ENTREPRENEURSHIP: A LONG WAY TO GO

INVESTIGATION PROJECT

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JUAN SEBASTIAN SALAZAR SASTOQUE

BUSINESS SCHOOL

BOGOTA D.C
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Dedicated to:

Our families; for their great support allowed, we complete this great process in the best way. To our teachers who gave us their support and education over the years.
Special thanks to:

Sergio Andres Pulgarin, for letting us be part of this project, support and address you gave us during the process of making this work degree.
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GLOSSARY

Achievement: Having the need for meeting objectives or targets based on doing things the best.

Power: is the need for authority and subordinate to our cause. It focuses on goals but always focusing on regulating aspects and create guidelines to subordinates.

Affiliation: is the need to work together, maintain good social relationships and have an aspect of influence in social groups to build a project or accomplish a goal.

EMPRETEC: It is a pioneering program of the United Nations, which encourage entrepreneurship for having habits and characteristics of entrepreneurial behavior, towards organizational development and business development.

Entrepreneurial: It is called enterprising that person who identifies an opportunity and organizes the resources needed to catch her. Entrepreneurship is the attitude and aptitude of the person who allows to undertake new challenges, new projects.
ABSTRACT

Entrepreneurship education has emerged as one popular research domain in academic fields given its aim at enhancing and developing certain entrepreneurial qualities of undergraduates that change their state of behavior, even their entrepreneurial inclination and finally may result in the formation of new businesses as well as new job opportunities. This study attempts to investigate the Colombian student’s entrepreneurial qualities and the influence of entrepreneurial education during their studies.

Key words: Entrepreneurship, power, affiliation, achievement, EMPERTEC, behavior, persistence, risk, needs
1. INTRODUCTION

This project aims to characterize the entrepreneurial behavior or entrepreneurial profile of undergraduates at the University of Rosario, by analyzing the result obtained through the application of the instrument known as CEB (Characteristics of Entrepreneurial Behavior). The instrument builds on the work of David McClelland, on motivational factors related to the individual, which are likely to be defined in the individual entrepreneur to build a particular profile of their behavior.

With this, the United Nations through its EMPRETEC program, designed for research and promoting entrepreneurship systematically formalized a mechanism to evaluate 10 factors associated with 3 categories of need established by the author (Achievement, Affiliation and power), in such a way that the entrepreneur or entrepreneurial potential could see their strengths and weaknesses and consequently able to develop strategies to improve the particular situation.

Entrepreneurship education is receiving more attention in the management literature as entrepreneurship is one of the driving forces to achieve economic development and job creation (Thurik and Wennekers, 1999; Carree and Thurik, 2003). Policymakers, politicians and academics agree that entrepreneurship is the principal path to economic progress of both developed and developing economies (Thurik and Wennekers, 2004; Audretsch et al., 2013). Small business ventures do not only create value for entrepreneurs and individual investors also serve to improve overall market efficiency and innovativeness as well as to contribute to employment and social stability.

The importance of entrepreneurship to the Colombian economy and society is evident by the number of public and private supporting mechanisms that exist for entrepreneurs, including the 1014 Act named locally “Law of Entrepreneurship”, from January 26/ 2006, which aims fostering entrepreneurship at all educational levels in the country, the commitments that the government took were: promote and ensure the link between education, business and entrepreneurship, designate public economic and human resources through the commerce, tourism and industry ministries to support entrepreneurship networks, additionally the
government promised to create conditions to funds of investors and seeking for agreements with financial institutions to support new entrepreneurs, focusing on working together on the principles and values enshrined in the Constitution and this Act; also enact at all formal educational institutions and non-formal, the relationship between the education system and the production system to boost the efficiency and quality of services learning from theory to practice. It requires, for instance, public and private education institutions to promote entrepreneurship as a form of occupation and professional development. In fact, Colombian Universities have stepped up their efforts to promote entrepreneurship amongst their students and a number of public and private initiatives are aimed at creating an ecosystem of entrepreneurship via Wayra, Destapa Futuro, Ventures Corporation, Endeavor Colombia, Innpulsa Colombia and the Entrepreneurship Fund, to name a few.

