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Innovative Self-concept of Micro-entrepreneurs: Perception of Barriers and Intention to Invest

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Abstract

The research presented below examines micro-entrepreneur conditions that relate to their innovative self-concept and the effect of this self-concept on the perception of barriers to entrepreneurship and intention to invest in assets. For this, I analyzed 5,836 surveys completed by Chilean micro-entrepreneurs who declared maintaining productive activities in 2015. The results show that there is a difference in innovative self-concept, depending on the age, gender, marital status and educational level of the entrepreneurs. Moreover, this showed that entrepreneurs that self-define themselves as innovators intend to invest and perceive barriers to entrepreneurship in a different way. The obtained evidence is relevant for guiding public policies that strengthen investment and for reducing micro-entrepreneurs' perceived barriers according to their individual characteristics. Additionally, the results could be considered in other emerging Latin American countries, with similar conditions.

Key words: self-concept; barriers to entrepreneurship; investment in assets; characteristics of the entrepreneur.

Introduction

Entrepreneurship has been recognized as a relevant activity for economic development, as it encourages self-employment and economic activity (Schumpeter, 1934). Moreover, studies have described entrepreneurial activity as a source of job creation and economic growth (Ovaska & Sobel, 2005; Zacharakis, Shepherd, & Bygrave, 2000).

The recognized effect of entrepreneurship on countries' economic growth has encouraged the development of research to identify factors that favor or hinder it. These factors relate to conditions in the entrepreneurial environment or with internal motivations to perform a different job to that of salaried workers. Two areas of research development in recent years are the study of the perception of barriers to entrepreneurship (Kouriloff, 2000; Lofstrom, Bates, & Parker, 2014; Sarasvathy, 2004) and individual entrepreneur conditions related to a company's results (Hisrich & Brush, 1986; Kozubíková, Belás, Bilan, & Bartos, 2015).

Regarding the study of individual conditions of the entrepreneur, research has mainly analyzed demographic conditions such as gender (Henry, Foss, & Ahl, 2016; Humbert & Drew, 2010; Shinnar, Hsu, & Powell, 2014) and age (Minola, Criaco, & Obschonka, 2016). These demographic variables are easily identifiable, however, they have limited ability to predict behaviors, since people with similar demographic conditions may present different behaviors (Camino & Rua, 2012). As an alternative to the aforementioned demographic variables, in recent years studies of entrepreneurs' psychological variables, such as their personality (Miller, 2015) and personal values have been developed (Fayolle, Liñán, & Moriano, 2014). One of the variables that integrates this category is the entrepreneurial self-concept, which consists of an individual's knowledge and belief about themselves at a moment in time (Hamachek, 1990), as Hamachek (1987, p. 10) points out, "it is our private mental image of ourselves, a set of beliefs about the kind of people we are".

Several researches have recognized the impact of entrepreneurial self-concept, self-perception or self-image of entrepreneurship (Krueger & Brazeal, 1994; Rhodes & Butler, 2004; Verheul, Uhlaner, & Thurik, 2005). A term in this area that has received primary attention is self-efficacy, defined as "the self-perception of individual capacities that affect motivation, personal resources and courses of action according to situational demands" (Wood & Bandura, 1989, p. 408).

Despite the recognition of self-concept, especially self-efficacy, with motivation and results of entrepreneurship, there is scant evidence to link innovative self-concept with perceived barriers to entrepreneurship and the intention to invest in new assets, in the context of micro-enterprises in Latin America. In these countries, authors such as Ambrosini and López (2006), Muñoz (2011), Valladares and Lajo (2013), Berrios (2015), have studied the influence of self-concept or self-perception in areas such as motivation to start a business and entrepreneurial skills. In a complementary way, Vargas (2007) and Ferrer and Jiménez (2009), analyzed the relevance of entrepreneurial self-efficacy on variables such as intention to develop ventures and life satisfaction.

Specifically, the relationship of innovative self-concept on the perception of particular barriers has not been analyzed in the context of micro-enterprises in Latin America, and the innovative self-concept differs according to its demographic conditions of micro-entrepreneurs. That is, it has not yet been identified as to whether innovative self-appointed entrepreneurs, present differentiated perceptions about difficulties in undertaking and intention to invest and/or if sociodemographic variables such as gender, age and educational level have an impact on their innovative self-concept. Consequently, there is an apparent knowledge gap.

