

Institutions and female entrepreneurial activity in Latin-America

Instituciones y actividad emprendedora femenina en América Latina

Dyalá de la O Cordero*

Costa Rica Institute of Technology
ddelao@tec.ac.cr

David Urbano⁺

Universitat Autònoma de Barcelona
david.urbano@uab.cat

* *Costa Rica Institute of Technology, Business School, Calle 15, Avenida 14, 1 km Sur de la Basílica de los Ángeles, Provincia de Cartago, Cartago, 30101, Costa Rica.*

⁺ *Universitat Autònoma de Barcelona (UAB) Department of Business, Plaça Cívica, 08193 Bellaterra, Barcelona, España*

RESUMEN

El propósito de este documento es analizar los factores que influyen en la actividad empresarial femenina en el contexto de América Latina, utilizando la economía institucional como un marco teórico: el enfoque de North. La investigación empírica utiliza datos de panel latinoamericanos (Global Entrepreneurship Monitor) que cubren un período de seis años (2001-2013). Encontramos que las instituciones informales tienen una mayor significancia estadística en la actividad empresarial femenina en la región. Asimismo, los resultados también nos indican que las instituciones formales tienen una influencia negativa en la promoción de la actividad empresarial femenina.

ABSTRACT

The purpose of this paper is to analyze the factors that influence female entrepreneurial activity in the context of Latin America, using the institutional economics as a theoretical framework –North's approach. The empirical research uses Latin-American panel data (Global Entrepreneurship Monitor) covering a six-years period (2008-2013). We found that informal institutions have a more statistically significant activity on women's entrepreneurial activity in the region. Results also showed that formal institutions have a negative influence in promoting female entrepreneurial activity.

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INTRODUCTION

Government's policies and programs for entrepreneurs inclines to reproduce women's secondary position in society rather than improving. Besides, those policies and programs are not evaluated for their impact on opportunities and equality (Ahl and Nelson, 2015). On the other hand, research usually focuses on the significance of women's contribution in the economy instead of the relevance of the entrepreneurial environment (Pogessi et al., 2015).

To institutions, evidence reveals that entrepreneurial and behavior factors and the entrepreneurial ecosystem have an effect of driving entry into formal entrepreneurial activity. They also can influence in a negative way in women's undertaking and, they add additional burdens on women entrepreneurs (Autio and Fu, 2015; Estrin and Mickiewicz, 2011; Amine and Staub, 2009).

The relationship between entrepreneurship and institutional theory and gender has been investigated. Previous researches suggest that institutional environment influence women's undertakings, but more work is needed to better understand gender differences because there is evidence that some gender-related variables influence entrepreneurial behavior and attitudes toward entrepreneurship (Peris-Ortiz et al., 2015; Jennings and Brush, 2013; Brush et al., 2009; Minitti and Nardone, 2007). However, there is no evidence from studies on female entrepreneurial activity under the institutional perspective. Few studies have tried to explain this phenomenon. Terjesen and Amorós (2010) explored female entrepreneurial activities in Latin America and the quality of institutions, and Alvarez and Urbano (2011) saw the sights of some environmental factors and entrepreneurial activity in Latin America.

Thus, the evidence suggests that in every Latin American country are different environmental factors that affect the entrepreneurial activity and the decision to become an entrepreneur. In Latin America, where entrepreneurial activity is a phenomenon associated with men, female entrepreneurial activity has become a point of focus. But the role of women in entrepreneurial activity remains poorly understood. The most used frameworks only consider markets, money and management; to better understanding of women's entrepreneurship requires focus attention to institutions (Tolbert et al., 2011; Veciana and

Urbano, 2008; Henkerson, 2007). More work is needed to understand gender differences because there is evidence that some gender-related variables influence entrepreneurial behavior and attitudes toward entrepreneurship.

Thus, the entrepreneurial activity is often discussed in academic research, despite its importance, insufficient attention has been paid to the entrepreneurial dynamics and to the phenomenon of female entrepreneurial activity, specific to Latin America (Mattis, 2004; Wagner, 2007; Brush et al., 2009; Lofstrom and Bates, 2009; Jennings and Brush, 2013; Peris-Ortiz et al., 2015; Ahl and Nelson, 2015). In fact, most of the available studies resulted from private initiatives rather than scholar research. Greater recognition of the role of female entrepreneurs in Latin America will stimulate research interest in this group of entrepreneurs, with the goal of increasing overall entrepreneurial and economic activity. Based on the findings, policy makers could implement changes that foster more interest in entrepreneurship among women.

