



Hybrid Entrepreneurship: Employees Climbing the Entrepreneurial Ladder

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Abstract. Recent empirical studies revealed that more than 50% of nascent entrepreneurs start their businesses while still employed. This combination of employment and entrepreneurship has raised the interest of policy makers and researchers who called it “hybrid entrepreneurship”. This study focuses on determinants of hybrid entrepreneurship. We examine the influence of socio-demographic variables and employees’ perceptions of resource accessibility and of work and job quality on their hybridization process. More precisely, we try to determine which variables either favor or hinder the transition from one commitment level to the next in the entrepreneurial process. Drawing on the work of Van der Zwan et al. (2010) on the entrepreneurial ladder, we estimate an ordered probit model using a sample of full-time and part-time employees who participated in the 2015 Quebec Entrepreneurial Index Survey (1787 observations). Among others, we find that employees’ progress on the entrepreneurial ladder is stimulated by soft support in the form of (perceived) easy access to business advice, and also by a high (perceived) work autonomy in the employee’s wage job.

Keywords: hybrid entrepreneurship, entrepreneurial ladder, hybridization process, Quebec.

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1. Introduction

Our traditional understanding of entry into entrepreneurship is based on the metaphorical concept that individuals have to take a leap into the unknown. Nevertheless, empirical evidence has forced us to reconsider the idea that entrepreneurship is an “all-or-nothing” phenomenon, as recent studies have shown that many people initiate their ventures while working in an organization as employees (Folta et al., 2010; Raffiee and Feng, 2014). Folta et al. (2010) coined the term “hybrid entrepreneurship” to refer to the process of combining self-employment and wage labor. This phenomenon seems to be on the rise, and is likely linked to the current economic environment, which is characterized by disrupting factors including globalization, changes in career paths, non-standard working arrangements, limited access to finance, and lack of employment security.

Various empirical studies have examined the magnitude of the hybrid entrepreneurship phenomenon and revealed that more than 50% of nascent entrepreneurs start their businesses while still employed (Reynolds et al., 2003, 2004; Petrova, 2005; Burke et al., 2008; Campbell and De Nardi, 2009). Historically, many famous and successful entrepreneurs have been hybrid entrepreneurs at some point in their career. For example, Steve Wozniak was still employed at Hewlett-Packard long after co-founding Apple (Wozniak and Smith, 2006; Raffiee and Feng, 2014) and Pierre Omidyar founded eBay while employed by a software-development company (Raffiee and Feng, 2014). As Raffiee and Feng (2014) illustrate, these are not isolated examples: “In 1997, 20 percent of CEOs on Inc. Magazine’s 500 fastest-growing private companies list indicated that they continued to work a paying job long after founding their organization” (p. 937). Despite these observations, the entrepreneurial venture is still often considered an all-or-nothing phenomenon. Recently, scholars have started to pay attention to hybrid entrepreneurs to better understand this emerging phenomenon. The field of hybrid entrepreneurship is still in its early days, but it has opened up new avenues for reflection and questioned our current understanding of the entrepreneurial process.

This study pursues this line of research by further scrutinizing the antecedents of hybrid entrepreneurship. We examine the influence of socio-economic and demographic variables and of employees’ perceptions of work and job quality on their entrepreneurial commitment. We distinguish between four levels of commitment in relation to the entrepreneurial process: *level 0*, no entrepreneurial intention; *level 1*, thinking about starting a business (entrepreneurial intention); *level 2*, taking steps to create a new venture (nascent entrepreneurs); and *level 3*, business ownership. More precisely, we try to determine which variables either favor or hinder the transition from one commitment level to the next in the hybridization process. Drawing on the work of Van der Zwan et al. (2010) on the entrepreneurial ladder, we estimated an ordered probit model using a sample of

full-time and part-time employees (n = 1787) who participated in the 2015 Quebec Entrepreneurial Index Survey.

The rest of the paper is organized as follows. First, we focus on the concept of hybrid entrepreneurship as opposed to other similar concepts, and undertake a review of recent research on the topic. Then, we present our methodological design and discuss our findings. We conclude with some insights and recommendations aimed at policymakers and human resources practitioners.

2. Literature Review

In this section, we review the recent literature on hybrid entrepreneurship and highlight its specific features compared with more traditional views regarding full-time entrepreneurship. We first define the concept of “hybrid entrepreneurship” and explore some related terms. The literature review is then divided into three main themes. First, we explore the motivations of individuals who prefer a hybrid entry into entrepreneurship rather than plunging straight into full-time entrepreneurship. Second, we focus on the conditions that either favor or hinder the transition from hybrid entrepreneurship to full-time entrepreneurship. Third, we examine the socio-economic and public policy challenges related to hybrid entrepreneurship.

2.1. Definition and Related Terms

We use the term “hybrid entrepreneurship” to refer to the process of combining self-employment and wage labor. Hybrid entrepreneurship differs from similar concepts studied by entrepreneurship scholars such as part-time entrepreneurship and moonlighting. The concept of part-time entrepreneurship encompasses more alternatives than the entrepreneurship/wage labor combination as it may also refer either to people who “juggle” with unemployment and entrepreneurship at once or to serial/portfolio entrepreneurs (Nordström, 2015; Petrova, 2012). Hybrid entrepreneurship also differs from moonlighting. Moonlighters usually combine two or more jobs, even though they can also combine employment and entrepreneurship. Furthermore, moonlighters generally choose this path as a way of addressing income constraints or difficulties in securing full-time employment (Nordström, 2015).

2.2. Reasons for Hybrid Entry

Scholars initially assumed that there were three key motivations that might explain a person’s entry into hybrid entrepreneurship: monetary benefits (Folta et

al., 2010), non-monetary benefits such as the pursuit of passion or hobby (Delmar et al., 2008; Folta et al., 2010; Thorgren et al., 2014), and job security (Delmar et al., 2008).

