

Does mentoring reduce entrepreneurial doubt? A longitudinal gendered perspective

Entrepreneurial
doubt

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Abstract

Purpose – Mentoring appears to be a good support practice to reduce entrepreneurial doubt, amongst other things. Although perceived similarity could foster the mentoring relationship, gender dyad composition may also influence doubt reduction for entrepreneurs because of the potential gender stereotype in entrepreneurship.

Design/methodology/approach – The authors performed longitudinal research based on an initial sample of 170 entrepreneurs supported by a mentor to investigate the evolution of entrepreneurial doubt.

Findings – This study demonstrates that doubt can be reduced with mentoring, but only temporarily for male mentees. Gender stereotypes may be at play when it comes to receiving the support of a female mentor as entrepreneurship is still, unfortunately, a “male-dominated world.” Receiving support from mentors perceived as highly similar within the dyad does not reduce entrepreneurial doubt. Trusting the mentor is an important aspect, besides gender, in reducing entrepreneurial doubt.

Originality/value – The research provides insights into the gendered effect of mentoring to reduce entrepreneurial doubt. It shows that gender dyad composition should be taken into consideration when studying mentoring or other similar support to entrepreneurs.

Keywords Mentoring, Entrepreneurial doubt, Gender stereotypes

Paper type Research paper

Introduction

Embracing an entrepreneurial career is a process of peaks and valleys (Schindehutte *et al.*, 2006). Many studies show that entrepreneurs may experience negative emotions such as fear (Welpe *et al.*, 2012), loneliness (Doern and Goss, 2014), work overload and stress (Akande, 1994; Grant, 2011). The literature relates these negative emotions to business failure, but these peaks of negative emotions and their impacts on the entrepreneur’s commitment and motivation are not fully understood (Byrne and Shepherd, 2015; Doern and Goss, 2014). Entrepreneurial doubt is a belief that occurs when the entrepreneur loses faith in the future positive outcomes related to his/her venture (McMullen and Shepherd, 2006). Although similar to entrepreneurial self-efficacy in that it is fundamentally an individual belief, entrepreneurial doubt is turned toward the business while entrepreneurial self-efficacy is related to the self. Entrepreneurial doubt is an important concept that is known to inhibit action and lead to entrepreneurial exit (Lindblom *et al.*, 2020). Although we know what may cause doubt to occur (Shepherd *et al.*, 2007), we still know much less about what may decrease doubts to let the entrepreneur continue in this career with a more optimistic outlook toward the future.

Social learning theories (Bandura, 1977, 1986) suggest that people learn from their social environment, both directly and indirectly, and that this change in human cognition is a major determinant of behaviour. Based on this theoretical framework, we expect beliefs to develop through social interaction with others, among other things. Consequently, entrepreneurial

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doubt, as a belief turned toward the venture, could be changed through social interactions such as mentoring. In fact, mentoring offers moral support, encouragement, advice and knowledge-sharing (McGregor and Tweed, 2002; St-Jean and Audet, 2012; Nabi *et al.*, 2021), which are likely to reduce doubt among novice entrepreneurs (Valéau, 2006), just as it improves entrepreneurial self-efficacy (St-Jean and Tremblay, 2020; St-Jean *et al.*, 2018).

However, we still do not know what the best entrepreneurial mentoring configuration to reduce doubt among mentees is. Being supported by a mentor with entrepreneurial experience could improve the role model function, which in turn could impact motivation (e.g. Lockwood *et al.*, 2002) and knowledge sharing, as mentors with entrepreneurial experience should have more expertise to share with their mentees. Previous studies have shown that perceived similarity is more important than real similarity (e.g. same entrepreneurial background) (Lankau *et al.*, 2005; Ensher *et al.*, 2002) to develop outcomes in a mentoring relationship. However, dyad gender configuration (as “real similarity”) has an effect on the mentoring relationship and outcomes (Allen and Eby, 2004; Bauer, 1999; Levesque *et al.*, 2005; Scandura and Ragins, 1993). As research about gender stereotypes in entrepreneurship illustrate, being a male matches the stereotypes better than being a female (Gupta *et al.*, 2009; Hancock *et al.*, 2014). Consequently, the impact of dyad gender composition on entrepreneurial doubt reduction may be important. We used a longitudinal approach to study the impact of mentoring configurations on the level of doubt experienced by novice entrepreneurs supported by mentors affiliated with a business mentorship network. We initially asked the mentees to complete a questionnaire, then again three years later, in order to measure their level of doubt before and after the pairing, as well as the level of trust and perceived similarity within the mentor-mentee dyad.

This study provides new insights into experiential aspects of the entrepreneurial process (Schindehutte *et al.*, 2006; Byrne and Shepherd, 2015). We first contribute by demonstrating that entrepreneurs experience intense periods of doubt, which undermine their commitment and motivation and that mentoring is an efficient support for doubt reduction. This is an important contribution, since considering entrepreneurial doubt post business creation does not seem to have been studied previously, despite its widely recognized prevalence. In shedding light on this concept and on entrepreneurial mentoring as an efficient support to reduce doubt, we show the importance of further investigating entrepreneurial doubt, specifically in terms of the impact of knowledge and motivation management that could reduce doubt in the first few years after startup.

Secondly, we contribute by showing the ephemeral effect of mentoring on entrepreneurial doubt reduction. While an initial decline in entrepreneurial doubt was observed, thereby confirming the positive effect of mentoring, it would appear that the previous levels of doubt return over time. However, this ephemeral effect is found to be the case only among male mentees, as females experienced a steady decline of doubt as a result of the support they received from a mentor. This gender-differentiated effect provides new insights into the potential specific impact of other types of support offered to entrepreneurs.

Finally, this study contributes by showing that male mentors are more effective in reducing entrepreneurial doubt among mentees. Specifically, being supported by a male mentor results in doubt reduction that persists over time, as opposed to being paired with a female mentor, where doubt is expected to resurface over time. As there are no reasons to believe that male mentors are any better than their female counterparts, we suspect that gender stereotypes could be at play here. This suggests a need for additional research into the effects of gender stereotypes in entrepreneurship, in particular in mentoring relationships or any other support dynamics for entrepreneurs (coaching, incubators, venture capital, etc.).

