



## The Cultural Practices that Influence on the Entrepreneurial Activity: An Empirical Study from the Globe Project Cultural Dimensions

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### Abstract

There are few empirical studies focused on the culture, as one of the informal factors that influences business development in a region. The main purpose of this study is to analyze the perception of a society about its cultural practices based on cultural dimensions that are related to entrepreneurial activity. Through literature review, five cultural dimensions that would be closely related to entrepreneurship were identified, which has been corroborated in previous empirical studies. For this research, the city of Medellin (located in Colombia, developing country), which has been characterized by its high rate of business activity at the national level, is taken as context for the fieldwork. The findings show that the society under study perceives that its regional culture is characterized by a high level of assertiveness, hence its competitive nature and propensity to take risks, to boost the entrepreneurial activity.

**Keywords:** culture; entrepreneurship; entrepreneurial activity; cultural dimensions; GLOBE project; developing country.

**JEL classification:** M10; M13; M14.

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### 1. INTRODUCTION

The social and cultural context of an individual is a motivator of business behavior, particularly for the creation of companies (Mueller and Thomas, 2001; Reynolds *et al.*, 2002; Li, 2007; Gurel *et al.*, 2010). Thus, the study variables have traditionally been the economic growth of the country, political and social factors, and education and culture to analyze how the environment affects business activity (Reynolds *et al.*, 2002). In this way, culture has been considered a precursor to the degree to which a society considers it

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desirable to assume entrepreneurial behaviors such as the assumption of risks, the orientation to growth, innovation, and the recognition of opportunities. Zhao *et al.* (2012) call the model "national culture - personal values - business behavior". Generally, research related to culture -according to the theory of cultural dimensions of Hofstede (1980) - and entrepreneurship, have been raised on the hypothesis that entrepreneurship is facilitated by cultures that are characterized by: high individualism, low control of uncertainty, low distance of power and high masculinity (Hayton *et al.*, 2002). In the same way, Mueller and Thomas (2001) affirm that the socio-cultural context of an individual is a motivator of business behavior, particularly for the creation of companies, and this is how some cultures are more focused towards entrepreneurship than others. Thornton *et al.* (2011) suggest that, because the institutional perspective considers that the cultural and social aspects are related, this could be an appropriate framework to analyze the social and cultural factors that influence decisions to create new businesses.

Cultural attributes prove to be fundamental determinants of the economic level of nations and business development (House *et al.*, 2002; McGrath *et al.*, 1992). For example, individualism is a key culture dimension for business behavior (Oyserman *et al.*, 2002). However, Pinillos and Reyes (2011) suggest that the entrepreneurial rate of a country is negatively related to the dimension of "individualism" when the development of the country is medium or low, and is positively related to individualism when the level of development is high. Therefore, individualism is not related to entrepreneurship in the same way in countries with different levels of development. Otherwise, Alon *et al.* (2016) conducted a cross-cultural study, whose purpose was to study the relationship between national culture and business activity (nascent entrepreneurship) in 24 countries. According to the results of this study, the authors affirm that the relationship between normative cultural values and nascent entrepreneurial activity is more significant than the relation between normative cultural practices and nascent entrepreneurial activity; that entrepreneurs have outstanding attitudes and values, with respect to non-entrepreneurial individuals; and that the relationship between individualism and entrepreneurial activity, depends on the context, is not universal.

## 2. LITERATURE REVIEW

Among the models found in the literature to identify the cultural dimensions of a society in studies of the organizational field, those proposed by Hofstede (1980) underscore the analysis of the relationship between the national culture and the organizational culture in a multinational company. Another significant study is Global Leadership and Organizational Behavior Effectiveness GLOBE (House *et al.*, 2002; House and Javidan, 2004), a project studying the relationship between culture and leadership. To be clear, although these investigations were carried out more than a decade ago, they offer a useful methodology to identify the outstanding aspects of the culture of a society, even though none of these authors analyzed the relationship between culture and entrepreneurial activity (Castillo-Palacio *et al.*, 2017).

GLOBE proposes nine cultural dimensions to identify the practices that allow categorizing a culture (society "is") and cultural values (society "should be") of a society, namely: Power Distance, Uncertainty Avoidance, Institutional Collectivism (Collectivism I), In-Group Collectivism (Collectivism II), Gender Egalitarianism, Assertiveness, Future Orientation, Performance Orientation, Humane Orientation. Where the first six dimensions

have their origin in the dimensions of culture identified by Hofstede (1980) (House *et al.*, 2002; House *et al.*, 2010). The GLOBE project took into account for its objective two types of cultural manifestations: practices and modal values. Where the modal practices are focused on "what is" or "what are" the common behaviors in society and institutional practices, that is, how "is" society. On the other hand, the values are expressed with respect to the "what should be" criterion. These can be referred to as "contextualized values" in opposition to more abstract values, such as those related to justice, independence, freedom, a world in order and peace (House *et al.*, 2004).