To thrive, female entrepreneurs need a favorable economic and institutional environment that emphasizes the expected results of their business ideas. Consequently, the broad aim of the proposed research is to explore the determinants of female entrepreneurial activity in the context of Latin America. The specific objective is to analyze the institutional forces that stimulate or hinder the entrepreneurial activity of female entrepreneurs in Latin America. In this context, Douglas North's institutional theory (1990) is strong enough to explain the entrepreneurial phenomenon (Bruton et al., 2010).

Concerning the implications of this research, the study reaffirms and empirically validates the importance of environmental factors on female entrepreneurial activity. The evidence found can be useful for the design of government policies on the promotion of women's entrepreneurial activity, according to the specificities of the different Latin American countries.

Following the introduction, this paper is structured as follows. We present the relevant literature on the environmental factors and entrepreneurial activity. Subsequent, the methodology used is described. Following, the results are presented and discussed, and finally the conclusions and future research are presented.

THEORETICAL FRAMEWORK

As we mentioned above, frameworks usually only consider traditional factors like markets, financial access, and management, but for further development to enable the study of women's entrepreneurship, other factors must be added, like family background and environment (Heller and Gabaldon, 2018; Brush et al., 2009). Entrepreneurship is gendered, but so is politics. Moreover, formal, and informal institutions create additional weight for women entrepreneurs (Villares-Varela, 2018; Ahl and Nelson, 2015; Amine and Staub, 2009). Additionally, women's position in society is still secondary, although they are expected to contribute to economic growth and job creation while continuing their traditional role of family support (Ahl and Nelson, 2015). Supporting that, Peris-Ortiz et al. (2015) proposed women entrepreneurs would better support personal success and add value to economic growth if they can reach an adequate balance between working conditions and family life.

In this context, previous studies have demonstrated how institutional theory helps to explain entrepreneurship and entrepreneurial activity, particularly in relation to formal and informal factors, using a wide range of research methods (Veciana and Urbano, 2008). According to Henkerson (2007), entrepreneurship must always consider institutions because they determine the evolution of entrepreneurial activity. Any business decision is a response to the institutional environment. Thus, entrepreneurship is an essential function in a dynamic economy that constantly seeks to change institutions. As a result, the quality of institutions substantially influences entrepreneurial activity (Alvarez and Urbano, 2010), and the institutional environment has a major influence on such activity and its outcomes (Sine and David, 2010).

From a sociological perspective, institutions are part of the social structure and are symbolic and behavioral systems containing formal (representational, constitutional, and normative) and informal (attitudes, values, and culture) elements. They are a central part of any society. Their rules guide what we do. Institutions are social processes, obligations, or actualities that take on a rule-like status in social thought or action (Henkerson, 2007). The evidence reveals that behavioral factors and the entrepreneurial ecosystem influence entry into formal entrepreneurial activity. They also can negatively influence women's

undertakings (Autio and Fu, 2015; Estrin and Mickiewicz, 2011; Amine and Staub, 2009).

According to North (1990), "institutions are the rules of the game in a society, or more formally, institutions are the constraints that shape human interaction" (p. 3). These institutions can be either formal or informal. They are interdependent, interact with each other, and can either constrain or foster a decision to undertake entrepreneurial activity (Alvarez and Urbano, 2010). According to the dimensions of the entrepreneurial environment "engagement policies and procedures, entrepreneurial and business skills, and financial and non-financial assistance to businesses are related to formal institutions, while social conditions concern informal institutions" (Alvarez and Urbano, 2010, p. 3).

Thus, the proposed hypothesis is:

Hypothesis 1: *Institutions influence female entrepreneurial activity in the context of Latin America.*

In addition, entrepreneurship education and training programs could inspire effective start-ups and promote female interest in entrepreneurship. These must consider the regional dimension, public policies, personal attitudes, and social and cultural backgrounds (that is, formal and informal factors) to be effective (Franco et al., 2010). Despite several initiatives of entrepreneurial education programs, career choice is still influenced by to employment expectations, family pressure to obtain a certain income, and lack of motivation in the educational system to encourage females to undertake creation (De Jorge-Moreno et al., 2012). Women are specifically targeted within comprehensive policy approaches to promote business start-ups and growth (Ahl and Nelson, 2015).