Theoretical development

Doubt in entrepreneurship

According to Shepherd *et al.* (2007), entrepreneurial doubt is created by entrepreneurial risk, uncertainty and ambiguity, which are inherent to the entrepreneurial career. As these authors

argue, an individual's levels of risk, uncertainty and ambiguity likely differentially inform beliefs that in turn impact the likelihood of action (Shepherd *et al.*, 2007). As was mentioned above, entrepreneurial doubt is an attitude that entrepreneurs may have related to their loss of faith (belief) in the future positive outcomes of their ventures (McMullen and Shepherd, 2006). Unlike entrepreneurial self-efficacy, which is related to the self, entrepreneurial doubt is turned toward the business, although both are beliefs and, as such, could be changed. Doubt about the new venture's chances of survival could critically affect a novice entrepreneur's perseverance and motivation, which is likely to impact survival (Welpel *et al.*, 2012; Patzelt and Shepherd, 2011). Consequently, how doubt arises in and is managed by, a novice entrepreneur is important in our understanding of the entrepreneurship phenomenon.

McMullen and Shepherd (2006) suggest that entrepreneurial doubt can be overcome through knowledge and motivation, as they can trigger entrepreneurial action. In fact, beliefs pertain to knowledge and are part of an attitude; yet, the controversy surrounding the relationship between beliefs and attitudes cannot be fully resolved, as "[...] the factors that underlie belief formation and change could govern attitude processes as well" (Wyer Jr and Albarracín, 2005). Cognitive and affective learning are both reputed to change attitudes and beliefs (Edwards, 1990) and, therefore, the social learning theoretical framework (ref.: Bandura, 1977; Bandura, 1986) is relevant to understand how mentoring may influence entrepreneurial doubt.

Doubt reduction and mentoring

Mentoring should be an efficient way to reduce doubt among novice entrepreneurs, as it has an impact on knowledge and motivation, among other things. Extant empirical research highlight the positive cognitive effects (identifying opportunities, clarifying business vision, developing skills, etc.) and affective learning outcomes (reducing uncertainty and isolation, improving self-efficacy, establishing more ambitious goals, etc.) of mentoring relationship research (Rigg and O'Dwyer, 2012; Price and McMullan, 2012). Mentors fulfill three main functions: a career-related function, a psychosocial function and a role-model function (St-Jean, 2011; Waters *et al.*, 2002). It is mainly through the career-related function that mentors provide important knowledge about the (entrepreneurial) career and the psychosocial function helps in supporting the affective and motivational needs of the mentees, while role modeling provides a key learning component to develop proper career attitudes and behavior.

Furthermore, the mentors' role is to mobilize their capacity for empathy to its fullest in such a manner as to smooth out the magnitude of emotions felt by the entrepreneurs (Verzat and Gaujard, 2009; Cope and Watts, 2000). They should be able to lift the mentees' spirits when they are feeling down, but also help them keep euphoric moments into perspective (St-Jean and Tremblay, 2020). This listening and protecting attitude enables the mentees to go the distance when confronted with numerous uncertainties. Therefore, one can argue that mentoring would be of great importance in reducing entrepreneurial doubt.

Entrepreneurs may view their career with greater enthusiasm and optimism when supported by a mentor. As previously shown, mentoring increases commitment toward the entrepreneurial career (St-Jean and Mathieu, 2015), which suggests confidence in the venture's future success and, thus, low entrepreneurial doubt. Also, mentors are deemed to provide information in the opportunity recognition process (Ucbasaran *et al.*, 2009; Ozgen and Baron, 2007). Knowledge acquisition through learning is considered to be the main outcome of a mentoring relationship (St-Jean and Audet, 2012; D'Abate and Eddy, 2008). Specifically, information about the industry, customers and suppliers, internationalization and many other business-related topics can be acquired within an entrepreneurial mentoring relationship (Cull, 2006; Bisk, 2002). Such outcomes and specifically the knowledge and

motivation that is generally improved throughout mentoring, could potentially reduce doubt regarding the business project. These observations lead us to our first hypothesis:

H1. Mentoring reduces entrepreneurs' doubt.

According to [Dalley and Hamilton \(2000\)](#), cultural differences between members of the dyad, particularly regarding the ways of managing a business successfully, may lead the mentoring relationship to failure. In the case of an entrepreneur, it is the mentor's career that could probably have the greatest impact in terms of demographic similarity. In fact, we expect that mentors with entrepreneurial experience may be better suited to reducing the mentee's doubt. Mentors who have been entrepreneurs themselves are able to bring real-life testimonials regarding the difficulties inherent to a given situation, explaining that those difficulties are often short-lived, thereby successfully transmitting entrepreneurial culture and supporting entrepreneurial motivation. Shared experiences in mentoring relationships foster the development of perspective among mentees, which paves the way for beliefs to be transferred from the mentor ([Varghese and Finkelstein, 2021](#)). [Valéau \(2006\)](#) has found that knowing another person who has created a company enables entrepreneurs to understand that doubt is part and parcel of any entrepreneurial venture, which puts the difficulties encountered into perspective. Relying on the support of other entrepreneurs has been shown to have an impact on reducing doubt among entrepreneurs ([Haines and Townsend, 2014](#)). This leads to the following hypothesis:

H2. Mentors with entrepreneurial experience reduce mentee doubt more successfully than mentors who have not been entrepreneurs themselves.

Mentoring relationships are not all the same. Beyond the duration and frequency of the meetings that may have an impact on the quality of such meetings (e.g. [Wanberg et al. \(2006\)](#)), the mentors' and the mentees' distinguishing traits and the nature of the developing relationship are equally important in this regard ([Allen and Eby, 2008](#); [Poteat et al., 2009](#); [Wanberg et al., 2003](#)). Thus, for the mentoring relationship to be a success, good chemistry between the mentor and the mentee is essential ([Cull, 2006](#); [St-Jean, 2012](#)). As [Kram \(1985\)](#) has suggested, trust is an essential component of the mentoring relationship that improves the quality and value of the relationship. This observation is equally valid for entrepreneurial mentoring ([Cull, 2006](#); [St-Jean, 2012](#)).