*Power Distance.* This term is defined as the degree to which members of a society expect the power to be shared unequally. A community maintains inequity among its members by stratifying individuals and groups with respect to power, authority, prestige, status, wealth and material possessions. This reflects the dominance and control of the less powerful by the most powerful. A high score in the distance of power in terms of cultural practices indicates that a certain society is more stratified economically, socially and politically (House *et al.*, 2010). In general, countries with high scores in this dimension tend to maintain hierarchical decision-making processes as a way in communication processes (Javidan *et al.*, 2006).

*Uncertainty avoidance.* This dimension is defined as society's dependence on social norms and procedures to alleviate the unpredictability of future events. Societies with high control of uncertainty have a strong tendency towards order and consistency, structured lifestyles, clear specifications of social expectations, and rules and laws that cover most situations.

*Collectivism I (Institutional Collectivism).* This dimension reflects the degree to which individuals are encouraged by social institutions to be integrated into groups within organizations and society. The institutional emphasis on collectivism consists of the allocation of resources and opportunities available to members of a society to participate in legislative, economic, social and political processes that concern them.

*Collectivism II (In-group Collectivism).* This dimension refers to pride and loyalty to the family, the closed circle of friends and the organizations of which the individual is a member.

*Gender Egalitarianism.* Is the degree to which: 1) gender role differences are (or should be) minimized in a society and, 2) women would be given the same opportunities as men in that particular society. Societies with higher levels of equal gender tend to have more women in positions of authority, show high rates of literacy for women and have similar levels of education for men and women.

*Assertiveness.* Is the degree to which individuals in societies are (or should be) assertive and confrontational in social relationships. This is the second dimension for the GLOBE project and is influenced by the dimension of masculinity proposed by Hofstede. Societies that have a high score in assertiveness practices tend to assertive and dominant behavior, have sympathy for the strong, have a "can do" attitude, taking Den Hartog (2004) approaches as a reference. On the contrary, societies with low assertiveness scores, tend to sympathy for the weak, the value of modesty and cooperation (House *et al.*, 2010). As indicated by Ogliastri *et al.* (1999, p. 41) "for the traditional values of the world this is related to masculine or feminine cultures: the tender being, little dominant, soft, not aggressive, is identified with the feminine temperament, while in the men they are expected more aggressive, dominant behaviors, of physical predominance, strong opinions".

*Future orientation.* It is the degree to which individuals in organizations or societies participate in future-oriented behaviors, such as planning and research. This dimension derives from the orientation dimension of the past, present and future proposed by Kluckhohn and Strodtbeck (1961). As stated by Ozgen (2012), from a theoretical perspective, in societies with a high orientation towards the future, they focus on the future, invest, plan, anticipate the uncertainty of the environment and changes in market trends and demand. These types of individuals foresee possible future opportunities in a changing environment and tend to think about investing now to reap the benefits in the future (Shane and Venkataraman, 2000). Societies that report high scores on this dimension show a propensity to save for the future, have individuals who are intrinsically motivated, have a higher priority for long-term success, and see material success and spiritual fulfillment as an integrated or interrelated. Societies that report comparatively low scores on this dimension have a propensity to spend now, instead of saving, have individuals who are less intrinsically motivated, see material success and spiritual fulfillment as a duality that has advantages and disadvantages.

*Performance Orientation.* This cultural dimension measures the degree to which society stimulates high performance and awards reward for excellence (Steers *et al.*, 2010). It refers to the extent to which an organization or society encourages and rewards group members to continually improve, to achieve outstanding performance and to focus on excellence. Companies with a high score in performance orientation tend to value training and development, emphasize results rather than people, expect demanding objectives and have the courage to be explicit and direct in communications. On the other hand, societies with low scores in this dimension tend to value relationships, have a high respect for the quality of life, emphasize seniority and experience, consider that being motivated by money is inappropriate, emphasize the tradition, and value ambiguity in communications and have a low sense of urgency.

*Humane Orientation.* It is the degree to which individuals in organizations or societies encourage and reward individuals to be fair, altruistic, friendly, generous, and careful with others. This dimension has its roots in the research of Kluckhohn and Strodtbeck (1961). The societies that stand out for this dimension tend to give more importance to others, such as family, friends, community, strangers; are motivated by the need for belonging and motivation; give a high priority to the values of altruism, benevolence, love, kindness and generosity; expect people to promote paternalistic norms and relationships; believe that children should be obedient and controlled by their parents. While societies with low human orientation consider that self-interest is important; that power and material possessions motivate people; people expect to solve their problems on their own; The State sponsors public order provisions and considers that children must be autonomous and independent (House *et al.*, 2010).