This knowledge would allow us to understand the benefits of current activities implemented for entrepreneurship training. It would also help to design programs directed towards specific groups, since self-concept is a condition that can be intervened through activities such as workshops and coaching. Chile is considered to be a country of interest, as it integrates the emerging Latin American economies

(Morgan Stanley Capital International, n.d.) and may represent conditions present in Brazil, Mexico and Colombia, or other countries.

Theoretical Framework

Entrepreneurship and self-concept

From the perspective of the psychological characteristics of the entrepreneur, investigations have studied the relevance of aspects such as personality traits (Brandstätter, 2011; Leutner, Ahmetoglu, Akhtar, & Chamorro-Premuzic, 2014; Miller, 2015), lifestyles (Cederholm, 2015; Dale, 2015) and entrepreneurial self-concept (Poon, Ainuddin, & Juniy, 2006). Entrepreneur self-concept has been studied under different conceptions, using terms such as entrepreneur identity (Akerlof & Kranton, 2000), self-image (Verheul *et al.*, 2005), self-awareness (Connell & Wood, 2005) and self-knowledge (Lans, Biemans, Mulder, & Verstegen, 2010).

For example, Akerlof and Kranton (2000) define the concept of identity as the sense of self in economic analysis and point out that it plays a key role in explaining individual intentions for carrying out entrepreneurship. The relevance of the entrepreneur identity concept has been recognized as a condition that implies stable behaviors in the field of entrepreneurship activities (Dobrev & Barnett, 2005; Milton, 2009). In this area, Hoang and Gimeno (2010) study the relationship between business identity and business persistence and Mitchell and Shepherd (2010) have analyzed the association between the entrepreneur's self-image and decisions about entrepreneurial opportunities.

According to James (1890, 1950), self-concept consists of an empirical self in quote, which is a material, social and spiritual component, and fundamental to the understanding of an individual's experiences. Mitchell and Shepherd (2010) acknowledge the importance of self-perception for entrepreneurs as they must estimate coherence between their self-concept and the business opportunities they identify. In a complementary way, Bird (1995) estimates that self-image affects entrepreneurs' capacities. To explain its relevance under a theoretical foundation, social learning theory (Bandura, 1977, 1986) suggests that there is a triangle of reciprocal causes, including behaviors, cognitions and other environmental factors. This means that the perception of the environment and of oneself affects behavior, and that the behavior of an individual affects the perception of self and of one's environment.

The relationship between entrepreneurial activity and self-concept has been studied mainly from the perspective of self-efficacy (Boyd & Vozikis, 1994; Bullough, Renko, & Myatt, 2014; Hsu, Wiklund, & Cotton, 2017), defined as self-perception of an individual's ability to perform certain tasks (Bandura, 1987) or self-confidence in performance within a self-perceived domain of personal abilities (Wilson, Kickul, & Marlino, 2007). It has been recognized that the self-perception of entrepreneurs' abilities impairs their performance, since it has been estimated that entrepreneurs are successful in activities that they believe to be competitive (Bandura, 1989). It has also been suggested that the motivations of the entrepreneur may depend on their self-efficacy, since self-perception affects affective and behavioral states (Markham, Balkin, & Baron, 2002), as well as individual motivation and persistence when developing ventures (Bandura, 1997).

Previous research evidences differences in performance, motivation and persistence of the entrepreneur, derived from self-perception. Consistent with this evidence, I estimate that there should also be variation in the intention to invest in assets according to the innovative self-concept of micro-entrepreneurs and, thus, I propose the following hypothesis:

Ho: There are differences in intention to invest in entrepreneurships according to the innovative self-concept of micro-entrepreneurs.

Barriers to Entrepreneurship

The study of barriers to entrepreneurship, defined as conditions that hinder or impede entrepreneurship, is relevant (Lien, Lytle, & Komro, 2002), since they help to identify aspects that affect entrepreneurial activity and, in an indirect way, the economic development of countries. It has been recognized that entrepreneurship intentions depend on the perception of barriers to entrepreneurship (Carayannis, Evans, & Hanson, 2003; Lüthje & Franke, 2003). In this sense, Krueger (2008) considers that barriers perceived by entrepreneurs moderate their intentions and efforts to develop new businesses.

Regarding classification of barriers to entrepreneurship, Choo and Wong (2006) pose as barriers: lack of capital, lack of skills, high risk, lack of confidence and costs for government regulations. Moreover, Giacomini *et al.* (2011) define barriers as: lack of support structure and high fiscal and administrative costs, lack of knowledge and experience, economic climate and lack of entrepreneurship skills, lack of confidence and risk aversion. Finally, Donga, Ngirande and Shumba (2016) identify the following barriers: Lack of financing, market access, outdated equipment and technology, and poor infrastructure.