Besides trust, and in order to help build that trust, the role of perceived similarity between the members of the mentor-mentee dyad has also been highlighted as an important element in the quality of a mentoring relationship ([Allen and Eby, 2003](#); [Ensher and Murphy, 1997](#); [Wanberg et al., 2006](#); [St-Jean, 2012](#)). As role models, mentors are likely to stimulate or inspire their mentees to achieve certain professional goals ([Bosma et al., 2012](#)). In order to generate positive outcomes as role models, one condition seems essential: the mentor must be perceived as similar to the mentee ([Elam, 2008](#); [Wilson et al., 2009](#); [Terjesen and Sullivan, 2011](#)). The identification process is fundamental in ensuring mentoring relationships are effective ([Humberd and Rouse, 2016](#)) and perceived similarity measure is an excellent manner to assess the recognition mechanism in the identification process. When identification is effective, mentors share their values and attitudes, and they may model desired entrepreneurial behaviours or attitudes. We can expect that doubt will be reduced to a greater extent when the mentoring relationship is considered to be effective, which means having a high degree of trust and perceived similarity within the dyad. This leads to the following hypotheses:

H3. A high degree of trust (H3a) and perceived similarity (H3b) in the mentoring relationship enable doubt reduction among mentees to be reduced more successfully than a low degree of trust and perceived similarity.

Research related to the effect of gender in mentoring relationships has produced mixed findings (Young *et al.*, 2006). Several studies in the context of organizational mentoring illustrate that the mentor's functions are not identical depending on whether the mentor is male or female, or whether the *protégé* is male or female (Allen and Eby, 2004; Fowler, 2002; Levesque *et al.*, 2005; Scandura and Williams, 2001; O'Brien *et al.*, 2010; Sosik and Godshalk, 2000; Fowler *et al.*, 2007). In addition, the outcomes are also not always the same depending on the gender configuration of the dyad (Faucett *et al.*, 2017; Ismail *et al.*, 2017; Kofoed and McGovney, 2019; Ensher and Murphy, 2011). This is probably because each gender focuses on different needs to be addressed by mentoring (Ortiz-Walters *et al.*, 2010; Tharenou, 2005). Not only is there little agreement regarding the effect of gender on mentoring relationships, but almost all of this knowledge comes from mentoring inside large organizations, which is very different from mentoring for entrepreneurs. Gender may determine the needs of the mentee and the reason for enlisting the support of a mentor (McKeen and Bujaki, 2007; Tynan *et al.*, 2009). Specifically with regard to entrepreneurial mentoring, we know that outcomes (e.g. intention to remain self-employed) are of greater amplitude for females than for males (Baluku *et al.*, 2020). It also appears that female entrepreneurs may reap greater benefits from mentoring than males (Kyrgidou and Petridou, 2013).

Besides, we believe that gender stereotypes in entrepreneurship may influence the process of mentoring, as stereotypes are known to influence mentoring relationships in general (Young *et al.*, 2006) because they are particularly transferred via role-modeling (Max and Ballereau, 2013). Practices and representations place females second in entrepreneurship because males are viewed as the dominant figure (Meyer *et al.*, 2017; Constantinidis, 2010; Lewis, 2006). In entrepreneurship, females are perceived by investors as requiring more support, lacking an established network and described as anxious as to whether they would be able to succeed (Malmström *et al.*, 2017). This may be why they are seeking more external advice and support (Yazdanfar and Abbasian, 2015). Furthermore, they may be discriminated against when receiving funding as capital providers apply different standards based on gender, which further reinforces the stereotype that entrepreneurship is for men (Marlow and Patton, 2005; Eddleston *et al.*, 2016). This also strongly suggests that they may not only experience entrepreneurial doubt to a greater extent than their male counterparts, but that mentoring may be more beneficial to them as well. On one hand, mentoring is generally more beneficial for females than for males. On the other hand, because they may doubt more than required because that the people surrounding them may suggest implicitly that they should (Gupta *et al.*, 2014), the support of a mentor should help in reducing the doubt. This leads to the following hypothesis:

H4. Mentoring has a greater effect in reducing entrepreneurial doubt among female entrepreneurs than male entrepreneurs.

Role models influence career development by providing information and supporting motivational processes (Gibson, 2004). Notably, empirical research has demonstrated that entrepreneurs tend to choose models of same gender and nationality (Bosma *et al.*, 2012), especially when it comes to women entrepreneurs (Murrell and Zagenczyk, 2006; Tynan *et al.*, 2009) who want to start a business in what is still perceived as a "man's world" (Wilson *et al.*, 2007). This suggests that real similarity could be an important element in the efficacy of entrepreneurial role modeling (Hu *et al.*, 2014). As previously suggested, the qualities required to succeed in entrepreneurship are also those attributed to males (Gray and Finley-Hervey, 2005; Gupta and Fernandez, 2009; Stevenson, 1986) and males are perceived to be more adapted to the entrepreneurial career than females (Hancock *et al.*, 2014; Edelman *et al.*, 2018). Because males are seen as the "by default" gender for entrepreneurship (Gupta *et al.*, 2008), male mentors in entrepreneurial mentoring may be perceived in a better light to provide

career support or role-modeling. As they are likely to be viewed as being better suited to entrepreneurship, male mentors would also be likely to have their advice and suggestions perceived as being more credible; therefore, male mentors may be better in reducing entrepreneurial doubt among mentees.

However, same-gender dyads do not experience issues related to potential gender stereotypes, as male dyads meet the norm, on the one hand and female dyads may appreciate the fact of being “between women,” on the other hand, since they could take advantage of that fact to discuss specific issues that concern women in business. Higher outcomes or functions are expected when the dyad is of the same gender (Kao *et al.*, 2014; Li *et al.*, 2018; Tharenou, 2005). This is not very surprising as gender similarity reinforces role model identification (Wheeler *et al.*, 2005; Ragins and McFarlin, 1990). Nonetheless, the case of a male mentee paired with a female mentor is likely to cause problems. Here, the mentee is part of the accepted norm in entrepreneurship, but will receive support from a woman who is not part of the norm and will potentially be associated with female gender stereotypes in entrepreneurship. Thus, this situation could reduce the mentee’s perception of learning and the encouragement may have less of an effect in reducing entrepreneurial doubt. These elements lead to the following two hypotheses:

H5. Mentoring from a male mentor has a greater effect on reducing entrepreneurial doubt.

H6. Mentoring within same-gender dyads has a greater effect on reducing entrepreneurial doubt than with mixed-gender dyads.