From these cultural factors, studies have been developed which conclude that the dimensions that are related to business activity are: Power Distance (Mitchell *et al.*, 2000; Ardichvili and Gasparishvili, 2003; Zhao *et al.*, 2012), Uncertainty Avoidance (Autio *et al.*, 2013; Busenitz and Lau, 1996; Mueller and Thomas, 2001; Hayton *et al.*, 2002; Pinillos and Reyes, 2011), Colectivism I (Mitchell *et al.*, 2002; Grilo and Thurik, 2005; Klapper *et al.*, 2006; Lim *et al.*, 2010; Ozgen, 2012), Collectivism II (Mitchell *et al.*, 2000; Hayton *et al.*, 2002; Pinillos and Reyes, 2011; Zhao *et al.*, 2012) and Assertiveness (Ozgen, 2012).

## 2.1 The perception of culture

Culture is defined as the shared motives, values, beliefs, identities and interpretations or meanings of events that result from the common experiences of the members of the collectives and are transmitted from generation to generation (House *et al.*, 2002; House and Javidan, 2004). In this way, the individual perception of cultural conditions and cognition can provide a set of values, life expectancies, and needs (Markus and Kitayama, 1991) which affect the basic sensory perceptions of an individual. Culture serves as a theoretical resource of the world and the way people think and react, elaborating their points of view and their philosophies of life. Culture affects perception, and consequently, cognition at the level of society and at the individual level (Varela *et al.*, 1999). It also determines the way in which people perceive themselves and perceive others, as well as the relationship between both entities (Markus and Kitayama, 1991; Triandis, 1989). According to the results of the study conducted by Kastanakis and Voyer (2014), culture conditions perception and, consequently, cognition, with important consequences for understanding differences in behavior between cultures. Perception and cognition play a central role in a subjective human experience (Varela *et al.*, 1999).

Individuals in Western cultures have a dominant independent self-concept, which "[... implies a conception of the self as an independent and autonomous person ...]" (Markus and Kitayama, 1991, p. 226). In the case of individuals from Eastern societies, people tend to focus on the interpersonal domain, that is, on the opinions or reactions of others.

As Archer (1996) indicates, individuals do not faithfully follow the dictates of their culture, but use it actively and creatively; that is, a single symbol or the same rule can be learned and interpreted in various ways. In this sense, regardless of whether the individual agrees on what should be done or not, they cannot be expected to do things according to the precepts of their culture or according to what other individuals expect (Kottak, 2007). From here, two concepts emerge about culture: the ideal culture and the real culture. The first, according to Kottak (2007, p. 26) "[... consists of what people say they should do and what they say they do ...]" and the second, refers to the way individuals truly behave.

## 2.2 The cultural dimensions related to entrepreneurial activity

Table no. 1 presents the position occupied by Colombia among the countries analyzed in the studies on the national culture of Hofstede (1980) and GLOBE (2002, 2004) between 1996-1998. The results of the country are taken as reference, bearing in mind that the context of the present investigation is the city of Medellin (Colombia), and that no previous studies on the region culture were identified in this context under the parameters or dimensions suggested by GLOBE, this being one of the limitations in the study, but at the same time, an original contribution of this research. So GLOBE project collected 302 questionnaires for Colombia. To better understand the classifications shown below, it must be taken into account that, within the data processing in the GLOBE project, the countries were classified into four categories labeled: A, B, C or D, where it is considered that category A corresponds to high values with respect to the variable or dimension analyzed; Categories B and C are associated with average values; while Category D is held by those countries located at a very low end of the scale, below the international average. The GLOBE results indicate that Colombian society is characterized by high levels of power distance, group collectivism and assertiveness; although

the population, in terms of values ("society should be") agrees that society should not be oriented to a high level of power distance. On the other hand, it stands out in these results that the Colombian population possesses average levels of institutional collectivism and uncertainty avoidance, which indicates, among other things, that the individuals of this culture have a low confidence in the governmental institutions and follow few processes of planning and preparation for the future.