The hybrid entrepreneurship literature suggests that this process represents a strategy to “test the entrepreneurial waters,” *i.e.*, to learn more about the venture’s potential or about the individual’s fit in the entrepreneurial context (Folta et al., 2010). Raffiee and Feng (2014) studied small-scale entry via hybrid entrepreneurship as a real option. They showed that hybrid entrepreneurs could choose to either invest heavily in their entrepreneurial project or exit easily from it, depending upon the early returns. This is particularly interesting for people with high opportunity costs (Folta et al., 2010; Raffiee and Feng, 2014). Folta et al. (2010) investigated whether the determinants of hybrid entrepreneurial entry differed from those of traditional entrepreneurial entry and found evidence that the hybrid choice was positively influenced by “an individual’s switching costs, uncertainty around the entrepreneurial context, and the quality of their human capital” (Folta et al., 2010: 265). It is also worth noting that there is no evidence that financial constraints are a determinant of hybrid entry (Petrova, 2012).

Thorgren et al. (2014) found that passion is a significant driver for the hybrid entry mode into entrepreneurship, although they also found that passion can decrease over time. Nordström et al. (2016) showed that hybrid entrepreneurs’ passion for their entrepreneurial project decreases over time, and among hybrid entrepreneurs who are part of an entrepreneurial team, passion is less likely to be the primary motive behind the desire to launch a business. Furthermore, being part of an entrepreneurial team strengthens the negative relationship between entrepreneurial tenure and passion (Nordström et al., 2016).

The second most accepted reason for hybrid entry is the desire to obtain monetary benefits, while the third reason for choosing the hybrid option is the ability to combine employment and entrepreneurial activities (Thorgren et al., 2014). The fact that some people enjoy this combination might explain why some hybrid entrepreneurs are not interested in transitioning to full-time entrepreneurship. Viljamaa and Varamäki (2015) also found that individuals may choose to remain in the hybrid mode if the entrepreneurship/employment combination offers similar or better opportunities for self-fulfillment. In their study of Mexican microenterprises, Mungaray and Ramirez-Urquidy (2011) found that hybrid entrepreneurs were also motivated by the desire for a better work-life balance.

Since the work of Richard Cantillon (1755), who was the first to define entrepreneurship, entrepreneurs are generally depicted as risk takers. Entrepreneurs bear financial risk, management risk and personal risk; they put their whole career on the line in their pursuit of a new venture (Duxbury and Summers, 2004; Gartner, 1990; Liles, 1974). Hence risk propensity and risk perceptions are central for the theory of entrepreneurship. According to Sexton and Bowman (1983), people are afraid to take risks because they want to be safe

and avoid failure. Would this be a reason for hybrid entry to entrepreneurship? A recent study on hybrid entrepreneurship confirmed this assumption. Raffiee and Feng (2014) examined people's ability to mitigate risk and uncertainty via hybrid entrepreneurship and how this influences entrepreneurial entry and survival. Drawing on real options theory, they view hybrid entry as a way to test the entrepreneurial waters while only making a small investment, thereby creating the possibility of transitioning into full-time entrepreneurship, rather than feeling obligated. Launching a venture on a smaller scale means lower sunk costs and less risk (Folta et al., 2010; Burke, 2011; Raffiee and Feng, 2014). Experience acquired through hybrid entrepreneurship allows the individual to assess the venture's potential before making a full-time commitment. It is also worth noting that individuals are more likely to become hybrid entrepreneurs as opposed to full-time entrepreneurs in industries that are characterized by uncertainty and risk (O'Brian et al., 2003; Wennberg et al., 2006; Raffiee and Feng, 2014). This is in line with real options theory, which predicts a lower level of commitment to entry in cases where there is greater uncertainty. Using National Longitudinal Survey of Youth 1979 (NLSY79) data from the U.S. Bureau of Labor Statistics, Raffiee and Feng (2014) found that risk-averse and less confident individuals are more likely to prefer a hybrid entry. This finding challenges the traditional assumption of entrepreneurs' low level of risk aversion. The authors noted that "risk aversion influences the process of how an individual decides to start a business (i.e., full-time versus hybrid), not necessarily whether the individual decides to start a business or not" (p. 955). They also found that staged hybrid entry has a positive effect on the ventures' survival rate. The ventures of individuals who became hybrid entrepreneurs before committing to full-time entrepreneurship survived for significantly longer than those of individuals who transitioned directly from employment to full-time entrepreneurship. Therefore, hybrid entrepreneurs' ability to learn and to make early assessments of their business project's potential before transitioning to full-time entrepreneurship positively influences their venture's chance of survival.

Simply put, these findings show that there is no single way to launch a business, but rather a range of possibilities based on individuals' risk tolerance. Also, hybrid entrepreneurs may achieve better performance than traditional entrepreneurs through the learning benefits associated with hybrid entrepreneurship (Raffiee and Feng, 2014). It seems that hybrid entry might be particularly beneficial to the process of trial and error because the level of investment required is lower and the exit is easier than in case of traditional entrepreneurship. Therefore, hybrid entrepreneurship appears to be effectual, i.e. consistent with the perceived benefits of incremental or non-predictive strategies (Sarasvathy, 2001).

2.3. Persistent and Transitory Hybrid Entrepreneurs

The hybrid path is often seen as a transition phase between employment and full-time entrepreneurship (Folta et al., 2010; Raffiee and Feng, 2014; Viljamaa and Varamäki, 2015). Nevertheless, some hybrid entrepreneurs eventually either choose the status quo over the long term (Viljamaa and Varamäki, 2014, 2015) or return to full-time employment (Nordström et al., 2016). Viljamaa and Varamäki (2015) studied persistent and transitory hybrid entrepreneurs and found that transitory hybrid entrepreneurs show more confidence in their capabilities. They are also more motivated by a desire for self-fulfillment and have higher expectations regarding their venture's market potential. The authors found no significant differences in terms of either turnover or time allocation between persistent and transitory hybrid entrepreneurs. It is also worth noting that lack of support from one's immediate social circle (*i.e.*, family, close friends) may impede the transition to full-time entrepreneurship. Folta et al. (2010) found that the financial returns during the hybrid phase determine whether hybrid entrepreneurs ultimately transition to full-time entrepreneurship. These findings support the proposition that uncertainty mitigation through *learning by doing* is an important benefit of hybrid entrepreneurship.