Among those mentioned, lack of financing has been estimated as outstanding (Robertson, Collins, Medeira, & Slater, 2003; Volery, Doss, Mazzarol, & Thein, 1997). In the field of micro-enterprises, Fielden, Davidson and Makin (2000) emphasize lack of funding as a prominent barrier. In addition, Villanger (2015) argues that access to capital and lack of skills and knowledge are significant obstacles for growth. Ahmad (2012) acknowledge the lack of financial support, bureaucracy, lack of credit options and lack of training as major problems.

The perception of external situations relates to the self-perception of an individual (Bandura 1977, 1986), therefore, it is estimated that the innovative self-concept, understood as micro-entrepreneurs' self-appreciation of innovator status, should affect the difficulties they perceive from their environment. For example, microentertainers might perceive some barriers to entrepreneurship as less relevant, since they consider that their inventive capacity reduces the impact of these conditions. By contrast, they might perceive some barriers as more important, since they limit the implementation of their innovative projects. Consequently, I propose the following hypothesis:

H1: There are differences in perception of barriers to entrepreneurship, according to micro-entrepreneurs' innovative self-concept.

Demographic Conditions of Entrepreneurs

In the area of entrepreneurial personal characteristics, which are related to their motivation and propensity to develop ventures, previous research recognized the incidence of different sociodemographic conditions, such as gender (Brush, Briun, & Welter, 2009; Henry *et al.*, 2016; Humbert & Drew, 2010; Shinnar *et al.*, 2014; Wilson *et al.*, 2007), age (Kautonen, 2008; Lévesque & Minniti, 2011; Minola, Criaco, & Cassia, 2014), and educational level (Martin, McNally, & Kay, 2013; Oosterbeek, Van Praag, & Ijsselstein, 2010). The relationship of these conditions has been studied in aspects such as propensity for entrepreneurship, entrepreneurial skills and performance of the developed enterprises.

Regarding age, Welmilla, Weerakkody and Ediriweera (2011) affirm that the abilities of the entrepreneur can improve with longevity. In this sense, Rose, Kumar and Yen (2006) positively associate entrepreneurial age with the success of their business. Moreover, Bosma, Praag and Wit (2000) point out that over the years more knowledge of the factors that influence the success of the company is generated. Regarding the propensity to develop ventures according to age, Karadeniz and Ozdemir (2009) recognize that entrepreneurial propensity is lower in the age cohort of 18-24 years, increases in

the stage of 25-34 years and decays again after the age of 44. Most research indicates that the chances of a venture's success increase with experience and that the propensity to develop new ventures decreases with age.

Consistent with these assessments, it is estimated that at an older age it is more challenging to develop new ideas for entrepreneurship. Moreover, the entrepreneur gains more experience and, therefore, his/her self-perception should be different from younger entrepreneurs. Consequently, I propose the following hypothesis:

H2: The innovative self-concept presents differences according to the age of the micro-entrepreneur.

In relation to the gender of the entrepreneur, different aspects have been studied, such as risk orientation in investments, capacities and entrepreneurial performance and propensity towards entrepreneurship. Regarding the relationship of gender with risky investments, studies tend to indicate that women are more conservative with investment decisions (Raposo, Paço, & Ferreira, 2008; Reynolds, 2004). In the field of opportunities, they have recognized advantages for both male and female entrepreneurs. For example, Shinnar, Giacornin and Janssen (2012) point out that the male role in society facilitates their search for business success. With respect to entrepreneurial capacities, advantages have been estimated for women.

In this sense, Ferk, Quien and Posavec (2013) estimate greater management skills in women and Scott (1986) recognizes advantages for women in relational skills. In relation to the propensity for entrepreneurship Tkachev and Kolvereid (1999) do not recognize difference by gender. Other studies, on the other hand, indicate that men have greater intention to develop business ventures (Kelley, Singer, & Herrington, 2012; Verheul, Thurik, Grilo, & Zwan, 2012). One of the causes to explain this difference is a lower perception of self-efficacy in women (Mueller & Dato-on, 2013; Wilson *et al.*, 2007) and greater self-perception as an entrepreneur for men (Verheul *et al.*, 2005).

The evidence obtained regarding propensity, performance and entrepreneurship capacities by gender is diverse. Some studies evidence advantages of men and others attribute advantage to women in particular conditions. Consistent with previous research, it is estimated that the innovative self-concept should also vary according to the gender of the micro-entrepreneur, therefore, the following hypothesis is proposed:

H3: There is a difference regarding innovative self-perception, according to micro-entrepreneur gender.