**Table no. 1 – National culture of Colombia**

<b>Cultural Dimension</b>	<b>Results by Hofstede (score)</b>	<b>Results by GLOBE "society is" (position/61)</b>	<b>Results by GLOBE "society should be" (position/61)</b>
Power Distance	(67)	5.56 A (11)	2.04 E (61)
Uncertainty avoidance	(80)	3.57 C (53)	4.98 B (21)
Institutional Collectivism		3.81 C (53)	5.38 A (7)
Collectivism In-group	(13)	5.73 A (12)	6.25 A (2)
Assertiveness		4.20 A (25)	3.43 B (44)

*Source:* Own elaboration from [Ogliastri \(2008\)](#) and [Hofstede \(1980\)](#)

On the results by Hofstede, the scores of Colombia with respect to its culture are presented, according to the scale of the cultural dimensions proposed by this researcher. In this way, Colombia presents a score of 67 in the distance of power variable, which indicates that it manifests a high level of power distance, which in turn translates into the Colombian population perceiving that the inequality between individuals is common in their lives and is accepted in all levels of society, where some have greater privileges than others. Regarding the individualism dimension, Colombia presents a score of 13, which indicates that this society has a low level of individualism, or similarly, presents a high level of collectivism. In terms of power distance and collectivism, the results of Hofstede coincide with those presented by GLOBE project. Unlike the results of GLOBE project, the study led by Hofstede states that Colombia has a high level of control of uncertainty, with a score of 80. This author states that this society seeks mechanisms to avoid uncertainty, with a large number of norms and regulations for each situation and that, in addition, many individuals are conservative, which is reflected, mainly, in the religious sphere. But, although there are a good number of rules, this does not indicate that the population follows them adequately.

The following is based on the dimensions of culture proposed in the GLOBE project: power distance, uncertainty avoidance, institutional collectivism, in-group collectivism and assertiveness. According to previous empirical studies, these are related to entrepreneurial activity ([Busenitz and Lau, 1996](#); [Mitchell et al., 2000](#); [Mueller and Thomas, 2001](#); [Hayton et al., 2002](#); [Ardichvili and Gasparishvili, 2003](#); [Grilo and Thurik, 2005](#); [Klapper et al., 2006](#); [Lim et al., 2010](#); [Pinillos and Reyes, 2011](#); [Ozgen, 2012](#); [Zhao et al., 2012](#); [Mitchell et al., 2002](#); [Autio et al., 2013](#)). The following are five hypotheses for the present study:

*Power Distance.* According to the results of the Hofstede studies published on its website ([www.geert-hofstede.com](http://www.geert-hofstede.com)), the power distance in Colombia has a value of 67, which indicates a significant level of inequality of power and wealth in society with respect to other countries. In addition, the results of the GLOBE project study show that Colombia is in category A that is, characterized by a high level of power distance. This is consistent with the country's socio-economic indicators, which confirm the high levels of poverty and illiteracy in the population. In turn, these results are associated with what was mentioned by [Ardichvili and Gasparishvili \(2003\)](#) since Colombia is one of the countries in Latin America with the highest rate of entrepreneurial activity. In addition, [Ogliastri \(1998\)](#) mentions that one of the fundamental characteristics of Colombian society is the concentration of power in the hands of a closed system, the elite. Which in turn generates social inequality. In the business field, the privileges of managers or senior positions in an organization are also observed. Based on the proposal of [Zhao et al. \(2012\)](#) in which they argue that a high level of power distance in countries with low or medium GDP positively influences entrepreneurship, the following hypothesis is established:

**H<sub>1</sub>:** *Society perceives a high distance of power in regional culture respect to entrepreneurial activity.*

*Uncertainty avoidance.* This cultural dimension refers to the degree to which members of a society seek order, structure, consistency, formalized procedures, rules and laws that cover the situations in their daily life. As indicated by [Ogliastri 1998, 2008\(1998, 2008\)](#) this society is immersed in improvisation and ambiguity, this behavior can be observed, for example, in the disobedience to the rules of transit, the lack of punctuality in the fulfillment of appointments and the lack of vacation planning. This society tolerates ambiguity, which has some positive elements, such as: flexibility, open mind, creativity and innovation. However, this ambiguity also has unattractive elements such as the lack of fixed rules and that daily life can be chaotic. According to the results of the last GLOBE study in 1996, where Colombia is ranked 53, among 61 surveyed countries, the low level of control of the uncertainty shown by Colombian society (practices) is confirmed. In addition, it is remarkable the respondents' desire that Colombia should be (values) or be more focused on uncertainty control methods. According to previous theoretical and empirical studies on culture and entrepreneurship, it is estimated that a society with a low level of uncertainty avoidance shows a higher rate of entrepreneurship, because individuals in these cultures take risks and explore entrepreneurial opportunities, and this eventually creates a context to foster greater business behavior in such companies ([Busenitz and Lau, 1996](#); [Mueller and Thomas, 2001](#); [Hayton et al., 2002](#); [Autio et al., 2013](#)). This coincides with the cultural and entrepreneurial dynamics of the Colombian context in which the total rate of entrepreneurial activity is high, according to the results of 2013, where Colombia has a total rate of entrepreneurial activity TEA of 23.7%, ranking fourth in the group of economies driven by the factors, after Ecuador, Indonesia and Chile. However, in Latin America and the Caribbean, Colombia is in third place, after Ecuador (36%) and Chile (24.3%), countries that occupy the first and second place in the Global Entrepreneurship Monitor GEM ranking, respectively ([Global Entrepreneurship Monitor-GEM Colombia, 2014](#)). Based on this approach, it is expected that the society in Medellin will show a regional environment more aligned with this characteristic, and for this reason the following hypothesis is put forward:

**H<sub>2</sub>:** *Society perceives a low uncertainty avoidance in regional culture respect to entrepreneurial activity.*

*Collectivism I (Institutional Collectivism).* Colombia is a country with a low level of institutional collectivism, that is, that Colombian society perceives that its institutional system related to entrepreneurship and innovation is not properly efficient, and they also perceive that there are not enough programs to support business training and that there are many bureaucratic processes associated with the constitution of new companies. A society with a high level of institutional collectivism, that is, with an efficient institutional system to promote innovative companies, optimizes entrepreneurial activity (Mitchell *et al.*, 2002; Grilo and Thurik, 2005; Klapper *et al.*, 2006; Lim *et al.*, 2010; Ozgen, 2012). Therefore, it is expected that, an entrepreneurial society perceive a favorable environment for training in entrepreneurship, and creating companies and innovation processes in their context. This position leads to the presentation of the following hypothesis:

**H<sub>3</sub>:** *Society perceives a high level of institutional collectivism in regional culture respect to entrepreneurial activity.*

*Collectivism II (In-group Collectivism).* As Ogliastri (1998) mentions, Colombian society has collectivist characteristics: adult children who have not married live with their parents; the elderly are not under the care of a geriatric institute, but live with one of their children; The main sports in Colombia are soccer, cycling (in teams) and baseball, and individual sports have few followers. According to the results of GLOBE, Colombia ranks 11th in the Collectivism II dimension (family, loyalty), placing this country in category A, which confirms the high level of collectivism II of this society. On the other hand, one of the main productive and economic sectors in Colombia is agriculture, and according to Pinillos and Reyes (2011) in agricultural societies the level of development is low, the production units are numerous and are organized around family groups. Following the approaches of Pinillos and Reyes (2011) and Zhao *et al.* (2012), who indicate that the higher the level of group collectivism, the higher the entrepreneurial activity will be in countries with low or medium GDP, and taking into account that Colombia is a country of medium development, with characteristics of a collectivist culture, that is, is oriented to close social relations, mainly with family and friends, and similarly, has a high entrepreneurial rate, the following hypothesis is proposed:

**H<sub>4</sub>:** *Society perceives a high level of in-group collectivism in regional culture respect to entrepreneurial activity.*

*Assertiveness.* This cultural dimension is related to the fact that both the individuals of a regional society or culture are assertive, confrontational and aggressive in social relations. As the results of GLOBE (House *et al.*, 2004; Ogliastri *et al.*, 1999) show, Colombia presents a high level of assertiveness, that is, it is classified in category A, in practices (society "is") and values (society "should be"). This means that Colombian society is between what is a dominant behavior and subtle behavior, perhaps this is because in some aspects the population is dominant and strong, and in other areas is characterized by its spirit of cooperation and subtlety, as for example, the kindness of people. In the description from his point of view of Colombian society regarding assertiveness, which Ogliastri (2008) makes, indicates that Colombia is one of the most aggressive countries in the world, based on statistics of violence and crime, and that this characteristic is related to organized crime, political conflicts and social inequality, which have characterized the country, although this has been changing little by little. In societies with a high level of assertiveness, people have a greater tendency to take



risks, negotiate aggressively and be more competitive. Colombia stands out as one of the most uncertain cultural environments among all the countries surveyed in the GLOBE study. Ozgen (2012), from a theoretical perspective, suggests that people who are part of an environment with a high level of assertiveness are more focused on the assumption of risk and competitiveness, which are characteristics that drive entrepreneurial activity; but there are no known empirical studies that validate this theoretical relationship between assertiveness and entrepreneurship, so the proposal of the following hypothesis and its subsequent validation is an original approach to the present study:

**H<sub>5</sub>:** *Society perceives a high level of assertiveness in regional culture respect to entrepreneurial activity.*

Table no. 2 shows a summary of the influence of cultural dimensions on the level of business activity, according to the literature review. It should be noted that the relationship between the Assertiveness and entrepreneurship has not been empirically demonstrated, but Ozgen (2012) makes this proposal from a theoretical perspective.