The influence of age on entrepreneurial decisions also seems to differ between hybrid entrepreneurs and "pure" entrepreneurs. Thorgren et al. (2016) investigated the role of age in relation to the second-step entrepreneurial choice, *i.e.* hybrid entry followed by transition to full-time entrepreneurship. Their study revealed a U-shaped relationship between age and the intention to enter full-time entrepreneurship, with both younger and older hybrid entrepreneurs being most likely to go full-time. These findings contrast with previous research on the first-step entrepreneurial choice (*i.e.*, direct entry to full-time entrepreneurship), suggesting that the influence of age might be different, even opposite, in first-step and second-step entrepreneurial choices. Thorgren et al. (2016) also suggest that identity theory (Burke, 1991), rather than solely economic factors, might explain the second-step entrepreneurial choice. Hybrid entrepreneurship includes two professional roles, *i.e.*, those of the employee and the entrepreneur. Thus, hybrid entrepreneurs might transition to full-time entrepreneurship based on their personal identification with the entrepreneurial role, and how much they value it.

Other researchers have found that not all hybrid entrepreneurs wish to make a transition to full-time entrepreneurship and that the motives and expectations behind their choice of hybrid entry differ (Nordström, 2015; Solesvik, 2017). This suggests that more detailed analysis of heterogeneous hybrid entrepreneurs is needed to provide both a more refined taxonomy and a more developed framework for understanding the motives underlying hybrid entry.

2.4. Public Policy Issues and Hybrid Entrepreneurship

Hybrid entrepreneurship is particularly popular in the high-technology and R&D sectors (Solesvik, 2017; Schulz et al., 2016; Folta et al., 2010). Hybrid entrepreneurs are on average better educated and have higher levels of human capital than traditional entrepreneurs. Hence, their entrepreneurial projects might present better market and growth potential than those that emerge in the context of traditional entrepreneurial entry (Folta et al., 2010; Mungaray and Ramirez-Urquidy, 2011; Petrova, 2012; Schulz et al., 2016; Solesvik, 2017). Hybrid entrepreneurs' ventures also survive for longer on average than those of traditional entrepreneurs (Raffiee and Feng, 2014; Schulz et al., 2016).

Schulz et al. (2016) studied the effect of public policy on hybrid entrepreneurship. They focused on the effects of firm entry deregulation on hybrid entrepreneurs using Mexican household panel data for the period 2009-2013 to identify the influence of the Mexican SARE reform – which speeded up firm registration procedures and made them more transparent – on hybrid, full-time and part-time entrepreneurs. They found that those who benefited most from the reform were hybrid entrepreneurs with a master's degree or Ph.D.

Burmeister-Lamp et al. (2012) draw on the regulatory focus theory to explore how hybrid entrepreneurs allocate their working hours between employment and entrepreneurship. They found that entrepreneurs who are promotion-focused (*i.e.*, striving for gains and risk-inclined) will invest more time in their venture in low-risk situations. In contrast, prevention-focused entrepreneurs (*i.e.*, risk-averse) will commit more to their venture in high-risk situations to avoid potential losses.

3. Research Methodology

From a dynamic perspective, the entrepreneurial process may be viewed as a sequence of steps from entrepreneurial intention to business ownership (Reynolds, 1997). While current research has led to a better understanding of the profile of hybrid entrepreneurs, to our knowledge, no study has focused on the background and elements that either favor or hinder employees' commitment to starting-up new businesses. Specifically, the individuals' relationship with the organization that employs them and their perceptions of work and job quality have not been systematically studied, despite their impact on the decision to become an entrepreneur (Lee et al., 2011). Thus, the aim of our study is to explore the process leading to hybrid entrepreneurship by attempting to clarify the role played by these factors in employees' entrepreneurial commitment.

3.1. Data

The data used in this study were obtained from the 2015 Quebec Entrepreneurial Index (QEI - *Indice entrepreneurial québécois*). The QEI was launched in 2009 by the Fondation de l'entrepreneurship as an annual report. The QEI methodology was inspired by the Global Entrepreneurship Monitor (GEM) and is consistent with GEM's underlying dynamic view of the entrepreneurial process (Reynolds et al., 2005). Although their methodologies are similar, their objectives differ. While the goal of the GEM is to explore the role of entrepreneurship in the growth of national economies and to make international comparisons, the QEI aims to highlight the factors that shape Quebec's entrepreneurial dynamism and to situate it within the larger Canadian context. As Quebec's cultural and social structures differ from those in the rest of Canada², the QEI provides an interesting basis for comparison. The QEI compares Quebec with the rest of Canada by taking into consideration the institutional and socio-cultural dimensions in order to highlight differences regarding entrepreneurial activity and to present tentative explanations of those differences.

The 2015 QEI was based on a Web survey of a representative sample of 2,587 respondents living in Quebec. Data were collected in January 2015. The survey questioned a minimum of 150 respondents in each of the 17 regions in the province of Quebec and 320 in the Montreal metropolitan area. Also, a minimum number of respondents representing each level of entrepreneurial commitment were questioned in each region, *i.e.* 40 business owners, 30 respondents actively making venture efforts, 40 respondents contemplating venture creation, and 30 respondents who are neither interested nor involved in new venture creation. The corresponding numbers of respondents from within the municipality of Montreal were 80, 60, 80, and 60, respectively. Finally, a minimum of 150 respondents who had already closed a business were surveyed across Quebec. Using the most recent data from Statistics Canada, the observations were weighted by respondents' gender, age, language, marital status, and number of children to render the sample representative of the adult population in each region. Factor and reliability analyses were also used to identify latent (unobserved) variables characterizing the formation of entrepreneurial intentions, as well as correlations between variables (Chirita et al., 2015).