However, the problem is complex because entrepreneurship and innovation are composed of three levels defined by Professor (Vesga, 2007): the environment or macro level, the intermediate level of firms and the level basic or individual’s level. Innovative entrepreneurship is an attitude in people, a culture and a characteristic of the competitive environment in the countries. These three levels must work together, since each of them is supported by others. In search of a more entrepreneurial society, it is necessary to activate the potential of individuals, companies and macroeconomic context of Colombia.

The implementation of these supporting mechanisms and policies is well-timed bearing in mind the characteristics of the Colombian labor market. While the overall unemployment rate is reported at about 10%, the unemployment among the Colombian youth is becoming a major problem: in 2013 the unemployment was reported at 20.3% (DANE, 2013) – amongst the highest rates in Latin America. However there is an improve according to the labor observatory of the education ministry; four of every five recent graduated students are employed in the labor market, on the other hand the ones that have not found a stable work according to their profession present this problems: the thirty one percent (31%) of these students are doing a job that has nothing to do with their careers, the twenty six percent (26%) employers require them with some labor experience that they do not have, but they have not received the opportunity to
work, so it becomes a circle, and the forty three percent (43%) have other reasons like too low salary. (Education ministry, laboral observatory 2011)

Since it has become more difficult for governments themselves to create a net increase in employment, job creation via small and new firms as become important (Davidsson, 1995). In fact, one way out for the unemployed and particularly the youth is to become self-employed or to establish their own business. In fact, research confirms that permanence and employment security is no longer a significant feature of career paths (Newmark, 2000) and the changing nature of career prospects in large organizations has resulted in people becoming more interested in starting their own business. However, difficulty in finding (stable) employment is not a strong enough reason encouraging young people to become entrepreneurs. Research on entrepreneurial qualities identifies specific characteristics that distinguish entrepreneurs from non-entrepreneurs.

The research has focused on detecting the traits and motives of entrepreneurs, as well as the demographic characteristics that may prompt individuals towards entrepreneurial careers as opposed to those in other fields such as organizational management (e.g. Collins et al., 2004; Hansemann, 2000, 2003; Lachman, 1980; McClelland, 1965, 1987). In addition, research has examined the qualities and behaviors that bring about successful entrepreneurs (e.g. Baron and Markman, 2000; McClelland 1987; Rauch and Freses, 2000, 2007; Rauch et al., 2009). Within this context it has been argued that although personality traits may prompt persons to become entrepreneurs, some entrepreneurial qualities, skills and behaviors can be trained (Neck et al., 1999). Moreover, entrepreneurship and other business activities are thought by many to be sufficiently dissimilar to implement distinct programs in entrepreneurship at universities (Hisrich and O’Cinneide, 1996; Hansemark, 1998). But we note that even though the recent reports from the Global Entrepreneurship Monitor indicate that the entrepreneurial spirit is alive and well developed internationally, many more people have entrepreneurial potential than those that eventually become entrepreneurs (Kent, 1990; Thomspson, 2004).

Against this background entrepreneurship education and training has become an increasingly important and highly researched area for management scholars and with
governments starting to pay more attention to entrepreneurship and entrepreneurship training and education. Research has been initiated to have a more thorough understanding of the factors influencing entrepreneurial activity and to move from entrepreneurial inclination to starting a business or to become self-employed.

2. LITERATURE REVIEW ON CHARACTERISTICS OF ENTREPRENEURS

There are various theories recognized in the entrepreneurship literature that explain factors influencing entrepreneurial intention. However, until nowadays there exist very little consensus about which theory is the most comprehensive since each pays attentions to different areas and attributes.