**Table no. 2 – Influence of the cultural dimensions on the level of entrepreneurial activity**

Cultural Dimension	Level	Influence on the level of entrepreneurial activity	Authors
Power Distance	High	High	Mitchell <i>et al.</i> (2000); Ardichvili and Gasparishvili (2003)
Uncertainty avoidance	Low	High	Busenitz and Lau (1996); Pinillos and Reyes (2011)
Institutional Collectivism	High	High	Mitchell <i>et al.</i> (2002); Grilo and Thurik (2005); Klapper <i>et al.</i> (2006); Lim <i>et al.</i> (2010); Ozgen (2012)
In-group Collectivism	High	High	Pinillos and Reyes (2011); Zhao <i>et al.</i> (2012)
Assertiveness	High	High	Ozgen (2012)

Source: Own elaboration

### 3. STUDY METHOD

#### 3.1 The sample and study instrument

The city of Medellin is located in the department of Antioquia, and is the second largest city in Colombia according to its economic development in relation with the country. This city has been characterized by its business history through the business dynamism of economic sectors such as textiles and clothing, agriculture and commerce. Nevertheless, in recent years it has focused on developing competitive advantages for the future in other sectors such as technological and tourist sectors, and in the latter case, particularly in business tourism.

The sample corresponds to people that living in Medellin, which for a population in the city of Medellin greater than 20 years for 2016 of 1,865,542 people, with a margin of error of 5% and a level of confidence of 95%, corresponds to a sample of 385, but, only 355 were valid. The data was collected between February and April 2019 through the self-supplied questionnaire.

The measurement instrument is based on Section 1 of the Beta questionnaire of the GLOBE project. The questionnaire addressed to the sample consists of two sections: the first section includes 22 items related to the cultural practices of society and associated to five cultural dimensions as follows: power distance (5 items), uncertainty avoidance (4 items), Collectivism I (4 items), Collectivism II (4 items) and Assertiveness (5 items). The second section estimates questions of demographic type, such as gender, age range and level of study.

### 3.2 Analysis of data

The analysis of the data is developed in four phases: the first phase estimates the descriptive statistics to determine the socio-demographic profile of the group surveyed; the second phase focuses on the reliability (measured with the IBM SPSS Statistics System, v24), validity and simplification of scales through a Confirmatory Factor Analysis (measured with the EQS 6.3 Multivariate Software); in the last phase the calculation of means and standard deviation by factor is developed for the analysis of the hypothesis.

## 4. RESULTS

### 4.1 Sociodemographic characteristics

It is observed that the largest participation is of the masculine gender with a representation of 50.4%, although the difference is minimal with respect to the number of women. The majority of the people surveyed are in the age range between 20 and 24 years (24.5%) followed by those in the age range between 25 and 29 years (15.8%). Regarding the level of studies, 45.6% of the people surveyed have university studies at the undergraduate level; 35.2% have secondary education studies; while with postgraduate studies at the level of Master's degree rise to almost 7.9%. Only 5.9% have completed studies at the Specialization level and 3.9% have a Doctorate degree (see [Table no. 3](#)).

**Table no. 3 – Respondent profile**

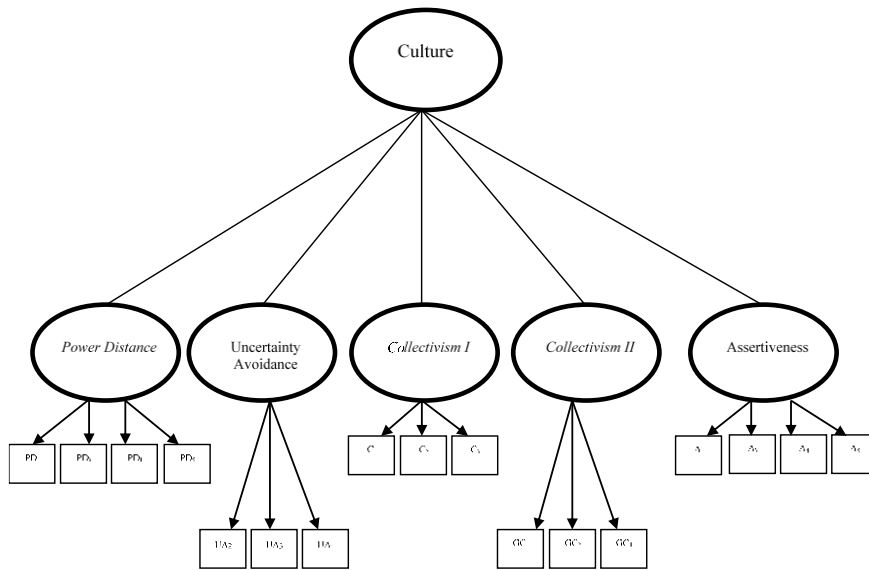
Variable	Individuals (N=355)	
	N	%
Gender		
Female	176	49.6
Male	179	50.4
Age		
Less than 20	44	12.4
20-24	87	24.5
25-29	56	15.8
30-34	32	9.0
35-39	42	11.8
40-49	48	13.5
50-59	41	11.5
60 or more	5	1.4
Level of education		
Little or no education	0	0.0
Primary education	7	2.0
Secondary education	125	35.2