Methodology

Data collection and research design

“Réseau M” is a business mentorship network that serves as the setting for this research study. It was created in 2000 by the *Fondation de l’entrepreneuriat*, an organization dedicated to Québec’s economic development. About 70 mentoring cell groups, from all around Québec, offer the network’s services to novice entrepreneurs. These cell groups usually receive support from economic development organizations, such as the Local Development Centers (LDC), the Community Futures Development Corporations (CFDC) and the local chambers of commerce. These organizations promote the development of the mentoring program at local or regional levels, in accordance with the business mentorship model developed by the *Fondation*.

We first asked 360 mentees affiliated with the business mentorship network of the *Fondation de l’entrepreneuriat* to complete a questionnaire. The return rate was 36.9%. The questionnaire (Q1) enabled our team to evaluate the level of past and present doubt, the changes in the doubt level and the level of perceived trust and similarity within the mentor-mentee dyad. These dimensions are further discussed below. Three years later, we carried out a follow-up survey of the original respondents and 106 respondents filled out the follow-up questionnaire (Q2). Some questionnaires were withdrawn from the analyses, as they were missing data and were included in the attrition group ($n = 36$). The questionnaires were written in French, which is their spoken language.

This follows a quasi-experimental research design (Shadish *et al.*, 2002; Campbell *et al.*, 1963). Figure 1 illustrates the sample and their relationship status when answering the questionnaires.

Measures

Doubt before pairing (Time 1). At the initial data collection (Q1), in order to evaluate the level of doubt at pairing, the respondents had to indicate the degree to which they agreed with the

following statements: Before the mentoring relationship, 1- I thought of giving up my business project, 2- I felt discouraged about my business project, 3- My company, at times, felt like a millstone around my neck and 4- I considered becoming employed in another organization [1]. These items were based on Valéau's construct (Valéau, 2006).

Current level of doubt (Times 2 and 3). To evaluate the current level of doubt, we used the same items, but formulated them in the present tense (e.g. 1- I am thinking of giving up my business project). The second question regarding doubt was placed at the end of the initial questionnaire (Q1) in order to get respondents to forget their previous answers; it was preceded by the following request: "Think about how you feel today about your business." In the follow-up questionnaire three years later (Q2), the same items were used. Cronbach's Alpha for level of doubt before pairing (T1-Q1), actual level of doubt (T2-Q1) and actual level of doubt at follow-up (three years later – T3-Q2) were 0.773, 0.756 and 0.783, respectively.

Perceived similarity. The measure developed by Allen and Eby (2003) was used to perceive similarity with the mentor. It proposes and assesses the similarity of: 1- values, 2- interests and 3- personalities. We added the item suggested by Ensher and Murphy (1997) concerning the similarity of points of view (4). Cronbach's Alpha for perceived similarity was 0.886.

Trust in the mentor. The measure of trust in the mentor was based on the three components of trust in another person suggested by Rempel and Holmes (1986), namely 1- reliability, 2- predictability and 3- trust. Cronbach's Alpha for trust in the mentor was 0.674.

Mentor entrepreneurial career (MEC). We asked the mentee about the main career of their mentor, whether he or she was an entrepreneur (1) or had a career outside of entrepreneurship (0).

Attrition and robustness tests

Unfortunately, we were unable to access all the respondents from the baseline sample (Time 1). One may argue that attrition (i.e. loss of respondents in a longitudinal study) may have distorted the findings, since those who answered the survey in the follow-up (Time 2) are more likely to be better performers, just as other biases may affect the likelihood of participation in the second wave. In order to assess this potential bias, we followed Goodman and Blum's (1996) recommendation. We compared the profile of respondents who answered only the first wave (Time 1 only) with those who answered both waves (Time 1 and Time 2) regarding socio-demographic dimensions (gender, age, education), business characteristics (sales, number of employees, profits) and the main variables of this study (entrepreneurial doubt at pairing and currently, perceived similarity and trust). We also performed a binary logistic regression to estimate the probability of participating in the follow-up using those variables (LGO and ESE-OR) as predictors, a procedure also suggested by Goodman and

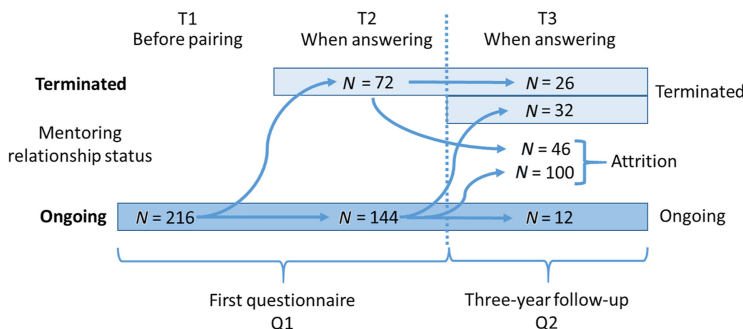


Figure 1.
Sample and
relationship status at
each stage

Blum (1996). We did not find any significant differences between the two groups (*t*-test), except for the level of education. The respondents who answered both waves had a little more education, a situation similar to other longitudinal studies (Spoth *et al.*, 1999; Korkeila *et al.*, 2001), since respondents with more education are probably more inclined to be drawn toward new knowledge creation by researchers. However, this difference should not influence the final results. Furthermore, neither entrepreneurial doubt (T1 and T2) nor trust or perceived similarity can predict the probability of being part of the 2nd wave survey. Therefore, attrition bias did not seem to affect our data.

Moreover, testing the impact of mentoring on doubt reduction is challenging. This is especially complicated since having a control group was not acceptable for any mentoring program with which we could work. Instead, we tested our sample to ensure that the observed effects were unique among the mentees who had a mentoring relationship that lasted for at least 6 months. As the meetings took place once a month on average and as this formal mentoring program officially linked the dyad for one year – although several mentoring relationships continued afterwards – we thought that a six-month period would be enough to get the expected results. This was a tradeoff between including more mentoring relationships in the study, possibly some without a mentoring effect (less time spent with the mentor), thereby reducing the possibility of finding anything significant and being too strict in the selection, thereby reducing the number of mentoring relationships studied, thereby lowering the power of the tests.