There is significant evidence that supports the influence of environmental factors as well as objective conditions on female entrepreneurial activity. In Latin American countries, informal environmental factors could have more influence on entrepreneurial activity than formal factors (Urbano and Alvarez, 2014), and some society standards could have more meaningful impact on female entrepreneurial activity than formal factors (Noguera et al., 2013; Fayolle et al., 2006). Considering the previous discussion, the proposed hypotheses is:

Hypothesis 2: *Informal institutions influence female entrepreneurial activity in Latin America more than formal institutions.*

DATA AND METHODS

In this study, we propose that institutions define female entrepreneurial activity in Latin America. Therefore, we analyzed the relationship between environmental factors and female entrepreneurial activity using a panel of data for the period 2008–2013. These factors are operationalized through informal (perceived opportunities, entrepreneurial intention, being a current entrepreneur, business services sector, and high status to successful entrepreneurs) and formal institutions (post-school entrepreneurial education and training and internal market openness). The source of data to measure the dependent variable is the female total entrepreneurial activity (*FTEA*) rates, an indicator of the GEM, which defines female entrepreneurs as adults in the process of setting up a business they will at least partly own and/or those who are currently owning and managing an operating young business (up to 3.5 years old).

The data on the independent variables were also obtained from the GEM APS database. Specifically, informal variables include:

- a) Perceived opportunities (*PO*), which capture the percentage of the adult population who see good opportunities to start a firm in the area where they live.
- b) Entrepreneurial intention (*EI*), which captures the percentage of adults who are latent entrepreneurs and who intend to start a business within three years.
- c) Established business ownership (*EBO*), which captures the percentage of adults who are currently an owner-manager of an established business (i.e., owning and managing a running

business that has paid salaries, wages, or any other payments to the owners for more than 42 months).

- d) Business services sector (*BSS*), which captures the percentage of those involved in total entrepreneurial activity (*TEA*) in the business services sector: information and communication, financial intermediation and real estate, professional services, or administrative services.
- e) High status to successful entrepreneurs (*HSSE*), which captures the percentage of adults who agree with the statement that successful entrepreneurs receive high status in their country.

Regarding formal variables obtained from the GEM NES database, post-school entrepreneurial education and training (*PSEET*) captures the extent to which training in creating or managing small and medium-sized enterprises (SMEs) is incorporated within the education and training system in higher education, such as vocational, college, and business schools. In addition, internal market openness (*IMO*) captures the extent to which new firms are free to enter existing markets.

Table 1 presents a list of the dependent and independent variables used in this study, including their sources. Our final sample consists of a panel of 61 observations from 17 Latin American and Caribbean countries (Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Peru, Puerto Rico, Trinidad and Tobago, and Uruguay). As noted previously, female entrepreneurial activity is influenced by environmental factors, which are measured through informal and formal institutions. Therefore, we propose the following general model.

$$FTEA_{LATAM\ it} = f(INST_{it}, X_{it}) \tag{1}$$

$$FTEA_{LATAM} = \alpha + \beta_{1it} X_{it} - \dots \beta_{nit} X_{it} + \mu, \tag{2}$$

where *FTEA_{LATAM}* is the female entrepreneurial activity in Latin America, *INST* is for institutions, β_1, \dots, β_n are the independent variables, *X* is the control variable (gross domestic product; *GDP*), *i* is the country index, and *t* is the period.

