's employees to better grasp their emotions.</i></p> <p><i>B. cares deeply about employees, customers, and other stakeholders' needs and expectations.</i></p>	<p>After eighteen years as a consultant for large I.T. consulting companies, <i>B. realised that there was more to life than working for a large company and decided to start MOBIDYS to be able to also contribute to society.</i></p> <p>As a volunteer in a non-profit organisation, B. has been deeply moved by the pain and struggle of dyslexic children in reading and understanding books.</p> <p>Therefore, B. decided to develop a solution to help people with dyslexia read and fully understand what they have read.</p> <p><i>As an entrepreneur, B. forms personal bonds with the employees to better grasp their emotions.</i></p> <p><i>B. cares deeply about employees, customers, and other stakeholders' needs and expectations.</i></p>
NEUTRAL EMPATHY	<p>B., one of the co-founders of Dynamixyz, worked for over twelve years as a researcher on facial analysis/synthesis in a large technology company before starting DYNAMIXYZ.</p> <p>B. realised there was a market for a real skin-rendering solution and started DYNAMIXYZ. B. has since successfully evolved from an R&D engineer to an entrepreneur.</p>	<p>B., one of the co-founders of MOBIDYZ, worked for over eighteen years as a consultant in large I.T. consulting companies before deciding to start MOBIDYZ.</p> <p>B. realised there was a market for e-reading solutions using artificial intelligence and started MOBIDYZ. B. has since successfully evolved from consultant to entrepreneur.</p>

ONLINE APPENDIX 2

Results From a Factor Analysis of "Willingness to be mentored" and "Attitude towards the Entrepreneur."

Construct items	Factor Loading	
	1	2
Factor 1: Willingness to be Mentored (Negative)		
I would like to be like this entrepreneur	-.40	.50
This is an entrepreneurial person who is particularly inspirational to me	-.80	
I would like this entrepreneurial person as my mentor	-.88	
I would like this entrepreneurial person to advise me in my professional decision-making	-.87	
Factor 2: Attitude (Positive)		
Being an entrepreneur like the one in the description would entail great satisfaction for me	-.45	.45
Being an entrepreneur like the one in the description would comprise more advantages than disadvantages for me.		.63
A career as an entrepreneur like the one in the description would be attractive to me.		.75
If I had the opportunities and resources, I would like to start my own firm like the entrepreneur in the description.		.90
Among all possible professional options, I would prefer to be an entrepreneur like the one in the description.		.74

Note. N=618. The extraction method was Principal Component Analysis with an oblimin rotation. Convergence after seven iterations. Relevant Factor loadings per construct are in bold.

From the pattern matrix, 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; MENT3; MENT 4