The psychological school of thought focuses on personality traits such as the need for achievement, locus of control, moderate risk taking propensity, innovativeness and so on (McClelland, 1961; Dyer, 1994; Rotter, 1966; Robinsson et al., 1991). The theory of planned behavior (Ajzen, 1987; 1991) has been used by numerous authors to explain business start-up intentions and subsequent behavior (Krueger et al., 2000; Audet, 2002; Kolvereid, 1996; Tkachev and Kolvereid, 1999; Engle et al., 2010). According to the TPB entrepreneurship behavior is intentional and intention formation depends on attitudes towards the entrepreneurial behavior which, in turn, reflects beliefs and perceptions. Shapero’s (1982) model of the entrepreneurial event is another intention based model but based on the perception of the desirability and feasibility combined with a propensity to act as the most crucial factors influencing an individual’s intention to start a business (Shapero, 1982). People who have high levels of desire to become entrepreneurs may ultimately not act upon their intentions due to certain perceived barriers. Institutional economic theory is another theory that explains entrepreneurship motives and pays attention to informal factors such as attitudes, norms of behavior (Krueger and Brazeal, 1994) and formal ones such as policies, laws, regulations, government and culture. (North, 1990). Then there is the social networking theory which turns
attention to relationships between entrepreneurs and others that provide important resources in establishing businesses (Neergarad et al., 2005; Granovetter, 1992; Burt, 1997).

In addition, various other factors related to demographic and social aspects such as previous employment (Story, 1982); family background (Scott and Twomey, 1988; Matthews ad Moser, 1995), gender (Buttner and Rosen, 1989); Kolvereid et al., 1993), education (Storey, 1992), ethnic membership (Aldrich, 1980), and religion (Weber, 1930) are discussed in the literature on entrepreneurship. Altogether, the combination of psychological characteristics and specific background factors make individuals more likely to become an entrepreneur than others.

With respect to student population research indicates that there are certain factors such as education that affect students more than others (Wang et al, 2001; Scott and Twomey, 1988). According to Turnbull et al. (2001) the main motivational factors for students to become entrepreneurs are opportunity to take risks, freedom, financial gain, and security of employment and control.

In a nutshell, entrepreneurial inclinations are determined by factors psychological in nature. Then there are also the institutional facilitators such as the provision of researches and government assistance. Access to social networks is another promoting factor to entrepreneurship although we note that these social networks may or may not exist among budding entrepreneurs such as undergraduate students and tend to be more prevalent among already existing entrepreneurs who are embedded in an entrepreneurial eco-system.

Given our objective to evaluate the extent to which entrepreneurial qualities can be developed through entrepreneurial university education we decided to focus on the psychological school of thought which determines that specifically personal qualities influence entrepreneurship inclination. We assume that entrepreneurial inclination differs between actual entrepreneurs and budding entrepreneurs. Past research examining the relative importance of psychological variables and the external environment for entrepreneurs shows that barriers faced by actual entrepreneurs are mostly confined to the external environment while aspects that deter from entrepreneurship faced by potential entrepreneurs are mostly psychological (Taormina and Lao, 2007). Hence the variables selected for this research are from the psychological school of
thought as these constructs are more relevant to the unit of analysis, i.e. undergraduate students. Demographic characteristics were additionally included into the research framework to make it more comprehensive. A detailed discussion of the analytical framework and the variables used is provided in the next two sections.

3. THEORETICAL FRAMEWORK

The McClelland model:

McClelland argues that motivation is conditioned by the needs of people that is the starting point of the pattern of behavior of the individual (Gibson, James; Ivancevich, John; Donnelly Jr, James, 1984). An unmet need creates tension within the individual motivation originating therein, resulting in the generation of a seeking behavior specific goals, which will satisfy the need to achieve and would lead to the reduction of stress (Robbins, 1999). Looking at the analysis from the perspective of the entrepreneur notice that the characteristics of individual complement directly with the orientation of the entrepreneur, in fact this develops an inner strength which despite adversity remains constant for the achievement of its objectives. This force then we can define it as a need which is typified in a connotation that will be addressed later.

Based on McClelland conducted one of the most important studies of history motivational level which resulted in the construction of his theory of learned needs of motivation that is closely related to the concepts of learning and thinks that many necessities are acquired from the culture of society. These are the needs of Achievement (n Log), power (n Pod) and affiliation (n Afi). McClelland proposed that when an individual has a need that is very strong in a person, its effect is the motivation of this towards meeting their need. The experiment conducted to building your hypothesis was the observation of the individual and the way they act and feel, not the external action, for this study it was made a test of subject perception (PPT), this
test images are displayed. Drawn to the person and asked to describe in writing what is represented in them.