In relation to the level of training of the entrepreneur, a positive relationship between educational level and entrepreneurial performance has been recognized. Specifically, a link has been estimated between the level of training and the acquisition of skills and knowledge that strengthen the entrepreneurship, as well as the development of positive perception towards entrepreneurship and a greater intention to develop ventures (Honig, 1998; Martin *et al.*, 2013).

Moreover, investigations have related entrepreneurial education and greater self-efficacy. In this regard, the education of the entrepreneur seems to strengthen their expertise on a topic, the possession of relevant experience and verbal persuasion, and consequently on self-efficacy (Bandura, 1982, 1986). For example, Zhao, Seibert and Hills (2005) indicate that self-efficacy is a condition that favorably mediates the relationship of entrepreneurial education and intention to develop a new venture. Regarding participation in activities related to innovation, Barrera Verdugo and Bisama Castillo (2016) show a positive relationship between the educational level of company managers and the participation of their organizations in research and development activities.

Considering the results of previous research, the entrepreneur training level and their innovative self-concept should be positively related and, thus, the following hypotheses are proposed:

H4: The innovative self-concept is positively related to the educational level of the micro-entrepreneur.

H5: The innovative self-concept is positively related to the participation of the micro-entrepreneur in training.

In the scope of entrepreneurial civil status the results are diverse. Seoane and Álvarez (2009) point out that having a partner negatively affects the probability of being an entrepreneur. In contrast, Flores, Landerretche and Sánchez (2011) indicate that having children and partners increases the probability of starting a new business. In the investment field, Love (2010) recognizes differences in risk orientation as a function of marital status, for example, it indicates that widowhood leads to a sharp reduction in the shares of the investment portfolio. In relation to self-concept, Tamayo (1986) shows variation according to the marital status of individuals.

Previous research shows differences in results regarding entrepreneurs' marital status, risk orientation, propensity to develop ventures, entrepreneurial persistence and self-concept. Consistent with these results I estimated that regarding innovative self-concept and entrepreneurship there should also be variations, therefore, I propose the following hypothesis:

H6: The innovative self-concept of micro-entrepreneurs presents differences depending on their marital status.

Materials and methods

The responses of the Fourth Micro-Entrepreneurship Survey, carried out by the Ministry of Economy and Tourism of Chile (Ministerio de Economía, Fomento y Turismo, n.d.), were analyzed. Of these, 5,836 responses from entrepreneurs were selected who declared to keep up their activities: 3,677 men and 2,159 women. Organizations with less than 10 workers are considered to be microenterprises (Ministerio de Economía, Fomento y Turismo, 2016). The methodologies used to perform analysis were as follows: first, percentage frequency analysis to estimate the most relevant barriers to entrepreneurship; second, logistic regressions to relate demographic conditions of the entrepreneurs with their innovative self-concept; and third, Chi-squared tests to estimate differences in perception of barriers to entrepreneurship and intention to invest in assets, according to the innovative self-concept declared by entrepreneurs.

The following are the estimated logistic regression models. Model 1 includes primary and secondary educational level. Model 2 considers secondary and tertiary education. Model 3 focuses on participation in training. Marital status variables, separated or annulled, and widowed are not included to avoid multicollinearity in the results.

$$\text{Innovative self-concept} = \beta_0 + \beta_1 * \text{Gender} + \beta_2 * \text{Age} + \beta_3 * E. \text{ Primary} + \beta_4 * E. \text{ Secondary} + \beta_5 * \text{Divorced} + \beta_6 * \text{Cohabitant} \quad (1)$$

$$\text{Innovative self-concept} = \beta_0 + \beta_1 * \text{Gender} + \beta_2 * \text{Age} + \beta_3 * E. \text{ Secondary} + \beta_4 * E. \text{ Tertiary} + \beta_5 * \text{Divorced} + \beta_6 * \text{Cohabitant} \quad (2)$$

$$\text{Innovative self-concept} = \beta_0 + \beta_1 * \text{Gender} + \beta_2 * \text{Age} + \beta_3 * \text{Training} + \beta_4 * \text{Divorced} + \beta_5 * \text{Cohabitant} \quad (3)$$

The studied conditions of entrepreneurs and their scales of measurement are presented in Table 1. These characteristics are related to innovative self-concept in logistic regressions. The measurement scales are nominal (dummy) and scalar.