To ensure that time since the relationship started had an effect on reducing doubt, we compared groups with extreme different duration of mentoring relationship: a group ($n = 22$) that had very few mentoring (four months or fewer) with another of equivalent size ($n = 23$) that had the longest relationship (43 months or longer). We selected size-equivalent groups to make sure that the power of tests was not an issue. We compared the level of doubt at T1 and T2 with a paired-sample *t*-test. As we can see in Table 1, entrepreneurs with very few mentoring had a non-significant ($p = 0.659$) change in doubt before (T1) and after (T2) pairing, while those with the longest mentoring duration showed strong and significant ($p = 0.010$) doubt reduction. One should also note that people with a long mentoring relationship reported a recall of their doubt before pairing (T1) that was statistically identical to those who had close to no mentoring relationship ($p = 0.801$). This demonstrates two things: first is that on average, doubt at pairing (T1) made with recall is no different between mentees that had just started their relationship and those who had undergone a long relationship. This suggests that recall, despite a potential bias, may not be significantly influenced by the time that elapsed from starting the relationship and receiving the questionnaire. Second, it shows that for longer mentoring relationships, doubt is significantly reduced, demonstrating that mentoring appears to have a significant effect on doubt reduction even with a very small sample ($n = 23$).

We also considered firm tenure since the relationship started: the higher the firm tenure, the less likely doubt would occur. However, there were no significant differences between the group of newly created businesses (5 years of operation or less, separated at the median) and the more mature businesses (6 years of operation or more). Thus, doubt seems to occur during the different phases of the evolution of the business.

Table 1.
Paired-sample *t*-test
comparison of shortest
and longest mentoring
duration

	Doubt T1	Doubt T2	Sig (<i>p</i>)
4 months or less ($n = 22$)	3.011	3.170	0.659
43 months or more ($n = 23$)	3.087	2.446	0.010

Data analysis strategy

We ran General Linear Models for repeated measures with SPSS (Version 26). This strategy is perfectly adapted to longitudinal analyses when changes in the mean level of a dependent variable are sought (Wu *et al.*, 1999). We computed the level of doubt at three points in time (T1, T2 and T3) as dependent variables with mentee gender, mentor gender, similarity with mentor, trust in mentor and mentor entrepreneurial career (MEC). We also computed interaction between dyad genders (Mentor gender X Mentee gender) and mentee gender X MEC.

Sample

The initial sample (Q1) involved 89 men (52.4%) and 81 women (47.6%). They were paired up with 142 male mentors (83.5%) and 28 female mentors (16.5%). The mentees were educated and 94 (55.3%) of them had at least a university degree. They were, on average, 39.9 years old (median of 38) and ages ranged from 23 to 65. At startup, 26.3% had no experience in their company's industry and 61.6% had less than five years of experience. With regard to the level of experience at a business startup, most of them (53.1%) had no experience and 83.1% had less than five years. The businesses had few employees; the average was 4.40 (median of 2). The industry sectors varied, but there was a slight shift toward professional services (22% or 21.6%), manufacturing (20% or 19.6%) and retail trade (19% or 18.6%). The mentoring relationships lasted 20.13 months on average (median of 14.5). Most respondents were still in a mentoring relationship when they completed the first phase survey (58.6%).

Findings

Mentoring and doubt reduction

We looked at the inter-subject analysis for change in level of doubt with an initial model that focused on the specific interaction of genders configuration in the dyad. As Table 2 shows, only mentor entrepreneurial career (MEC) had a significant impact on doubt level. This could suggest that mentees with higher doubt could be paired with, or be attracted to, a mentor with a specific career. Our results show that mentees with higher doubt at pairing were paired with mentors that were significantly less involved in an entrepreneurial career.

Table 3 shows the intra-subject contrast for changes in levels of doubt. Time has a quadratic significant effect on doubt ($p = 0.010$, $\eta^2 = 0.110$) (H1 confirmed), as do mentee gender ($p = 0.012$, $\eta^2 = 0.103$) (H4 confirmed) and trust ($p = 0.036$, $\eta^2 = 0.074$) (H3a confirmed) and mentor gender also has a linear significant effect on doubt ($p = 0.029$, $\eta^2 = 0.080$) (H5 confirmed). No other significant effects were found (H2, H3b and H6 rejected).

We calculated different mean levels of doubt based on the specific differences observed from the independent variables, while controlling for similarity and trust. As we can see in Figure 2, mentoring helped reduce doubt among mentees but its effect was not sustainable. One should note that 66.7% of mentees were still in their relationship at Time 2 (144/210), while only 17.1% (12/70) were still in an ongoing relationship at Time 3 (Figure 2).

As doubt reduction has a significant differential effect based on mentee gender (H4 confirmed), Figure 3 indicates that female mentees show a constant and sustainable decline of doubt, while this change is only temporary for male mentees.

We also found that mentor gender has a significant impact on mentee's doubt reduction (H5 confirmed). Figure 4 shows that independently of their gender, mentors have a first significant decline of mentees level of doubt, but this effect is only sustainable for male mentors.

As no significant interaction effects between gender configurations in the dyad were found (H6 rejected), the following figures are provided for the purposes of illustration.

Figure 5 shows that female mentees with a male mentor see their doubt declining, while male mentees see an initial decline with a subsequent increase. Figure 6 shows that female mentees with a female mentor see their doubt remaining relatively unchanged, while male mentees see an initial decline, but with a subsequent strong increase. Again, both Figures 5 and 6 are not significant and should be interpreted with great caution. Table 4 resumes the hypotheses confirmation of this study.