The test was conducted Entrepreneurs of large companies which according to their responses were classified by him, according to the need for achievement, power, or affiliation. McClelland found that the individual has a degree in each of these reasons in thought, but rarely with the same force; A person may have a high need for affiliation, low need for power and moderate need for achievement, this type of person would tend to think more about friendship than doing a good job and control others. Their motivation to work would be a different from an employee with high need for achievement and low need for affiliation and power order. McClelland states that those needs are learned from parents or cultures.

Research has provided the basis for developing the profile of people on the need for achievement and noted the complexity for achievement motivation (Kolb, David; Osland, Joice; Rubin, Irwin, 2007), which have subsequently had implications for knowledge and understanding of business internationally.

As mentioned previously, McClelland was able to identify three patterns of behavior in individuals, which named as the three learned needs which are discussed below:

3.1 Need for Achievement:

Is the "need to reach goals and continually strive to improve." It refers to the process to achieve goals, excel and strive for success. States that individuals who have high need for achievement are people fighting for goals and difficult tasks, are more satisfied when facing a situation of effort, prefer to perform tasks that require greater personal responsibility where they can overcome obstacles and opt for jobs where there is opportunity to experience a feeling of accomplishment. It also states that people with high need for achievement prefer to work alone and does it better; also, this type of person tends to take responsibility for their own success or failure, take moderate risks (calculated) and like situations where they can get involved and
receive feedback on how they perform in their work. Its extreme achievement motivation allows them to be oriented the same, although the atmosphere in which operate even be better if its strong achievement motivation was balanced by needs balanced power and affiliation (Kolb, David; Osland, Joice; Rubin, Irwin, 2007).

3.2 Need for power:

Is defined as "the need to influence and lead others, and have control over the environment." It refers to the level of control desired on their own situation in which is involved. Such people are characterized by performing tasks where they can influence others, are more interested in the status and prestige on the efficiency of its work. A high level of power is very common among managers of high and midrange, because by definition their job is to influence people and the organization. A strong need for power can be satisfied working in professions that allow people to influence others, as are politicians, executives, labor leaders, military and police, and lawyers. There are two types of need for power; first is the "power of socialization" which is used for the good of others. People motivated by this need to seek for make the environment in which they are better for the benefit of others by him. The negative type of this need is the "personal power" asocial concern for personal domination. This type of person seeks power impulsively. Having a high need for power does not automatically make an autocratic or authoritarian person (Kolb, David; Osland, Joice; Rubin, Irwin, 2007).

3.3 Need for Affiliation:

It is "the desire to establish friendship and close interpersonal relationships." An individual with a high need for affiliation, strives to maintain good relations with others, creates a pleasant environment for socialization, cares for people and likes to maintain an active social life. The strong need for affiliation allows these people to be involved in situations where cooperation is important, and seek to establish relationships with a high degree of mutual understanding. As with the need for power, membership is divided into two; "The affiliate interest", is the concern of interpersonal relationships but not directed towards the behavior of goal attainment. Such people value friendship and the need to maintain it, although concern
about interpersonal relationships does not exclude giving a negative feedback or make difficult decisions. The downside is the "affiliate guarantee", refers to the need to obtain security for the safety and strength of the relationships it builds, avoiding rejection. Individuals with this need, seeking evidence of commitment of others to them, and avoid problems and conflicts that may damage the stability of the relationship, seeking the approval of others and waste energy on maintaining friendly relations in achieving the goals of work, worrying about not appeal to the people around her. People with a high level of affiliation make a valuable contribution to creating an atmosphere of friendly and cooperative work. (Kolb, David; Osland, Joice; Rubin, Irwin, 2007).