In the 2015 edition of the QEI, people in employment were asked several questions about their perceptions of work and job quality, which provided us with the opportunity to undertake this study.

2. The official language in Quebec is French, and the province has developed unique laws (*i.e.* the civil code), regulations, and institutions.

Dependent Variable

The dependent variable Y is qualitative (ordinal) and corresponds to different entrepreneurial commitment levels that were defined according to four modalities: (1) no intention, (2) entrepreneurial intention, (3) venture efforts, and (4) business ownership. This variable was constructed using responses to the first two questions in the QEI survey.

The first question asked respondents to specify their status from among the following options: (1) full-time student; (2) part-time student; (3) full-time employee; (4) part-time employee; (5) sole proprietor of a business (self-employed people are included); (6) associated owner in a registered or incorporated business (cooperatives are included); (7) seasonal or temporary employee; (8) unemployed; (9) retired (due to age or illness); (10) other. Respondents could choose multiple responses.

To study the entrepreneurial commitment of employed people, we considered only full-time employees (3) or part-time employees (4), which resulted in a sample of 1787 respondents³, after excluding temporary and seasonal workers. Regarding this question, ownership status (response categories (5) and (6)) was of particular interest to us in relation to constructing the "Ownership" modality of our dependent variable, which is equivalent to the highest entrepreneurial commitment level.

The dependent variable was examined using the responses to the second question in the QEI survey, which sought to determine the respondents' entrepreneurial commitment level, excluding ownership, by asking which of the following statements best indicated their current situation⁴: "(1) Alone or with others, you intend to create a new business or take over an existing business (*Intention or No Intention*); (2) In the past year, alone or with others, you have taken steps to create a new business or take over an existing business (e.g., search for equipment or location, set up a work team, develop a business plan, start saving money or other activities that would help start a business) (*Venture efforts*); (3) You have already closed or ceased the activities of a business owned and managed by you (closure or termination of a business does not include the sale of a business) (*Business Closure*)".

It should be noted that a respondent can fall under more than one of the five modalities, namely "No intention," "Intention", "Venture efforts," "Business Ownership" and "Business Closure". Given that we want to assess the propensity of workers to progress along the entrepreneurial pathway, we assume that the first

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3. Since the QEI focuses on the population in general and our study only concerns employed individuals, we have not taken the weighting function into account. Thus, the sample chosen for this study is not weighted.
 4. For each question, respondents have the possibility to answer Yes, No or I don't know. Therefore, the first subquestion allows us to identify individuals who are engaged in one of the first two levels of the entrepreneurial ladder (No Intention and Intention).

four levels are ordered, and that the “Business Closure” modality is irrelevant⁵. Therefore, we constructed the dependent variable with four ordered modalities, and each respondent was associated with his or her highest level of entrepreneurial commitment.

Explanatory Variables

The explanatory variables used in this study are presented in Table 1 and are divided into three categories: (1) socio-demographic variables, (2) perceptions of access to resources, and (3) perceptions of work and job quality.

Considering the peculiarity of Quebec’s economic fabric, in addition to the most commonly used socio-demographic variables (age, gender, educational level, having children under 18, having a family member in business), we added a region variable specifying whether the individual lived in one of the two major metropolitan centers of Quebec (Montreal and Quebec City) or in another city. This variable, which has three modalities, *i.e.*, Montreal (1), Quebec City (2) and other cities (3), was transformed into two binary variables (MTRMR and QCRMR) depending on whether the individual lived in Montreal or in Quebec City. Since Canada has two official languages (English and French) and Quebec is francophone, we also retained the language chosen by the individual to answer the questionnaire, assuming that it was the language in which he or she was most proficient. Finally, we retained a variable that distinguished individuals according to their immigration status. While the entrepreneurship literature has revealed the high propensity of immigrants to become entrepreneurs (*e.g.*, Li, 2001; Rosique-Blasco et al., 2017), this variable has not yet been integrated into hybrid entrepreneurship research.

Resource-access perception variables include the respondents’ perceptions regarding the ease of access to private funding, subsidies, and advice for starting-up a new business. These variables were informed using responses to the following question: “How easy is access to the following resources in your area?” Possible responses were as follows: Very easy (1), Fairly easy (2), Somewhat difficult (3), Very difficult (4) and No idea (5). Given the size of our sample and to facilitate the interpretation of the results, we decided to transform these three variables into binary variables. Thus, modalities (1) and (2) were combined to form the modality “Easy” while the other modalities were grouped under the modality “Difficult”.

5. Our sample did not include people who had closed a business and did not intend to become involved in a new venture. If this had been the case, we would have excluded them from our sample since these people are not a priori comparable to those who have never set up a new venture and do not intend to do so.

Table 1: Explanatory variables

Categories	Variable	Title	Modalities	
Socio-demographic variables	<i>Woman</i>		0: Man	1: Woman
	<i>English</i>	Questionnaire response language	0: French	1: English
	<i>Children</i>	Have children under 18 years of age	0: No	1: Yes
	<i>Montreal</i>	Living in Montreal	0: Outside Montreal	1: Montreal
	<i>Quebec</i>	Living in Quebec City	0: Outside Quebec City	1: Quebec City Region
	<i>Family Business</i>	Born into a business family	0: No	1: Yes
	<i>Age (under 30)</i>	Aged under 30	0: 30 years and over	1: Under 30 years of age
	<i>Age (between 30 and 44)</i>	Age between 30 and 44 years	0: Not between 30 and 44 years	1: Included between 30 and 44 years of age
	<i>Education</i>	Level of study	0: Pre-university or less	1: University degree
	<i>Immigrant</i>	Immigrant status	0: No	1: Yes
	Variables of perceptions of access to resources	<i>Private financing</i>	Private funding Accessibility	0: Difficult
<i>Subsidies</i>		Subsidies Accessibility	0: Difficult	1: Easy
<i>Advice for starting-up new business</i>		Business advice Accessibility	0: Difficult	1: Easy
Perceptions of quality of work and employment variables	<i>Part-time</i>	Working full-time or part-time	0: full time	1: part-time
	<i>Interests and skills</i>	Doing a job that matches your interests and skills	0: disagree	1: agree
	<i>Autonomy at work</i>	Have the opportunity to organize your own work	0: disagree	1: agree
	<i>Pleasure at work</i>	Doing a pleasant job	0: disagree	1: agree
	<i>Recognition of skills</i>	Perception of skills recognition	0: disagree	1: agree
	<i>Recognition of results</i>	Perception of results recognition	0: disagree	1: agree
	<i>Wage</i>	Perception of an adequate salary	0: disagree	1: agree