Discussion

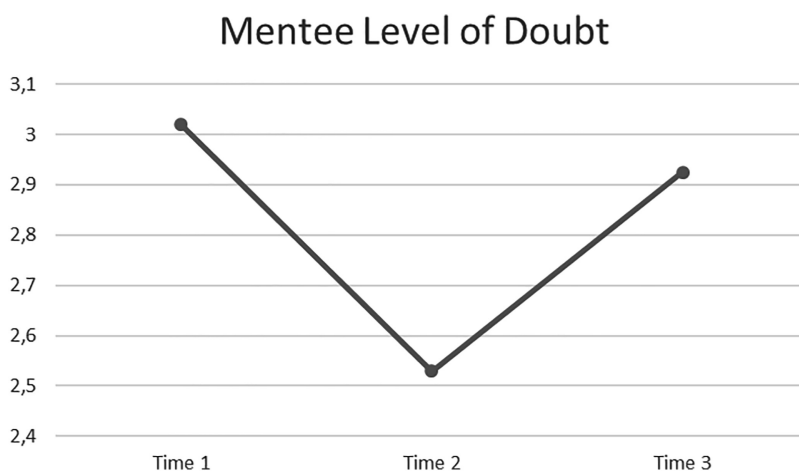
Entrepreneurial doubt reduction as a result of mentoring should not be surprising as mentoring is known to generate various positive outcomes for entrepreneurs, such as: reduction of loneliness and isolation (McGregor and Tweed, 2002), providing moral support (Miettinen, 2003), maintaining motivation (St-Jean and Audet, 2012) and increasing entrepreneurial self-efficacy (St-Jean and Tremblay, 2020). Other authors have also emphasized the existence of outcomes for the business (Deakins *et al.*, 1998; Sullivan, 2000), which could also generate reduction of entrepreneurial doubt. It seems that being supported by a mentor mobilizes the cognitive strategies of the entrepreneurs to make sense of what they are experiencing. As was mentioned above, the purpose of this process is to get the entrepreneur to shift his or her perceptions: that is, from negative narratives to positive ones (Byrne and Shepherd, 2015). This may reduce the level of doubt and facilitate the quest for a new commitment toward an entrepreneurial career. Through this process, the

Table 2.
Inter-subject analysis
for changes in doubt
levels

	<i>F</i>	Sig. (<i>p</i>)	Eta-squared (η^2)
Constant	19.312	0.000	0.250
Mentee gender	0.139	0.711	0.002
Mentor gender	0.012	0.914	0.000
Similarity	1.372	0.246	0.023
Trust	0.204	0.654	0.003
Mentor Entrep. Career (MEC)	7.221	0.009	0.111
Mtor Gender X Mtee Gender	0.009	0.923	0.000

Table 3.
Intra-subject contrast
for changes in doubt
levels

		<i>F</i>	Sig. (<i>p</i>)	Eta-squared (η^2)
Time	Linear	0.006	0.937	0.000
	Quadratic	7.188	0.010	0.110
Time X Mentee gender	Linear	0.963	0.331	0.016
	Quadratic	6.675	0.012	0.103
Time X Mentor gender	Linear	5.025	0.029	0.080
	Quadratic	0.827	0.367	0.014
Time X Similarity	Linear	0.152	0.698	0.003
	Quadratic	0.403	0.528	0.007
Time X Trust	Linear	0.042	0.838	0.001
	Quadratic	4.625	0.036	0.074
Time X MEC	Linear	1.461	0.232	0.025
	Quadratic	0.454	0.503	0.008
Time X Mtor gender X Mtee gender	Linear	1.076	0.304	0.018
	Quadratic	0.048	0.828	0.001



Entrepreneurial
doubt

Figure 2.
Doubt reduction in
mentoring for
entrepreneurs

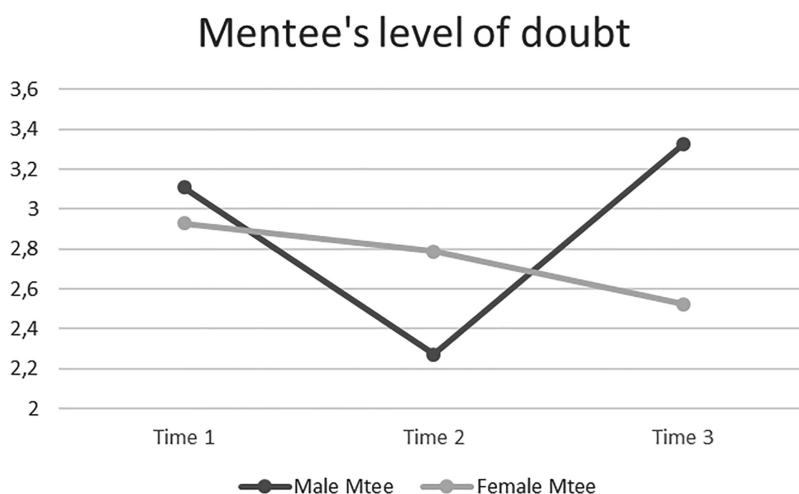


Figure 3.
Differences in doubt
reduction in mentoring
for entrepreneurs
based on mentee
gender

entrepreneur may learn to manage the paradox of being realistic while simultaneously being optimistic about the future (Miller and Sardais, 2015).

Firstly, our study confirms the doubt reduction effect of mentoring from a longitudinal perspective, but also shows the unsustainable effect of mentoring on entrepreneurial doubt, at least for the sample as a whole. This is an important contribution to the mentoring literature, but more specifically with regard to the impact of supporting entrepreneurs through mentoring. As most of the current research related to mentoring relies on cross-sectional analyses, this raises an important issue regarding the lasting effects of mentoring, especially for entrepreneurs. Although mentoring appears to be very helpful in very different contexts, its effect could be in the short term, at least in the context of entrepreneurship. Our study contributes to highlighting the importance of performing a longitudinal assessment of mentoring outcomes.

Figure 4.
Differences in doubt reduction in mentoring for entrepreneurs based on mentor gender

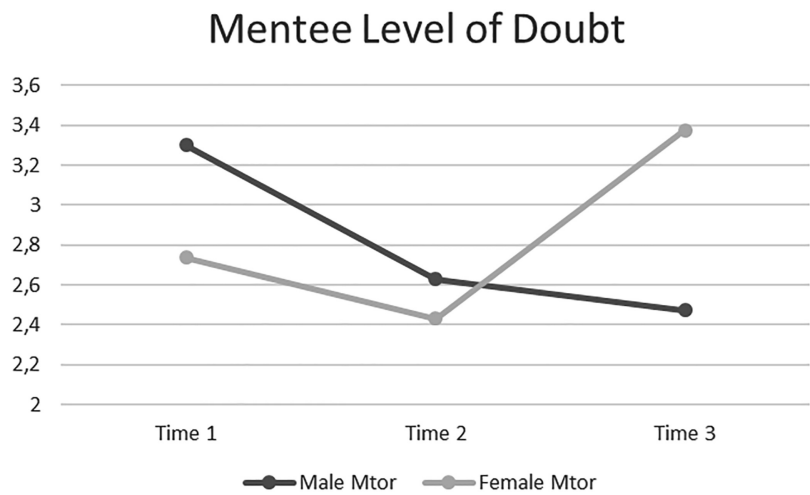
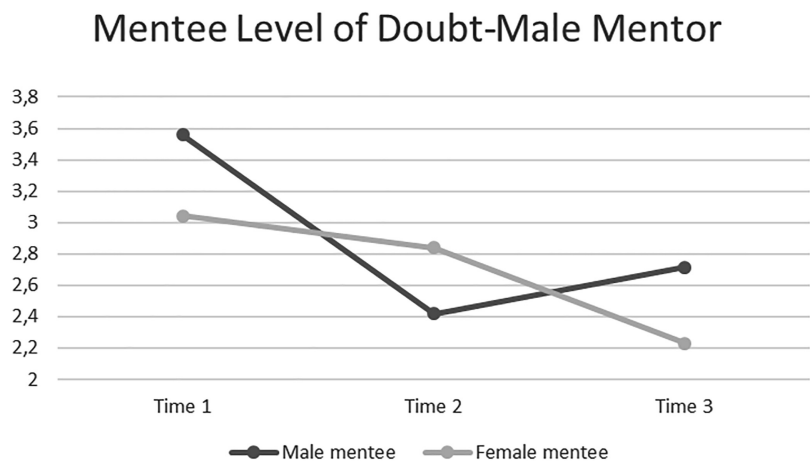