Development and research theory of McClelland were performed mainly using as subjects entrepreneurs seen as through the same scientific performs various approaches to the subject of the entrepreneur and their characteristics come from the psychological analysis of personality thereof. McClelland defines the entrepreneur as a successful person who has developed a strong need for achievement and therefore seeks situations (Olle, 1997).

This leads us to conclude that the classification derived from this theory identifies entrepreneurial behavior from motives that influence their behavior and lead to the development of actions, with the need for achievement element study of major importance and the desire for independence (Benavides, Ma sea; Sánchez, Ma Isabel; Arocas, Roberto, 2004).

4. VARIABLES ANALYZED

These elements of interaction between the individual's behavior, their motivations and their relation to entrepreneurship have been rescued by the program on promoting entrepreneurship United Nations (EMPRETEC) that sought to establish a direct relationship between three parameters of needs that McClelland and their respective elements of development, in order to understand from the meaning of entrepreneurial behavior. To achieve
this, they developed a categorization of features that were defined as properties in entrepreneurial behavior which are classified as follows:

**4.1 Need for achievement:**

**Be persistent**

Means acting against a big challenge act repeatedly and are aware of the strategy used to address it. Similarly overcoming these obstacles facing him, leading to great entrepreneurs achieve their goals and objectives. Entrepreneurs are responsible and are committed to their results.

**Seek opportunities and initiative.**

The circumstances are not a motivator for entrepreneurs; an entrepreneur acting on the initiative ahead of the facts seizing opportunities and taking forward committed to their organization.

**Search calculated risks.**

An entrepreneur Calculate deliberately risks, evaluates alternatives, makes decisions and acts to reduce risks or control results.

**Demanding efficiency and quality.**

The need for working better and faster ensures compliance excellently considering processes and requirements in order to meet and exceed the expectations within the organization.
Meet its commitments.

An entrepreneur assesses long-term rather than short-term gains goodwill and results. His dedication and personal sacrifice by performing a task allows the most demanding tasks and their effort to meet your team and customers.

4.2 Needs for affiliation

Systematically plan.

For decision-making is necessary to stipulate time delivery of projects within the organization, assign tasks, to review plans according to the expectations and resources.

Find information.

Uses sources of useful information for the company in terms of what decision-making is concerned. Also as good entrepreneur consultant experts who will ensure good feedback to take place in the organization.

Setting goals.

Personal challenges are driven by the goals and objectives that the entrepreneur is fixed, as it has a clear vision and a need for power that allows long and short-term efforts to achieve them.
4.3 Needs of power

Be persuasive and build support networks.

The ability to formulate strategies sense gives you the ability to influence others and the course of the organization according to the situation that confronts, also delegates to key people who may have a high impact on the organizational environment and performance of the team to achieve the objectives.

Self-confidence and independence.

Expresses confidence in their own ability to face challenges and success of the company; to seek autonomy and control of the rules, attributes to himself and his behavior the causes of success and failures.

In line with this characterization, McClelland argues that an entrepreneur has high achievement motivation that processes him to improve, facing obstacles and calculates. Moreover, entrepreneurs have a high need for achievement and low need for power. The senior managers have high need for power and low need for achievement (Olle 1997).

McClelland describes a new entrepreneur is driven by achievement, creating a need for focusing on himself and the search to optimize their own performance. It is also necessary to emphasize that an entrepreneur is characterized understands that success tasks cannot be performed all by itself and therefore must manage a team that will do things by the organization according to the requirements of this. Likewise, states that an entrepreneur must have the facility to influence their subordinates so that there is an imminent need for power to be disciplined and controlled to be directed to the benefit of the institution as a whole and not to a personal satisfaction (McClelland, David Burnham, David, 2008). Also, McClelland also ruled that the work environment created by an enterprising measures its effectiveness and is reflected in the morale of their subordinates; for example by encouraging responsibility and strength in your
team, reward them for all the achievements, among other things, creates an atmosphere of organization so that subordinates feel they are part of it and they know what they are doing. The key point to improve performance is the entrepreneur and the creation and encouragement to the spirit of work (McClelland, David Burnham, David, 2008).