The statistical techniques applied were correlation and regression. We applied Shapiro-Wilk tests for normal data, the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity, variance inflation factor

Table 1. Description of variables

Variable		Description	Source
<i>Dependent variable</i>			
FTEA	Female/Male TEA	Percentage of female population aged 18-64 years who are either a nascent entrepreneur or owner-manager of a new business, divided by the equivalent percentage for their male counterparts and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income, divided by the equivalent percentage for their male counterparts.	GEM APS 2008-2013
<i>Independent variables</i>			
PO	Perceived Opportunities	Percentage of population aged 18-64 years who see good opportunities to start a firm in the area where they live.	GEM APS 2008-2013
EI	Entrepreneurial Intention	Percentage of population aged 18-64 years (individuals involved in any stage of entrepreneurial activity excluded) who are latent entrepreneurs and who intend to start a business within three years.	GEM APS 2008-2013
EBO	Established Business Ownership	Percentage of population aged 18-64 years who are currently an owner-manager of an established business (i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months).	GEM APS 2008-2013
BSS	Business Services Sector	Percentage of those involved in TEA in the business services sector, information and communication, financial intermediation and real estate, professional services or administrative services, as defined by the ISIC 4.0 Business Type Codebook.	GEM APS 2008-2013
HSSE	High Status to Successful Entrepreneurs	Percentage of population aged 18-64 years who agree with the statement that successful entrepreneurs receive high status in their country.	GEM APS 2008-2013
PSEET	Post-School Entrepreneurial Education and Training	The extent to which training in creating or managing small and medium-sized enterprises (SMEs) is incorporated within the education and training system in higher education, such as vocational, college, business schools, etc.	GEM NES 2008-2013
IMO	Internal Market Openness	The extent to which new firms are free to enter existing markets.	GEM NES 2008-2013
<i>Control variable</i>			
GDP	Gross Domestic Product	The monetary value of all the finished goods and services produced within a country's borders in a specific time period (to limit the effect of the country's economic condition on female entrepreneurial activity).	World Bank Indexes 2001-2013

Source: own elaboration.

computations for multicollinearity, and the step-by-step technique as a method of fitting our regression model using the backward elimination approach.

The step-by-step iterative construction model was necessary because we wanted a regression model as complete and realistic as possible. Moreover, we wanted to include every independent variable that is even remotely related to the dependent variable and as few variables as possible because each irrelevant independent variable decreases the precision of the estimated coefficients and predicted values. We chose the backward elimination approach. At each step, the variable that was the least statistically

significant was removed. This process continued until just statistically significant variables remained ($p \leq 0.001$) and the smallest decrease in R^2 was produced by the elimination process (Flom and Cassell, 2007; Harrell, 2001; Derksen and Keselman, 1992).

RESULTS AND DISCUSSION

Table 2 and Table 3 report the means, standard deviation, and correlation coefficients (and their pairwise correlation coefficients) of variables. Table 4 shows the results of linear regression.

Table 2. Descriptive statistics

	Latin American countries	
	Mean	Std. Err.
Female Entrepreneurial Activity (FTEA)	16.10	0.75
Perceived Opportunities (PO)	54.33	1.24
Entrepreneurial Intentions (EI)	33.56	1.49
Established Business Ownership (EBO)	8.84	0.58
Business Services Sector (BSS)	11.01	0.65
High Status Successful Entrepreneurs (HSSE)	70.94	1.11
Post School Entrepreneurial Education and Training (PSEET)	2.97	0.04
Internal Market Openness (IMO)	2.44	0.03
Gross Domestic Product (GDP)	166.99	33.56

Source: own elaboration.

Table 3. Correlation matrix

	1. FTEA	2. PO	3. EI	4. EBO	5. BSS	6. HSSE	7. PSEET	8. IMO	9. GDP
1 FTEA	1.00								
2 PO	0.45*	1.00							
	0.0002								
3 EI	0.54*	0.59*	1.00						
	0.00	0.00							
4 EBO	0.59*	-0.01	0.26*	1.00					
	0.00	0.95	0.04						
5 BSS	-0.24	-0.0014	0.10	0.11	1.00				
	0.07	0.99	0.45	0.4127					
6 HSSE	0.20	0.26*	0.33*	0.37*	-0.09	1.00			
	0.13	0.05	0.01	0.003	0.49				
7 PSEET	-0.17	0.17	0.07	-0.32*	0.01	0.28*	1.00		
	0.20	0.19	0.61	0.01	0.95	0.03			
8 IMO	0.07	0.25	0.11	-0.26*	0.14	0.012	0.44*	1.00	
	0.58	0.06	0.39	0.04	0.28	0.93	0.0004		
9 GDP	0.44*	-0.12	0.01	0.38*	0.05	-0.13	-0.09	-0.05	1.00
	0.0004	0.36	0.92	0.003	0.68	0.34	0.51	0.69	

Note: *** p < 0.001; ** p < 0.01; * p < 0.10

Source: own elaboration.