The variables pertaining to perceptions of work and job quality include the employment pattern reported by the respondent (full-time or part-time) and the responses to the question "Do you: Strongly agree (1), Somewhat agree (2), Neither agree nor disagree (3), Somewhat disagree (4) or Strongly disagree (5)" with the following statements: A) "You are currently doing a job that matches your interests and your skills" (Interests and skills); B) "You are currently doing a job where your skills are recognized (Recognition of skills); C) "You are

currently doing a job that you have fun doing" (Pleasure at work); D) "You are currently doing a job where you are free to organize in the way that you feel is most effective" (Autonomy at work); E) "You are currently doing a job that recognizes your results" (Recognition of results); F) "You are currently doing a job that provides you with a salary that satisfies your needs" (Wage). As for the variables pertaining to the perception of ease of access to resources, we created binary variables by combining modalities (1) and (2) (strongly agree or somewhat agree) into the modality "Yes" and modalities 3 to 5 into the modality "No".

Ordered Probit Model

The ordered probit model we use assumes that the dependent variable results from the discretization of an unobserved latent variable Y_i^* such that:

$$Y_i = \begin{cases} 0 & \text{if } Y_i^* \leq \alpha_1 \\ 1 & \text{if } \alpha_1 < Y_i^* \leq \alpha_2 \\ 2 & \text{if } \alpha_2 < Y_i^* \leq \alpha_3 \\ 3 & \text{if } \alpha_3 < Y_i^* \end{cases}$$

where α_1 , α_2 and α_3 are the unknown thresholds that determine to which of the four levels of commitment the respondent's interest in entrepreneurship corresponds. The unobserved variable Y_i^* is assumed to be represented by the following linear model:

$$Y_i^* = \beta X_i' + \varepsilon_i \quad \text{where } i = 1, \dots, 4$$

This ordered probit model gives three identical thresholds. Indeed, the ordered probit model is actually a sequence of estimations of the binary probit models. It is based on a strong assumption, namely the equality of the coefficients of the various binary probit models (parallel lines). However, this specificity of the ordered probit model may create a problem. A generalized probit model may improve our estimates when the assumption of parallel lines is refuted.

3.2. Descriptive Statistics

Table 2 provides descriptive statistics. A vast majority of the respondents were French speakers (88.25%). Men account for 51.43%, and women account for 48.57% of the sample. Most of the respondents are between 30 and 44 years old (40.18%) or 45 and over (36.99%) while 22.83% are less than 30 years old. Many people in the sample have children (41.63%). More than half of the respondents

reside in a big city, i.e. Montreal or Quebec. The majority are employed full-time (82.32%) rather than part-time (17.68%). Among those employed people, 53.33% have no university degree. Regarding entrepreneurial commitment levels, about one third of the respondents have no intention to become an entrepreneur. Another one third have the intention to launch a business, 26.52% are starting their venture while 8.28% are currently business owners.

Table 2: Descriptive statistics

<i>Variables</i>	<i>Categories</i>	<i>N</i>	<i>%</i>
<i>Language</i>	French	1577	88.25
	English	210	11.75
<i>Gender</i>	Man	919	51.43
	Woman	868	48.57
<i>Age</i>	Under 30 years old	408	22.83
	Between 30 and 44	718	40.18
	45 and over	661	36.99
<i>Children</i>	No	1043	58.37
	Yes	744	41.63
<i>Region</i>	Montreal	359	20.09
	Quebec	612	34.25
	Other	816	45.66
<i>Family business</i>	No	1421	79.52
	Yes	366	20.48
<i>Part-time</i>	Full-time	1471	82.32
	Part-time	316	17.68
<i>Education level</i>	University degree	834	46.67
	Pre-university education or under	953	53.33
<i>Level of commitment</i>	No intention	569	31.84
	Intention	596	33.35
	Starting	474	26.52
	Owner	148	8.28
<i>Immigrant</i>	No	1637	91.61
	Yes	150	8.39
<i>Private financing</i>	Difficult	1458	81.59
	Easy	329	18.41
<i>Subsidies</i>	Difficult	1501	84.00
	Easy	286	16.00
<i>Advice for starting-up new business</i>	Difficult	979	54.78
	Easy	808	45.22
<i>Interests and skills</i>	Disagree	457	25.57
	Agree	1330	74.43
<i>Autonomy at work</i>	Disagree	691	38.67
	Agree	1096	61.33

<i>Pleasure at work</i>	Disagree	455	25.46
	Agree	1332	74.54
<i>Recognition of skills</i>	Disagree	537	30.05
	Agree	1250	69.95
<i>Recognition of results</i>	Disagree	598	33.46
	Agree	1189	66.54
<i>Wage</i>	Disagree	451	25.24
	Agree	1336	74.76
Total		1787	100

3.3. Estimation Procedure

The Williams (2009, 2010) estimation procedure was used to estimate the above-mentioned series of binary probit regressions. The probability of a commitment level is given by:

$$\begin{aligned}
 P(Y_i = 0) &= F(\alpha_1 - \beta' X_i) \\
 P(Y_i = k) &= F(\alpha_{k+1} - \beta' X_i) - F(\alpha_k - \beta' X_i) \text{ where } k = 1, 2 \\
 P(Y_i = 3) &= 1 - F(\alpha_3 - \beta' X_i)
 \end{aligned}$$

where $F(\cdot)$ is the normal distribution function.