Table 1

Entrepreneurial Variables Related to Innovative Self-concept

	Answer alternatives
Age	Open answer
Gender	1= Man, 0=Woman
Primary or lower education	Yes=1, No=0
Secondary education	Yes=1, No=0
Tertiary education	Yes=1, No=0
Participation in training	Yes=1, No=0
Married	Yes=1, No=0
Single	Yes=1, No=0
Cohabitant	Yes=1, No=0
Divorced	Yes=1, No=0
Separated/annulled	Yes=1, No=0
Widower	Yes=1, No=0

Note. Source: Variables are extracted from Fourth Micro-Entrepreneurship Survey by Ministerio de Economía, Fomento y Turismo. (n.d.). *Cuarta encuesta de microemprendimiento de Chile (EME4)*. Retrieved June, 2017, from <http://www.economia.gob.cl/estudios-yencuestas/encuestas/encuestas-de-empredimiento-y-empresas/cuarta-encuesta-demicroemprendimiento-eme4>

The barriers to entrepreneurship considered in the analysis are based on the classification of Giacomini *et al.* (2011), who identified the categories: Lack of support structure, high fiscal and administrative costs, lack of knowledge and experience, economic climate, lack of confidence and risk aversion. Lack of inputs and lack of financing are included within the lack of support structure. Moreover, high fiscal and administrative costs include high contracting costs, high cost of regulations or legal regulations and high tax rate. The factor related to knowledge and experience includes lack of qualified personnel. Uncertainty about the state of the economy is considered in the economic climate category. The perception of lack of clients is estimated in the factors lacking confidence and aversion to risk. Selected barriers are also consistent with Choo and Wong (2006), who pose five types of barriers: lack of capital, lack of skills, high risk, lack of confidence, and costs for government regulations.

In Table 2, the variables and measurement scales are incorporated in Chi-squared analysis. These variables are used to recognize differences in perception of barriers to entrepreneurship, depending on the innovative self-concept of the micro-entrepreneur and intent to invest in the next 12 months.

Table 2

Variables and Measurement Scales Incorporated in Chi-squared Analysis

Barriers to entrepreneurship development	Measurement range	Entrepreneur self-perception	Entrepreneur self-perception
Lack of customers			
Lack of supplies			
Lack of financing			
Lack of skilled workers			
High cost of hiring new employees	Most important factor.		
High cost of regulations or legal norms	Dichotomous: yes / no		Do you consider yourself innovative?
High cost of regulations or legal norms		Innovative self-concept	Dichotomous: yes / no
High tax rate			
Uncertainty about the state of the economy			
Do not believe that there are factors that impede the growth of business	Dichotomous: yes / no		
Intends to invest or buy assets in the next 12 months			

Results and Discussion**Description of perceived barriers**

To analyze the perception of barriers for the development of surveyed micro-enterprises, I obtained the percentage of barriers perceived as being more relevant. Also included is the percentage of entrepreneurs who do not declare to perceive barriers to entrepreneurship.

The results obtained indicate that the barrier perceived as being more relevant is the lack of financing. This evidence is consistent with that posed by previous authors such as Volery, Doss, Mazzarol and Thein (1997), Robertson, Collins, Medeira and Slater (2003) and Villanger (2015). In contrast, the barriers perceived as being less relevant for the development of micro-enterprises are high costs for hiring employees and high costs for regulations and legal regulations.