Table 4. Regression analysis explaining female entrepreneurial activity

	Model		
	All countries		
Informal institutions			
Perceived Opportunities (PO)	0.2117908	(0.04132)	***
Entrepreneurial Intentions (EI)	0.1499802	(0.03508)	***
Established Business Ownership (EBO)	0.7101458	(0.08905)	***
Business Services Sector (BSS)	-0.4577843	(0.06301)	***
High Status Successful Entrepreneurs (HSSE)	-0.1819329	(0.14422)	***
Formal institutions			
Post School Entrepreneurial Education and Training (PSEET)	-4.840605	(1.28994)	***
Internal Market Openness (IMO)	7.278899	(1.66931)	***
Control variable			
Gross Domestic Product (GDP)	0.005496	(0.00133)	***
Constant	6.915596		
R-squared	0.8577		
Adj R-squared	0.8359		
Observations	61		
Countries	17		

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.10$. Heteroskedasticity corrected standard errors are shown in parentheses

Source: own elaboration.

This model analyses the effect of independent variables on the dependent variable: female entrepreneurial activity. As we expected, this model is statistically significant for all variables considered. Thus, institutions have positive and negative significant influence on female entrepreneurial activity in line with the literature presented in the previous section.

As mentioned above, the model analyses the effect of institutions (formal and informal) on female entrepreneurial activity, controlling the gross domestic product of Latin American countries. The results indicate that informal institutions (perceived opportunities, entrepreneurial intentions, been a current entrepreneur, business services sector, and high-status successful entrepreneurs) and formal institutions (post-school entrepreneurial education and training and internal market openness) coefficients are highly significant. This model explains the 85.77% of the total variation of dependent variable.

The estimated coefficient of the control variable (*GDP*) is consistent with the literature, which indicates a positive and significant correlation between female entrepreneurial activity and economic growth. This result could be explained because entrepreneurship is the broad-based driver for economic growth and societal well-being. It is critical to countries' economic performance (Autio and Fu, 2015; GEM Global Women's Report, 2012, 2014; Acs et al., 2013).

Concerning the hypotheses testing, Hypothesis 1 suggested institutions influence female entrepreneurial activity in the context of Latin America. According to our model, the coefficients of institutions are positive statistically significant ($PO = 0.21, p < 0.001$; $EI = 0.15, p < 0.001$; $EBO = 0.71, p < 0.001$; $IMO = 7.28, p < 0.001$) and negative statistically significant ($BSS = -0.46, p < 0.001$; $HSSE = -0.18, p < 0.001$; $PSEET = 4.84, p < 0.001$). Thus, H_1 is not rejected. This result supports what we expected, and it is in line with other studies in the field. Results of studies

by Ahl and Nelson (2015), Peris-Ortiz et al. (2015), Jennings and Brush (2013), and Gurley-Calvez (2009) are oriented toward work conditions, and family life could influence women's undertakings. Lofstrom and Bates (2009) concluded the relative success of self-employed females is influenced by their background and personal attitudes. Meanwhile, Capelleras and Rabetino (2008) determined that entrepreneurial characteristics and national institutions affect Latin American entrepreneurship development. Previously, Minniti and Nardone (2007) indicated that some institutions have some influence on entrepreneurial behavior and attitudes toward entrepreneurship.

Thus, this is in contrast to our theoretical framework (institutional economic theory, North's perspective, 1990), which explains how environmental factors can affect the creation of new businesses and how these could contribute with new jobs, innovation, and economic growth. Moreover, as Henkerson (2007) argued, institutions determine entrepreneurial activity, and any business decision is a response of the environmental institutional setup. Díaz et al. (2005) established that environmental factors can affect the creation of new businesses.