Variable	Individuals (N=355)	
	N	%
Undergraduate university	162	45.6
Specialization	19	5.4
Master's degree	28	7.9
Doctorate	14	3.9

Source: Own elaboration

### 4.2 Confirmatory factor analysis

To reduce the dimension of the scales, a Confirmatory Factor Analysis was implemented, as well as the analysis of the reliability and validity of the scale through the five dimensions of culture and the twenty-two items included. The initial scale did not generate a satisfactory adjustment, with  $\chi^2/g.l.= 1.81$ ,  $BX2 (199) = 359.860$ ,  $p=0.00000$ ,  $BBNFI=0.789$ ,  $BBNNFI=0.873$ ,  $CFI=0.891$ ,  $IFI=0.893$  y  $RMSEA=0.048$ . In this way, the items that showed a value of the total correction statistical - corrected element  $\leq 0.35$  were eliminated as suggested by [Saxe and Weitz \(1982\)](#) and likewise those whose variance values explained (R<sup>2</sup>) were very low. Additionally, in each of the factors an item was eliminated. Finally, the refined scale is integrated by five factors and a total of 17 items ([Figure no. 1](#)) whose adjustment indicators are  $\chi^2/g.l.= 1.58$ ,  $BX2 (109)=172.059$ ,  $p=0.00011$ ,  $BBNFI=0.880$ ,  $BBNNFI=0.939$ ,  $CFI=0.951$ ,  $IFI=0.952$  and  $RMSEA=0.040$ , the values of  $BBNFI$ ,  $IFI$  y  $CFI$  have values higher than 0.9, which indicates a good fit.



Source: Own elaboration

Figure no. 1 – Culture measurement model. Refined scale

Table no. 4 shows the reliability indices of the culture measurement scale: Cronbach's alpha coefficient, Composite Reliability CR and the Average Variance Extracted AVE. The

values of Cronbach's alpha for each factor are higher than 0.7, which indicates an acceptable level of reliability of the scales, according to Nunnally and Bernstein (1994). In terms of composite reliability, the values for the five factors are higher than 0.7 as recommended by Fornell and Larcker (1981), which confirms the internal consistency of the indicators of each factor. Finally, in the case of the variance extracted index values, they register values higher than 0.5 as suggested by Fornell and Larcker (1981). Convergent validity is confirmed, since the factorial loads are significant for  $p < 0.001$ , as shown by their respective  $t$ , the average of the factorial loads is greater than 0.7 for factors 2 (Uncertainty Avoidance) and 4 (Collectivism II), and the other factors have values very close to those suggested by Hair *et al.* (1998). Discriminant validity is accepted by the Confidence Interval Test method (see Table no. 5).

**Table no. 4 – Reliability and validity of cultural practices measurement scales**

Factor	Items	t-value	Average Factorial Loads	Cronbach's alpha ( $\alpha$ )	CR	AVE
Power Distance	PD <sub>1</sub>	12.913*	0.639	0.732	0.878	0.644
	PD <sub>3</sub>	10.089*				
	PD <sub>4</sub>	10.555*				
	PD <sub>5</sub>	11.837*				
Uncertainty Avoidance	UA <sub>2</sub>	12.234*	0.705	0.747	0.878	0.706
	UA <sub>3</sub>	12.460*				
	UA <sub>4</sub>	13.009*				
Collectivism I	C <sub>1</sub>	10.998*	0.668	0.706	0.859	0.670
	C <sub>2</sub>	10.825*				
	C <sub>3</sub>	11.863*				
Collectivism II	GC <sub>1</sub>	12.848*	0.701	0.739	0.882	0.714
	GC <sub>2</sub>	13.278*				
	GC <sub>4</sub>	11.032*				
Assertiveness	A <sub>1</sub>	11.461*	0.630	0.722	0.872	0.631
	A <sub>3</sub>	11.391*				
	A <sub>4</sub>	9.911*				
	A <sub>5</sub>	11.118*				