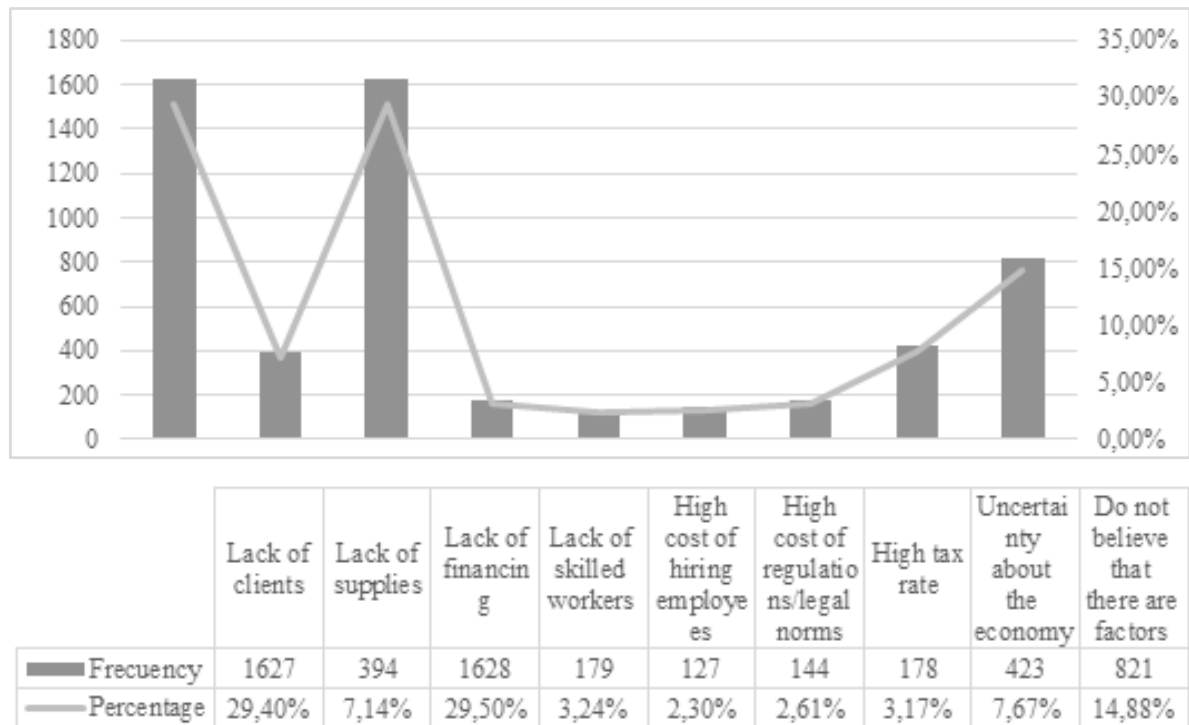


Figure 1. Distribution of Frequency of Barriers for the Development of Micro-enterprises

Relationship of characteristics of micro-entrepreneurs and innovative self-concept

Logistic regressions that relate characteristics of the micro-entrepreneur with their innovative self-concept as presented in Table 3 show that age, gender, primary or lower education, tertiary education, divorced civil status, and cohabitant marital status affect the probability of the micro-entrepreneur being perceived as innovative. Specifically, men, primary or lower education, and older age reduce the likelihood of innovative self-perception. On the contrary, tertiary education, participation in training, divorced and cohabitant marital status increase this likelihood.

Table 3

Logistic Regression Models

	n=5836		n=5836		n=5836	
	Prob > chi ² =0.000		Prob > chi ² =0.000		Prob > chi ² =0.000	
	Odds ratio	P> z	Odds ratio	P> z	Odds ratio	P> z
Gender	0.844	0.023**	0.837	0.017**	0.876	0.078*
Age	0.978	0.000***	0.977	0.000***	0.977	0.000***
Primary Education	0.817	0.013**				
Secondary Education	0.961	0.697	1.117	0.261		
Tertiary Education			1.265	0.010**		

Continues

Table 3 (continued)

	n=5836		n=5836		n=5836	
	Prob > chi ² =0.000		Prob > chi ² =0.000		Prob > chi ² =0.000	
	Odds ratio	P> z	Odds ratio	P> z	Odds ratio	P> z
Training					1.664	0.000***
Divorced	2.157	0.022**	2.184	0.019**	2.211	0.018**
Cohabitant	1.188	0.087*	1.199	0.071*	1.192	0.081*
Constant	17.967	0.000	16.352	0.000	15.547	0.000

Note. Author’s elaboration.

*p <.10, **p < .05, ***p < .001.

I transformed the odds ratios into probability using the formula:

$$Probability = \frac{Odd\ ratio}{(odd\ ratio + 1)} \tag{4}$$

I noted that divorced status, participation in training and tertiary education are the variables with the highest increase in probability, with values 68.9%, 62.5% and 55.8%, respectively. For Multicollinearity evaluation, Variance Inflation Factor Analysis (VIF) was performed in the regression models. The resulting FV values associated with the variables are less than 1.15 and have an average of less than 1.1 in all three regression models. Consequently, I estimated that there is no significant multicollinearity between the study variables.

To corroborate the results obtained in regressions in a complementary way, Chi-squared tests were carried out to evaluate differences of innovative self-perception regarding entrepreneurs’ characteristics, including the study of married, single, separated/annulled, widowed conditions, previously obviated by multicollinearity. The results presented in Table 4 are consistent with those obtained in logistic regressions. In a complementary form they recognize that with married and widowed micro-entrepreneurs, the proportion of people declaring innovative self-perception is lower, and with single marital status there is no statistically significant difference.