Figure 5.
Differences in doubt reduction in mentoring for entrepreneurs with male mentors based on mentee gender



Secondly, our results demonstrate that only female mentees appear to experience a significant and steady decline in entrepreneurial doubt, at least for the period under study. This is in line with what is observed in an organizational context where female mentees see their career improved more than men (Tharenou, 2005). Here, identity and its representations are played out (Willemssen, 2002). These representations are sociocultural constructs that take root from early childhood and through education systems (Brush, 1992). If women have more doubts and mentoring helps them regain confidence in their project, it is certainly because they “experience” themselves feeling inferior and less competent than their male counterparts. A real “reformist” approach that aims to erase gender discrimination is obviously challenging. We believe that the strongest responses must come from public authorities who can reform education systems and enhance the visibility of women.

Thirdly, this study demonstrates that male mentors have a steady and significant effect in reducing entrepreneurial doubt. These results bring into light the importance of the

Mentee Level of Doubt-Female Mentor

Entrepreneurial
doubt

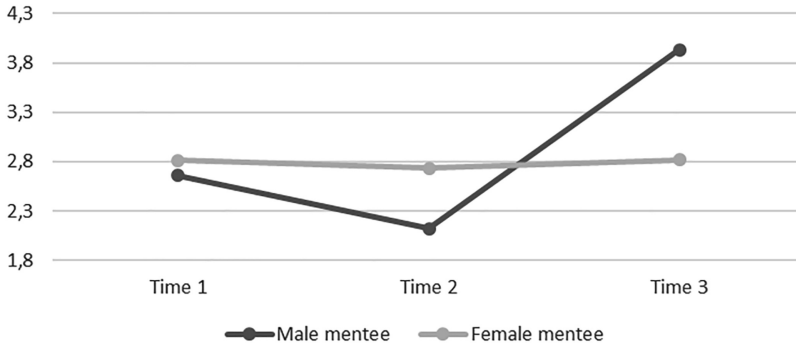


Figure 6.
Differences in doubt
reduction in mentoring
for entrepreneurs with
female mentors based
on mentee gender

Hypothesis	Status
H1: Mentoring reduces entrepreneurs' doubt	Confirmed
H2: Mentors with entrepreneurial experience reduce mentee doubt more successfully than mentors who have not been entrepreneurs themselves	Rejected
H3: A high degree of trust (H3a) and perceived similarity (H3b) in the mentoring relationship enable doubt reduction among mentees to be reduced more successfully than a low degree of trust and perceived similarity	a = Confirmed b = Rejected
H4: Mentoring has a greater effect in reducing entrepreneurial doubt among female entrepreneurs than male entrepreneurs	Confirmed
H5: Mentoring from a male mentor has a greater effect on reducing entrepreneurial doubt	Confirmed
H6: Mentoring within same-gender dyads has a greater effect on reducing entrepreneurial doubt than with mixed-gender dyads	Rejected

Table 4.
Hypotheses
confirmation

hegemonic model of masculinity in mentoring programs. Our conviction is that we must emancipate ourselves from systems that lock up men and women in stereotypes, for example by referring them, more or less explicitly, to the so-called “male” and “female” managerial assets. Entrepreneurship is still considered a man’s world (Hechavarría *et al.*, 2018; Balachandra *et al.*, 2019; Meyer *et al.*, 2017) and this situation has implications in mentoring programs for entrepreneurs at different levels.

Fourthly, our results contribute by moving beyond the debate between “real similarity” versus “perceived similarity.” As we have found, perceived similarity does not significantly help in reducing entrepreneurial doubt, nor does having a mentor with an entrepreneurial career (real similarity in terms of career). We found instead that having greater entrepreneurial doubt seemed to influence the pairing process, as we found inter-subject differences with higher doubt among the mentees paired with mentors that were not involved in an entrepreneurial career. Furthermore, real similarity in terms of gender also does not appear to be important. As long as trust in a mentor is present, mentoring is likely to reduce entrepreneurial doubt. These results should be interpreted with caution. Although our findings show that male mentors and female mentees are more likely to provide and maintain a steadier significant decline in entrepreneurial doubt, we were unable to see the interaction between genders, especially in the case of a male mentee with a female mentor. This is

probably due to the fact that, generally speaking, very few male mentees are paired with female mentors and, as a result, we had very few dyads with this configuration (2.27% of the sample), thereby drastically increasing the probability of a Type II error (i.e. not seeing a statistical difference where the effect is real). If we separately found that male mentees paired with female mentors have or provide only a short-term effect in reducing entrepreneurial doubt, we could then argue with certainty that this combination would not provide long-lasting outcomes and, therefore, that it is probable that same-gender dyads would lead to better doubt reduction.

Managerial implication

Several managerial considerations can be made in light of the results of this research. Firstly, mentoring is effective in reducing entrepreneurial doubt. Since this is a common situation to experience doubts when being in business considering the uncertainty (Haines and Townsend, 2014; Shepherd *et al.*, 2007), mentoring program managers can encourage those who appear to have such doubts to embrace mentoring as an appropriate tool to deal with them.