On the other hand, Hypothesis 2 proposed informal institutions have more influence than formal institutions on female entrepreneurial activity in Latin America. Thus, the proposed model analyzes five informal independent variables (*PO*, *EI*, *EBO*, *BSS*, and *HSSE*) and two formal independent variables (*PSEET* and *IMO*) that explain the dependent variable in the area in question. The results also supported what we expected. Thus, H_2 is not rejected. According to Autio and Fu (2015) and Estrin and Mickiewicz (2011), formal and informal institutions influence entry into formal entrepreneurial activity. In the meantime, Castellani and Lora (2014) stated that there are different formal and informal factors in every Latin American country that affect entrepreneurial activity and the decision to become an entrepreneur. Noguera et al. (2013) concluded that informal institutions could have more significant influence on female entrepreneurial activity than formal factors. Furthermore, Alvarez and Urbano (2011) recognized informal matters have more impact on entrepreneurial activity in Latin American than formal considerations.

This model proposes that the vision of the potential entrepreneur to see good opportunities to start a firm, the entrepreneurial intention to start a new business, and currently being an owner-manager of a running

business all have positive outcomes on female entrepreneurial activity in Latin America. This is in line with several studies that indicated that personal attitudes, subjective perceptions, and social values have some significance on female entrepreneurial activity (Santander-Astorga et al., 2016; Noguera et al., 2013; Acs et al., 2013; Iakovleva et al., 2011; Franco et al., 2010).

On the other hand, the business service sector has a negative influence on those women involved in entrepreneurial activity. Likewise, the social attitude toward the statement that successful entrepreneurs receive high status shows a negative influence on female entrepreneurial activity. This supports other study results that indicated that women continue to face a number of difficulties related to comprehensive policy approaches to promote business start-ups and growth, which are inclined to reaffirm rather than challenge women's subordinate role (Pogessi et al., 2015; Ahl and Nelson, 2015; Amine and Staub, 2009).

This model also proposes that when coaching in creating or managing SMEs is incorporated within the education and training system in higher education, it has negative outcomes on female entrepreneurial activity in Latin America. Education and training as a formal factor affect the decision to undertake entrepreneurship but personal variables could influence that decision (Kuschel et al., 2017; Kuschel and Lepeley, 2016; Ferreira et al., 2012).

Finally, the model indicates that the internal market openness has a positive outcome on female entrepreneurial activity in Latin America. This is in line with other studies that concluded that women are specifically aim with policies to promote their business to enter in existing markets (Ahl and Nelson, 2015) and that the quality of institutions substantially influences entrepreneurial activity (Urbano and Alvarez, 2014; Henkerson, 2007).

CONCLUSIONS

The aim of this paper was to add another point of view to the existing literature of female entrepreneurial activity, focusing in the analysis of institutional forces that stimulate or hinder this subject in Latin America. To achieve this purpose, we conducted a correlation and regression analyses from GEM database from a six-years period (2008-2013) using the institutional approach (North, 1990).

The main findings show institutions influence female entrepreneurial activity in the context of Latin America. Consequently, institutions could encourage (positive influence) or constraint (negative influence) women's undertakings. The results also demonstrate there are more informal than formal institutions that influence the female entrepreneurial activity (5 vs. 2). These results are in line with other studies in the field (Urbano and Alvarez, 2014; Noguera et al., 2013). This study also concluded that 50% of formal institutions included in this study have negative influence for the promotion of female entrepreneurial activity meanwhile the negative rate of informal institutions is 40%.

The research contributes theoretical and practical data to the institutional forces that influence the entrepreneurial activity in Latin America. Governments could evaluate their own entrepreneurial ecosystem and implement strategies to positively improve other factors that influence female entrepreneurial activity. For example, tax and regulation environment and legal support environment could positively promote high job creation expectation and innovation.

Finally, governments could also pay attention to their entrepreneurial education and training programs. Although some personal variables affect the decision, some formal and informal factors are also important in this regard and should be included in entrepreneurship education programs. Some evidence indicates that those programs should re-orient its focus more in changing personal attitudes than in knowledge (Díaz-García and Jiménez-Moreno, 2010; Ferreira et al., 2012). Besides, the evidence also suggest that well-oriented education and training programs could influence positively women's attitude to entrepreneurship. The education and training programs must be adjusted according to the environment factors (Fayolle et al. 2006) to improve entrepreneurship as a good career choice.

Related to future lines of research, deeper analyses from informal and formal institutions could be implemented in order to improving the explanatory capacity of the propose model. Besides, other variables from other databases –national- could be aggregated to strength it.

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