Table 4

Chi-squared Tests, Differences of Innovative Self-concept by Characteristics

Characteristics of the micro-entrepreneur	Innovative self-concept		Pr Chi ² /F	Conclusion
	Self-perceived As an innovator = No	Self-perceived As an innovator = Yes		
Gender	Woman	328	0.004 ***	Greater with female gender
	Man	667		
Primary or lower education	No	603	0.000 ***	Smaller with Primary education
	Yes	3353		

Continues

Table 4 (continued)

		Innovative self-concept		Pr Chi² /F	Conclusion
Characteristics of the micro- entrepreneur		Self-perceived As an innovator = No	Self-perceived As an innovator = Yes		
Secondary education	No	836	159	0.979	Without significant difference
	Yes	4069	772		
Tertiary education	No	800	195	0.000 ***	Greater with Tertiary education
	Yes	3602	1232		
Training	No	844	151	0.000 ***	Greater with training
	Yes	3667	1174		
Married	No	474	521	0.033 **	Smaller in Married
	Yes	2486	2355		
Single	No	803	192	0.906	Without significant difference
	Yes	4702	1134		
Divorced	No	985	10	0.015 **	Greater in Divorced
	Yes	4735	106		
Cohabitant	No	853	142	0.002 **	Greater in cohabiting
	Yes	3951	890		
Separated /annulled	No	917	78	0.745	Without significant difference
	Yes	4476	365		
Widower	No	943	52	0.035 **	Greater in Divorced
	Yes	4658	235		
Age average		54.63	50.07	0.000 ***	Smaller age with innovative self-concept

Note. Author's elaboration.

*p < .10, **p < .05, ***p < .001.

Barriers to entrepreneurs differentiated by innovative self-concept

The Chi-squared analysis presented in Table 5 shows that micro-entrepreneurs who perceive themselves as innovators and, in greater proportion, the existence of factors that impede the growth of their business. Moreover, entrepreneurs who perceive themselves as innovators are more likely to invest or buy assets in the next 12 months. The hypothesis tests of equality of proportion between groups with and without innovative self-perception are rejected with 99% confidence.

Table 5

Chi-squared Tests, Barriers to Entrepreneurship by Innovative Self-concept

		Innovative self-concept		Pr	Chi ²	
		Self-perceived as an innovator= No	Self-perceived as an innovator= Yes			
Do not believe that there are factors that impede the growth of their business	No	800	4264	***	0.00	Smaller in entrepreneurs with innovative self-concept
	Yes	195	577			
Want to buy assets or invest in the next 12 months	No	698	264	***	0.00	Greater in entrepreneurs with innovative self-concept
	Yes	2394	2242			

Note. Author’s elaboration.

*p <.10, **p < .05, ***p < .001.

Regarding differences in perception of specific barriers, the results presented in Table 5 show greater importance among micro-entrepreneurs with innovative self-concept regarding the barriers lack of financing, lack of inputs and lack of trained workers, and in contrast, less perceived relevance of the barriers lack of clients and uncertainty about the state of the economy. There is no evidence of perceived differences for the barriers employee recruitment cost, legal regulation costs, and high tax rates.

Table 6

Chi-squared Tests, Types of Barriers to Entrepreneurship by Innovative Self-concept

		Innovative self-concept		Pr	Chi ²	Conclusion
		Self-perceived as an innovator = No	Self-perceived as an innovator = Yes			
Lack of customers	No	674	3593	***	0.000	Minor with innovative self-concept
	Yes	321	1248			
Lack of financing	No	832	3467	***	0.000	Major with innovative self-concept
	Yes	163	1374			
Lack of supplies	No	946	4521	**	0.047	Major with innovative self-concept
	Yes	49	320			
Lack of trained workers	No	976	4686	**	0.029	Major with innovative self-concept
	Yes	19	155			
	Yes	17	106			

Continues

Table 6 (continued)

Most important barrier for the development of micro-enterprise	Innovative self-concept			Pr Chi ²	Conclusion
		Self-perceived as an innovator = No	Self-perceived as an innovator = Yes		
High cost of hiring new employees	No	978	4735	0.336	Without significant difference
	Yes				
High cost of regulations Or legal rules	No	974	4722	0.514	Without significant difference
	Yes	21	119		
High tax rate	No	962	4703	0.427	Without significant difference
	Yes	33	138		
Uncertainty about the state of the economy	No	937	4482	*	Minor with innovative self-concept
	Yes	58	359		

Note. Author's elaboration.

*p < .10, **p < .05, ***p < .001.