Table 3 shows the results of the estimation of the homoskedastic ordered probit model. We used the Akaike (AIC) and Bayesian (BIC) information criteria to choose the appropriate model, in terms of assuming homoskedastic or heteroskedastic error terms.⁶ Given that the BIC had similar values in both estimations, we opted for the analysis of the least complex model, namely the homoskedastic model.

Since the ordered probit model is based on the assumption of parallel lines, *i.e.*, equal coefficients of consecutive binary probit regressions, we performed a global Wald test to examine the parallel line assumption. If the parallel line assumption is not violated, all of these coefficients (except the intercepts) appear identical, and the results of the ordered probit are therefore, appropriate. Otherwise, the parallel-lines test result is used to identify the variables for which the assumption is violated, *i.e.*, the variables whose estimated coefficients diverge for the different binary probit regressions. In our case, the parallel-line assumption is violated for the following variables: all age category variables, the Quebec variable, immigration status, accessibility of business start-up advice, and

6. The variance of the error terms in the linear model for the unobservable variable may be constant (homoskedastic) or non-constant (heteroskedastic).

perception of pleasure at work. Therefore, we have used an estimation of a generalized ordered probit model (see Table 4) to refine our estimations.

Table 3: Ordered probit of the entrepreneurial ladder (homoskedastic model)

<i>VARIABLES</i>	<i>Coefficient</i>	<i>Standard Error</i>
<i>English</i>	0.048	0.103
<i>Woman</i>	-0.224***	0.054
<i>Children</i>	0.181***	0.057
<i>Montreal</i>	0.077	0.084
<i>Quebec</i>	0.380***	0.059
<i>Family Business</i>	0.406***	0.065
<i>Age (under 30)</i>	0.265***	0.071
<i>Age (between 30 and 44)</i>	0.264***	0.064
<i>Education</i>	0.140***	0.053
<i>Immigrant</i>	0.025	0.101
<i>Private financing</i>	0.052	0.073
<i>Subsidies</i>	-0.027	0.077
<i>Advice for starting-up new business</i>	0.227***	0.056
<i>Part-time</i>	0.166**	0.072
<i>Interests and skills</i>	0.048	0.076
<i>Autonomy at work</i>	0.142**	0.062
<i>Pleasure at work</i>	-0.175**	0.075
<i>Recognition of skills</i>	0.029	0.076
<i>Recognition of results</i>	0.084	0.071
<i>Wage</i>	-0.308***	0.064
<i>Constant cut1</i>	-0.456***	0.124
<i>Constant cut2</i>	0.476***	0.124
<i>Constant cut3</i>	1.527***	0.128
<i>Number of observations</i>	1787	
<i>Log-likelihood</i>	-2191.0685	
<i>LR statistic chi2</i>	224.52	
<i>Prob > chi2</i>	0.000	
<i>AIC</i>	4428.137	
<i>BIC</i>	4554.368	
<i>McFadden R²</i>	0.0487	

Notes: *** p<0.01, ** p<0.05, * p<0.1

4. Results and Discussion

Here we present the main results of our research and discuss those that appear to be characteristic of the hybrid entrepreneurial pathway. For each category of

variables, we first proceed to interpretations of variables that have not violated the parallel regression hypothesis, i.e. interpretations based on the ordered probit regression.

Socio-Demographic Variables

Gender and Children

Table 3 shows that the gender coefficient differs significantly from zero (negative value), which means that women present a lower probability than men of climbing the entrepreneurial ladder. Thus, similar to traditional entry, also hybrid entry seems less preferred by women than by men, which confirms the finding of previous studies (Viljamaa and Varamäki, 2015). As noted by Raffiee and Feng (2014), further studies should be conducted to better identify the profile and motivation of women who choose the hybrid path.

It also appears that having children under the age of 18 increases the likelihood of an employee climbing the entrepreneurial ladder. Thus, it seems that one of motivating factors in an employed individual's decision to become a full-time entrepreneur is the desire for a better work-family balance. This hypothesis is plausible considering that there is a widespread belief that becoming one's own boss improves work flexibility and work-life balance (e.g., Kirkwood and Tootell, 2008) and one's family situation is an important criterion in the choice of employment (Van Hooft et al., 2005).

In our opinion, gender and children variables should be studied jointly in an attempt to validate and complement the results of Thorgren et al. (2014) regarding differences in entrepreneurial activity between men and women with children. According to their research, among the population of hybrid entrepreneurs with children, women are more involved in their entrepreneurial activity when their children are over 20 years of age, whereas men are more involved when their children are teenagers (13-19 years old).

Family Business and Education

Our results suggest that coming from a business-operating family increases the likelihood of moving up the entrepreneurial ladder (Cieslik and Van Stel, 2017). Finally, confirming the findings of several previous studies on hybrid entrepreneurship (Folta et al., 2010; Mungaray and Ramirez-Urquidy, 2011; Petrova, 2012, Schulz et al. 2016; Solesvik, 2017), our results show that post-college education also increases the likelihood of employees moving up the entrepreneurial ladder.

Age

All other socio-demographic variables having significant effects violate the parallel regression hypothesis and thus we need to look at Table 4 and refine our interpretations. It can be seen that belonging to one of the two age groups under 44 significantly increases the likelihood of entrepreneurial intent. This result appears at first glance in line with Van der Zwan et al. (2010) whose study on the entrepreneurial ladder shows that older people are less likely to consider becoming entrepreneurs. However, for the rest of the hybrid entrepreneurial pathway, it seems that age does not play a significant role. Although Thorgren et al. (2016) underlined some research suggesting that maturity plays a role in the ability of individuals to combine several roles (Grandey and Cropanzano, 1999; Henslund and Tanvig, 2012), the implicit assumption that maturity would increase the likelihood of progress through the hybrid entrepreneurial pathway has not been validated by our research.