Secondly, with regard to pairing, mentors do not need to be entrepreneurs themselves to be effective, at least when dealing with doubt issues for their mentees. Similar results are observed related to improving the entrepreneurial self-efficacy of mentees through mentoring, as mentors' previous experience in entrepreneurship is non-relevant (St-Jean and Tremblay, 2020). As some programs only recruit mentors who have been entrepreneurs in their career, our results suggest this would not necessarily be required to have successful relationships. Our results show that trust in a mentor is very important to produce outcomes such as doubt reduction. For those in charge of mentoring programs, this means that special attention must be paid to the early process of matching the dyad members. For the chemistry to occur between these two people, it is necessary to make sure that the required trust is there.

Thirdly, several considerations should be made related to gender dyad composition. Our study suggests that mentoring programs can also help women entrepreneurs to have less doubt about themselves and their entrepreneurial abilities. Although doubt reduction applies to both males and females, it seems to be more sustainable in the latter. We also found that male mentors seem to be more effective than females; however, there is no reason to believe that the latter are less able to reduce doubt in mentees. This is more likely happening because of gender stereotypes in entrepreneurship. Mentoring program managers could help in this regard. They must promote more female-led businesses that succeed and highlight female mentors' qualities, competencies and success in their own careers. More generally, government-supported programs could also do the same by providing female entrepreneurs with at least as much, if not more, visibility as they do for male entrepreneurs. As stereotypes are built through time and are perception-based (Gupta *et al.*, 2009; Cejka and Eagly, 1999; Roberts, 1998), communication about the entrepreneurial qualities of female mentors and, more generally of female entrepreneurs, would likely to change perceptions and then, reduce the discrimination.

Limitations

One of the main limitations of this study lies in not having a real control group without a mentor with which to compare mentee doubt reduction. For this type of study, having a control group is almost impossible. Firstly, program managers do not want to see half of the entrepreneurs who have asked for a mentor being refused (in order to be included in the control group) for the purpose of the study. Secondly, it is highly possible that the individuals wanting to be supported by a mentor are different from others, making the composition of a comparison group very difficult, if not impossible. However, we were able to demonstrate that mentees with

close to no relationship (less than 4 months) do not see their doubt decline while those with the longest relationships saw a significant reduction in doubt. Despite this fact, one could argue that time alone may reduce mentee doubt rather than any impact from the mentor. However, we found that mentoring had a short-term effect for some mentees, but more long-lasting effects for others. Thus, if time alone were to reduce doubt, we would not have observed a general return to the initial level of doubt. This suggests that despite all the limitations associated with our research design, we can confidently conclude that mentoring reduces entrepreneurial doubt, at least temporarily for some and more permanently for others.

Secondly, despite the fact that we have no reason to believe that attrition produced a bias in our results, we cannot exclude that this may have occurred. In light of this, we decided to conduct a three-year follow-up. On the one hand, this has the benefit of highlighting the temporary effect of mentoring in reducing doubt, at least for some people. On the other hand, this probably increased the attrition rate and thus the potential bias, especially the “survivor bias,” whereas entrepreneurs that were still in business were more likely to complete the follow-up questionnaire. However, if the respondents who were no longer in business had been included, entrepreneurial doubt would not have been relevant, as there was no longer any business for them to have any doubts about.

Thirdly, we focused only on gender as a “real-similarity” feature. We could have looked at other characteristics, namely racial/ethnic similarity (Campbell and Campbell, 2007; Butz *et al.*, 2019). While it may not necessarily cause a limitation in our findings, this is probably an overlooked but important theme that should receive greater attention in future research.

Finally, one should note that we have not been able to confirm some of our hypotheses, especially the one related to mixed vs same gender dyad composition. Our sample does have very few relationships of male mentees paired with female mentors. This is probably due to gender stereotypes. However, this is likely to produce Type II errors (i.e. having non-significant results while we should). On one hand, further research involving a greater number of female mentors would be useful. On the other hand, promoting female mentors within the program in showing their effectiveness in supporting mentees may change the stereotypes and thus, the discrimination. More research related to these aspects would be valuable.

Conclusions and avenues for further research

We have shown that mentor support can significantly reduce entrepreneurial doubt, but that this effect may be only in the short-term for some mentees, especially male mentees or any mentees paired with female mentors. Our findings suggest that gender stereotypes may be at play when it comes to receiving support from a female mentor, as entrepreneurship is still unfortunately male-dominated (Gupta *et al.*, 2014; Ahl and Marlow, 2012). Receiving support from mentors who have business experience does not seem to provide extra benefits in reducing entrepreneurial doubt, nor does high perceived similarity within the dyad. Trusting the mentor may be the most important aspect, besides gender, in reducing entrepreneurial doubt. In other words, if a mentee trusts her or his mentor, then entrepreneurial doubt is likely to be reduced, at least in the short term or as long as the relationship lasts.

With regard to institutions that offer mentoring programs to novice entrepreneurs, our findings are relevant in a number of respects. Firstly, mentoring may be suggested as a relevant strategy to improve entrepreneurial resiliency. Mentoring is well suited to address specific and complex needs, in situations where several support options are available for entrepreneurs who appear to have doubts about whether to pursue their entrepreneurial commitment. Secondly, it would appear that entrepreneurial doubt may be reduced by all mentors, at least temporarily, to the extent that they can quickly establish a sense of trust with novice entrepreneurs. Thirdly, although the long-term effect of mentoring in doubt reduction appears to develop mainly among

female mentees, male mentees are also likely to experience a long-term effect if they are paired with male mentors, as the latter seemed to provide more long-lasting results, probably due to gender stereotypes associated with males in entrepreneurship. Fourthly, mentoring program managers could work on gender stereotypes by highlighting cases where mentees supported by female mentors provide testimonials about their positive impact in reducing their entrepreneurial doubt, as well as encouraging female mentees who experience entrepreneurial doubt to receive mentoring services.

Future research projects will have to place a greater emphasis on the diversity of reasons for doubt. Doubt may be caused by various elements such as frustration stemming from entrepreneurs' experiences or their worries regarding their own entrepreneurial abilities (Valéau, 2006, 2007). Our analysis of doubt does not capture this diversity, as we focused on doubt in general terms. Investigating this change process requires evaluating the level of doubt at different points in time. Therefore, future research in this field will have to be longitudinal in nature.

Note

1. Our translation, just as for other measures used, since the survey was conducted in French.

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