Source: Own elaboration

**Table no. 5 – Confidence interval test**

	F <sub>1</sub> Power Distance	F <sub>2</sub> Uncertainty Avoidance	F <sub>3</sub> Collectivism I	F <sub>4</sub> Collectivism II
F <sub>2</sub> Uncertainty Avoidance	[-0.319;0.039]			
F <sub>3</sub> Collectivism I	[-0.222;0.070]	[0.028;0.312]		
F <sub>4</sub> Collectivism II	[-0.071;0.347]	[-0.259;0.021]	[0.008;0.292]	
F <sub>5</sub> Assertiveness	[0.006;0.290]	[-0.237;0.051]	[0.026;0.314]	[-0.063;0.221]

Source: Own elaboration

### 4.3 Perception on the regional culture respect to entrepreneurial activity

The results recorded in [Table no. 6](#) show that the perception of people surveyed about the regional culture (cultural practices), in this case Medellin.

Although there are not specific criterion for determining the level of cultural dimensions, is observed that the Power Distance and Collectivism II dimensions have the highest values of means (very close to 5.0), and thus, hypotheses 1 and 4 they are supported. In the case of cultural practices related to Collectivism I and Assertiveness, the values of the means are 3.62 and 3.63 respectively, which shows a tendency to a high level in these dimensions, supporting hypothesis 3 and 5. Finally, the value of the lowest mean, is presented by the cultural dimension Uncertainty Avoidance, which is related to hypothesis 2, where is estimated that the society of Medellin (Colombia) perceives cultural practices focused on entrepreneurial activity with low Uncertainty Avoidance.

**Table no. 6 – Perception of the cultural practices. Calculation of means and standard deviation by factor**

Factor	Mean	Typical deviation
Power Distance	4.13	1.06
Uncertainty Avoidance	3.01	1.29
Collectivism I	3.62	1.13
Collectivism II	4.15	0.90
Assertiveness	3.63	1.00

*Source:* Own elaboration

## 5. CONCLUSIONS AND FURTHER RESEARCH

This study investigates the perception of cultural practices of society of Medellin, in order provide a more accurate knowledge of the true factors that stimulate or inhibit entrepreneurial activity. This study contributes to increase the documentary collection of works specifically interested in investigating entrepreneurship and culture. Culture is not considered as something not well defined and imprecise, but disaggregated in its components in order to specify which of them has a real effect on entrepreneurship. Regarding the perception of cultural practices (society "is") of people surveyed in Medellin, the results confirm that the society perceive in their environment a high level of Power Distance and Collectivism II. For Collectivism I, is confirmed that the society perceive a more favorable environment for entrepreneurship training, creation of companies and innovation processes in their context through governmental and private institutions in their regional territory. This may also be related to the high number of entrepreneurship and innovation programs developed in the city of Medellin, compared to other territories in the country.

From a theoretical perspective, [Ozgen \(2012\)](#) state that individuals who are part of a context with a high level of assertiveness are more focused on risk taking and competitiveness, attributes that are related to entrepreneurial activity. Regardless of the level of assertiveness that is attributed to Colombia after the study conducted by GLOBE in 1998, which concludes that this country has a medium level, it was expected that society in the regional context (Medellin) in which it was carried out the fieldwork of the present investigation perceived a higher level of assertiveness. This research provides an empirical contribution on cultural practices and their relationship with entrepreneurial activity, from

the cultural dimensions proposed by the GLOBE Project. But, it should be noted that the GLOBE project studied the relationship between culture and organizational leadership, not the relationship between culture and entrepreneurship. The findings of this study allow to explore the characteristics of the cultural practices of one of the main business regions of Colombia, which supports its entrepreneurial character.

Finally, this approach was confirmed, that is, the society perceive an environment closer to assertiveness. The study of the this cultural dimension provides an important finding from the empirical perspective, since, according to the literature review estimated for this study, empirical studies related to this dimension were not identified. Likewise, the results of this study support the idea that this society perceive a greater group collectivism. That is, society values social relationships with their closest environment, such as family and friends, which, in turn, could motivate and support the individual to start their entrepreneurial activity. Finally, a research work about cultural dimension “orientation of future” is recommended on the relationship between culture and entrepreneurship. In addition, a study could be developed about of the differences between the perception of cultural practices and cultural values of entrepreneurs and non-entrepreneurs, and the identification of differences between the national culture and the regional culture, using as a reference other territorial context.

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