Thorgren et al. (2016) also showed in a study conducted on a sample of 256 Swedish business owners that there was a U-shaped relationship between age and the intention to enter full-time entrepreneurship: older and younger hybrid entrepreneurs are more likely than others to become full-time entrepreneurs. Since the QEI survey does not ask the respondents for their specific ages but requires them to position themselves in age categories, it was not possible for us to observe whether such a relationship also existed between employee status and hybrid entry into entrepreneurship.

Immigration

Being an immigrant has no consistent effect on the overall hybrid entrepreneurial pathway. Indeed, it appears that immigrants are more likely to have entrepreneurial intentions than natives but less likely to make the final step towards business ownership. Traditionally, two broad theoretical explanations are advanced to explain the tendency among immigrants to favor self-employment. The first, *i.e.* the blocked mobility theory, suggests that immigrants engage in self-employment for self-preservation because they are naturally disadvantaged in the labor market (*e.g.*, Maxim, 1992; Rajjman and Tienda, 2000; Li, 2001; Teixeira et al., 2007; Rosique-Blasco et al., 2017). The second, *i.e.* the enclave theory, considers that immigrants are encouraged by opportunities in specific ethnic entrepreneurship markets that ensure economic returns equal to or greater than what they could obtain on the open market (*e.g.*, Razin and Langlois, 1996; Chaganti and Greene, 2002). Even if these *push* (blocked mobility) and *pull* (enclave theory) theories as interpretative hypotheses have been largely discussed (*e.g.* Clark and Drinkwater, 2000; Li, 2001; Fairlie and Lofstrom, 2015), it would be interesting to see to what extent they are relevant in explaining the entrepreneurial intentions of employed immigrants.

Our results also show that while immigration status has no significant effect on the transition to the entrepreneurial commitment level of venture efforts, it appears, however, to reduce the likelihood of taking the final step on the entrepreneurial commitment pathway, *i.e.* business ownership. Therefore, it seems that immigrants are blocked in their hybrid entrepreneurial entry attempts. Studies on immigrants' propensity to seek self-employment show for example that the intensity and extensity of self-employment varies among immigrant entry cohorts depending on gender, human and social capital, family characteristics, educational level, and the length of time spent in Canada (*e.g.*, Li, 2001; Constant and Zimmermann, 2006; Dalziel, 2008; Baycan-Levent and Nijkamp, 2009). Future research should examine whether these factors also play a role in blocking the hybrid entrepreneurial pathway or whether other factors are at work.

Region

It appears that employees living in Quebec City are more likely to consider becoming entrepreneur or to prepare a new venture than the other inhabitants of the province of Quebec. Several characteristics of the labor market in the Quebec City region might explain this phenomenon, including the fact that it has the lowest unemployment rate in Canada⁷ and, a shortage of qualified workers. However, further research is needed to better understand the reasons for this difference. Our findings combined with those of future studies will be particularly interesting for policy makers because they should highlight the influence of regional and local characteristics on employees' entrepreneurial behavior.

Resource Accessibility Variables

The perception of ease of access to private funding and subsidies has no significant effect on the probability of moving through the hybrid entrepreneurial pathway (see Table 3). However, Table 4 indicates that the perception of ease of access to advice for starting up a new business plays a stimulating role in the first two steps of the process, *i.e.*, entrepreneurial intentions and new venture creation efforts.⁸

Variables Pertaining to Perceptions of Work and Job Quality

Employment Regime and Wage

Table 3 shows that the employment regime plays a significant role in the extent of progress up the entrepreneurial ladder. Part-time employees are more likely to

7. According to data from Statistics Canada.

8. The parallel-line assumption is violated for the variable "advice for starting up new business".

climb all the way up the entrepreneurial ladder than individuals who are working full-time. Although we do not have precise measurements of the average time spent by respondents at their job and on their entrepreneurial projects, this appears to be consistent with the assumption that individuals who are not required to devote as much time to their job have more time to develop their entrepreneurial activity.

Similarly, individuals who consider that their wages are insufficient for their needs are more likely to undertake all of the steps of the hybrid entrepreneurial pathway. This suggests that the entrepreneurial process is also driven to some extent by the need to supplement employment income that is deemed insufficient to meet one's financial needs.

Interests, Skills, and Recognition

Our findings show that several variables that could have been presumed to have an impact on the level of entrepreneurial commitment, or at least on the transition to the intention level, appear to have no effect. Thus, one could imagine that an individual whose skills or work results are not recognized would consider the hybrid entry path to entrepreneurship as a way to achieve recognition or to escape a working environment where management does not encourage recognition. However, our results indicate that recognition (or non-recognition) of skills or results does not, on average, play a catalytic role. Similarly, the perception of doing work that does not correspond to one's interests and skills plays no role in the advancement up the entrepreneurial ladder. Conversely, individuals who enjoy being autonomous in the organization of their work seem to be more inclined to move forward in the entrepreneurial pathway than employees who have less autonomy at work.

Pleasure at Work

Table 4 presents information regarding the role of the "fun at work" variable in the hybrid entrepreneurial process. Doing work that provides pleasure reduces the likelihood of entering the entrepreneurial pathway in parallel with one's employment. However, the effect of this variable differs for higher entrepreneurial commitment levels: it has a weak negative effect on the transition to new venture creation, and it increases the likelihood of becoming a business owner. Although passion and fun are not fully equivalent concepts (we can have fun at work without doing an exciting job, just as exciting work can cause displeasure), we believe that this finding is possibly related to previous research that highlighted the importance of passion in motivating hybrid entrepreneurs to start a business and the decline in the passion of hybrid entrepreneurs over time (Thorgren et al., 2014; Nordström et al., 2016). It would be worthwhile to dynamically study the link between fun at work and passion for entrepreneurial

activity as the hybridization process evolves to ascertain to what extent the “fun at work” variable influences the transition to full-time entrepreneurship.