In turn this author stresses that an entrepreneur is characterized by great emotional maturity, since it has the ability to motivate yourself and the people you work with, no selfishness, is democratic management style and training to subordinates; An entrepreneur does not rely on a system of authoritarian leadership, his desire to "rule" is selfless and plays a vital role in the heads of companies and nations. (McClelland, David Burnham, David, 2008).

The characteristics of entrepreneurial behavior varies according to culture and geography, says McClelland, while holding that when these entrepreneurs conduct their business idea with behavior in common which is fueled by the need for achievement that develop. Also, consider that there are other factors influencing the high desire for achievement of entrepreneurs such as religion and ethics of achievement, socioeconomic status of the family and inheritance of parents high achievement incentive, the latter is a finding that according the scientist there is a tendency to emphasize entrepreneurial families in their parenting practices that encourage high development of the desire for achievement (Lizarazo, Beltran, Maria O, 2009). This hypothesis of experiments in different regions in the world by youth people and their incentive towards according to the culture where they developed was analyzed.

For example realized that in areas where there is a paternal authoritarianism, young people are less enterprising due to the limited independence of thought and action and conditioned by tradition and moral linked to this, while in areas where culturally independence occurs at an early age, young people are encouraged by the achievement and later by the venture, with increased interest in reaching goals of high difficulty resulting in adulthood such an occupation of directors. It also highlights the influence of capitalism and business training in how people behave when they meet new business opportunities and careers, people feel driven to
achieve even more than they have done previously, due to the cultural paradigms that change over time. (McClelland, David C, Solano, Guillermo, 1989)

The entrepreneurial success in business as McClelland is due to their interest in it and capabilities that this demonstrates, as businesses require people to take moderate risks and personal responsibility for their own actions, pay close attention to the retro feeding in term of cost and benefit, and find innovative ways to create a product or provide a new service (McClelland, David C, Solano, Guillermo, 1989).

The entrepreneur also seen by him, as one that reveals your individual need for achievement in economic development. McClelland scheme regarding entrepreneur is "a person who organizes the firm (business unit) and / or Incremental the productive capacity." It also assumes that the desire to attain high achievement leads the entrepreneur to behave in a certain way business situations. A crucial element in most business situations is the decision making under uncertainty, a circumstance where there is necessarily some degree of risk. An entrepreneur driven by her need for achievement, take action with a moderate risk without neglecting the importance of the results.

This behavior is based on the expected satisfaction of the decisions that have to do with risk. In a scenario of complete certainly, the person who decides to get little satisfaction with anticipation and prediction results. McClelland claims that entrepreneurs are immersed in situations where they can get high satisfaction of achievement, taking responsibility for the results obtained. Entrepreneurs will not submit to situations where there is a result of achievements frustrated without analyzing the consequences. According to McClelland entrepreneurs work harder than others because they do not traditionally but seeking to innovate; work harder when challenged and when the job requires more ingenuity that coordinated procedures. Entrepreneurial behavior is based on its orientation towards the future and forward thinking for better decision-making (McClelland, David C, Solano, Guillermo, 1989)
Likewise, he made another interesting contribution to the characteristics of the entrepreneur through an identification study conducted in multinational skills to outstanding managers and not very prominent in interviews studying the behavior of the same. These skills are strictly related to the successful performance of a person depending on the level of competition in which it is located; Competencies are achievement orientation, analytical thinking, conceptual thinking, flexibility, impact and influence, information search, initiative, interpersonal understanding, self-confidence, leadership and organizational knowledge. Through this study it was established that these 12 races, had a difference of at least 6 among the outstanding individuals and typical, leaving the typical disadvantage, because during the development of their experiment (Behavior Event Interview - BEI) identifying that executives who love to receive feedback and like to acquire skills for success for future improvement are linked to achievement orientation and do a better role in the subsequent performance of a company. These competencies of outstanding individuals are related to entrepreneurial behavior due to the association of it with success (McClelland, 1998). Based on the tree needs of and individual to start an entrepreneur process, there we propose five hypotheses to be tested with the analyzed literature and information collected was:

**Hypothesis 1:** There is a positive relationship between the duration of the studies by a student and his need for achievement.