Conclusions

Regression analysis and Chi-squared tests allow us to validate the presented hypotheses. Differences are recognized both in the intention to invest and to buy assets (H0) and in the perception of barriers (H1) in micro-entrepreneurs perceived as innovators. Similarly, there are variations regarding innovative self-concept according to age (H2), gender (H3), training level (H4), participation in training (H5) and marital status (H6) of the micro-entrepreneur.

Regarding specific barriers, the micro-entrepreneurs who are considered to be innovative perceive with greater relevance the lack of financing, lack of supplies and lack of qualified personnel. On the contrary, they consider the lack of clients and the uncertainty due to the state of the economy as less important. In a complementary way, the results show that women, tertiary education level, participation in training, divorced and cohabitant marital status are positively associated with a propensity for innovative self-concept, and in contrast, greater age, primary or lower level of education, married civil status and civil widowhood are negatively related to innovative self-perception.

After interpreting results related to intention to invest and perception of barriers, it is possible to estimate that:

- Consistent with Dyer, Gregersen and Christensen (2008), who point out that innovative entrepreneurs develop unique value propositions and can develop new ideas to start a business, entrepreneurs with innovative self-perception could perceive greater barriers because they require resources to implement novel and unique proposals.
- On the contrary, entrepreneurs perceived as innovative could appreciate less relevance regarding lack of customers and economic conditions because they believe that their individual capacities support the acquisition of clients and economic situations.

With the analysis of conditions that relate to innovative self-concept, it is possible to consider that:

- Entrepreneurial and managerial women constitute a smaller proportion of their gender (Berbel, 2014), therefore, it is coherent for women microentrepreneurs to perceive themselves as innovators, as they are a minority within their gender.
- Age favors gaining experience (Rose, Kumar, & Yen, 2006; Welmilla, Weerakkody, & Ediriweera, 2011) and lower adoption of investment risks and less propensity to develop ventures for the first time (Jianakoplos & Bernasek, 2006). Qualities are consistent with less innovative self-perception.
- Educational level and training strengthen cognitive complexity and ability to incorporate new ideas and adopt innovations (Wally & Baum, 1994). They also favor self-efficacy (Wilson *et al.*, 2007), therefore training develops competencies to seek new solutions and strengthens innovative self-perception.
- The Married condition relates to conservative values (McAdams, Hanek, & Dadabo, 2013) and the civil status Divorced and Cohabitant associates with alternative situations that imply differentiation from tradition (Cole, 2015). This evidence is consistent with variations of innovative self-concept.

As a proposal to strengthen innovative self-concept and reduce the perception of barriers that affect the development of micro-enterprises, I estimated the design of training programs that seek to strengthen innovative self-perception and that increase support for access to financial resources, to human resources and to the necessary supplies for the operation of these organizations. Particularly, I propose the following:

- To implement training and/or coaching programs for micro-entrepreneurs with conditions associated with less innovative self-concept, to guide their self-perception towards innovation, and thereby increase their propensity to develop new initiatives.
- To develop training programs to improve competencies in the search for financing, inputs from suppliers and training of staff.
- To strengthen programs for financing support, oriented at micro-entrepreneurs with conditions related to innovative self-concept, such as women, people with tertiary education, participants in training programs and young entrepreneurs with less experience.
- To develop programs for the strengthening of networks with suppliers within and outside the country that facilitate access to inputs, focused on micro-entrepreneurs with positively related conditions with innovative self-concept.

The proposed initiatives would strengthen the innovative self-concept and thus the willingness to invest in assets, a situation that would contribute to economic growth and employment (Orjuela, 2006), as well as supporting the reduction of barriers perceived as relevant in innovative self-perceived entrepreneurs. These proposals are consistent with the findings of Haider, Asad and Aziz (2015) who point out that it is necessary to adapt the training of micro-entrepreneurs according to their characteristics, and that these proposals could be implemented in micro-ventures from other South American countries with comparable levels of economic development, such as Brazil, Colombia and Mexico, which Morgan Stanley Capital International (n.d.) considers emerging nations.

Limitations

The results recognize a relationship between variables. However, it is not possible to estimate if changes in age, training, and marital status affect the innovative self-concept and, with it, the intention to develop new entrepreneurial initiatives and the perception of barriers. To detect changes over time it is necessary to consider experimental or longitudinal research designs. Another limitation is that the

research does not include interview analysis, focus groups or other qualitative techniques to recognize underlying causes of the differences found in quantitative analysis. Despite these limitations, I estimate that the information obtained could contribute to direct public policies or guide corporate social responsibility initiatives of private companies, which seek to strengthen micro-enterprises and reduce barriers for their development.

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