Table 4: Generalized ordered probit of the entrepreneurial ladder

VARIABLES	0 vs 1;2;3		0;1 vs 2;3		0;1;2 vs 3	
	Coeff.	SE	Coeff.	SE	Coeff	SE
<i>English</i>	0.055	0.104	0.055	0.104	0.055	0.104
<i>Woman</i>	-0.219***	0.054	-0.219***	0.054	-0.219***	0.054
<i>Children</i>	0.180***	0.058	0.180***	0.058	0.180***	0.058
<i>Montreal</i>	0.064	0.085	0.064	0.085	0.064	0.085
<i>Quebec</i>	0.651***	0.075	0.182***	0.070	0.146	0.096
<i>Family Business</i>	0.412***	0.065	0.412***	0.065	0.412***	0.065
<i>Age (under 30)</i>	0.498***	0.089	0.053	0.085	0.001	0.122
<i>Age (between 30 and 44)</i>	0.479***	0.077	0.055	0.075	0.113	0.104
<i>Education</i>	0.130**	0.053	0.130**	0.053	0.130**	0.053
<i>Immigrant</i>	0.251*	0.131	-0.011	0.119	-0.448**	0.186
<i>Private financing</i>	0.064	0.073	0.064	0.073	0.064	0.073
<i>Subsidies</i>	-0.027	0.077	-0.027	0.077	-0.027	0.077
<i>Advice for starting-up new business</i>	0.323***	0.068	0.228***	0.065	-0.026	0.092
<i>Part-time</i>	0.167**	0.073	0.167**	0.073	0.167**	0.073
<i>Interests and skills</i>	0.054	0.077	0.054	0.077	0.054	0.077
<i>Autonomy at work</i>	0.123**	0.062	0.123**	0.062	0.123**	0.062
<i>Pleasure at work</i>	-0.348***	0.089	-0.147*	0.085	0.227*	0.121
<i>Recognition of skills</i>	0.027	0.077	0.027	0.077	0.027	0.077
<i>Recognition of results</i>	0.102	0.072	0.102	0.072	0.102	0.072
<i>Wage</i>	-0.322***	0.065	-0.322***	0.065	-0.322***	0.065
<i>Constant</i>	0.321**	0.132	-0.282**	0.131	-1.467***	0.165
<i>Number of observations</i>			1787			
<i>Log-likelihood</i>			-2124.4559			
<i>LR statistic</i>			357.75			
<i>AIC</i>			4318.912			
<i>BIC</i>			4511.002			
<i>McFadden R²</i>			0.078			

Notes: *** p<0.01, ** p<0.05, * p<0.1

5. Conclusion

Previous research on this topic has focused on the profiles of hybrid entrepreneurs and the future of their entrepreneurial activity. This study looked at the backgrounds of hybrid entrepreneurs and explored various factors that either

facilitate or hinder the advancement of wage-earners up the entrepreneurial ladder. To do this, we started with the assumption that the hybrid entrepreneurial pathway of wage-earners proceeds through several steps from entrepreneurial intention to business ownership.

This study revealed several important findings. First, female employees are less likely to climb the entrepreneurial ladder while having children under the age of eighteen significantly increases the likelihood of progressing on the hybrid entrepreneurial pathway. Second, although immigrants are more likely to enter the hybrid entrepreneurial pathway than natives, they are less likely to move up to the stage of new venture creation and become a hybrid entrepreneur. Third, being under the age of 44 increases the likelihood of having entrepreneurial intentions while working as an employee. We were unable to detect any other significant effects related to age in the subsequent steps of the hybrid entrepreneurial pathway. In addition, given the significant positive effects of living in Quebec City on the first two steps of the entrepreneurial pathway, it appears that hybridization is also influenced by characteristics specific to certain regions.

We also find that the accessibility of advice for starting up a new business has a positive effect in the first two steps of the hybrid entrepreneurial process, whereas resource accessibility related to private funding and subsidies does not play a significant role. These results are of interest to policy makers wishing to provide incentives for the development of hybrid entrepreneurial activities. It seems that investment in “soft” support and assistance mechanisms could have a more positive effect on entrepreneurial intention than investment in “hard” support, i.e. mechanisms to provide and facilitate access to financial resources.

Finally, regarding variables pertaining to perceptions of work and job quality, it appears that working part-time, having autonomy in one’s work and the perception of an insufficient wage all increase the likelihood of hybrid entry into entrepreneurship and that experiencing pleasure at work significantly reduces the likelihood of entrepreneurial intentions while increasing the likelihood of business ownership. The result on autonomy is particularly interesting as it suggests that providing more autonomy to employees is not necessarily an effective measure for managers wishing to prevent their employees from leaving the firm and start their own business.

This study has a number of limitations. The global sample of the Quebec Entrepreneurial Index (QEI) is created taking into account the demographic characteristics of Quebec so as to be as representative of the general population as possible. In our analysis, we have only extracted people who were in employment from the global sample. Consequently, even though the sample size is significant it is not necessarily representative of the sociodemographic characteristics of the employed population of Quebec. We think biases are limited but selection effects might have affected our results to some extent. Moreover, one of the assumptions underlying the method used is that each individual has proceeded through the same steps in a similar context, which is not necessarily

the case. For example, the intensity of different elements such as (1) the media coverage of entrepreneurship, (2) the initiatives to improve entrepreneurship awareness and (3) the public policies favoring entrepreneurship, has certainly varied these last few years and these variations in intensity may have had an impact on respondents' perceptions.

Thus, future research on the hybrid entrepreneurial pathway is needed to validate and complement the results we obtained.

To conclude, we feel that the present study makes an important contribution to entrepreneurship literature by being one of the first to focus on the antecedents of hybrid entrepreneurship.

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