**Hypothesis 2:** The students have a need for affiliation below the average of entrepreneurs.

**Hypothesis 3:** There is no relationship or a negative relationship (inverse) between the years of studies and the need for affiliation.

**Hypothesis 4:** There is a positive relationship between the needs of the studies and the need for power.

**Hypothesis 5:** The demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurship education.
5. METHODOLOGY

Type of study:

The study type was systematic, exploratory, in convenience to the performed sample. Results were expressed descriptively and analytically in contrast to what the author (McClelland) proposes

Method:

An inductive method trying to draw conclusions from the theories of McClelland and the results that the applied instrument could give.

Collection Tools:

The tool used for this research was divided into two sections; the first part questionnaire aim is to define the general outlines of the respondent (sociographic and demographic characteristics) by asking questions about their selves, where the individual interviewee responds openly to questions.

The second part of the instrument EMPERTEC that was designed from the analysis model of entrepreneurship of McClelland whose name is (preparing for success), it consists of 55 questions which aims to know how identified the students feel with some situations in particular.

These questions come with 5 possible answers:

1 = never true
2 = rarely is true
3 = Sometimes true
4 = is usually true
5 = Always true.

The statements were reverse-coded and intermingled with other statements to minimize response set bias. Each of the three scales was subject to reliability testing as shown in table X.

The three needs dimensions were broken down into 10 subscales and the means, standard deviations, correlation values and reliability levels are calculated. All these values demonstrate a meaningful correlation among the subscales representing the competencies of entrepreneurs.

**Table X: Description of measured variables relating to the three needs**

<table>
<thead>
<tr>
<th>Needs according to McClelland (1961)</th>
<th>Ten competencies specified by the instrument</th>
<th>Description of competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for achievement</td>
<td>Opportunity-seeking &amp; initiative</td>
<td>Entrepreneurs seek opportunities and take the initiative to transform them into business situations</td>
</tr>
<tr>
<td></td>
<td>Persistence</td>
<td>When most people tend to abandon an activity, successful entrepreneurs stick with it</td>
</tr>
<tr>
<td></td>
<td>Fulfilling of commitments</td>
<td>Entrepreneurs keep their promise, no matter how great the personal sacrifice</td>
</tr>
<tr>
<td></td>
<td>Demand for quality &amp; efficiency</td>
<td>Entrepreneurs try to do something better, faster or cheaper</td>
</tr>
<tr>
<td></td>
<td>Calculated risk-taking</td>
<td>Taking calculated risks is one of the primary concepts in entrepreneurship</td>
</tr>
<tr>
<td></td>
<td>Goal setting</td>
<td>This is the most important competency because none of the rest will function without it. Entrepreneurs set goals and objectives which are meaningful and challenging</td>
</tr>
<tr>
<td>Need for affiliation</td>
<td>Information-seeking</td>
<td>Entrepreneurs gather information about their clients, suppliers, technology and opportunities</td>
</tr>
<tr>
<td></td>
<td>Systematic planning &amp; monitoring</td>
<td>Systematic behavior means acting in a logical way. Planning is deciding what to do. Monitoring</td>
</tr>
<tr>
<td>Need for power</td>
<td>Persuasion and networking</td>
<td>Entrepreneurs influence other people to follow them or do something for them</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Independence and self-confidence</td>
<td>Entrepreneurs have a quiet self-assurance in their capability or potential to do something.</td>
<td></td>
</tr>
</tbody>
</table>

Descriptive of three needs 1

**Process:** The project was divided into 4 steps.

**Piloting the instrument:**

In this step a random sample of 5 students from each college career (Medicine, Law and Management) previously chosen for this study were taken and were submitted to the questionnaire. By having the information collected, the clarity of the questions was determined clarity of the questions, after that Cronbach's alpha was calculated to determine the degree of reliability and validity to determine the value of the instrument.

**SAMPLE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Student Population</th>
<th>Sample</th>
<th>Number of academic periods</th>
<th>average number of surveys per period</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOOL OF MANAGEMENT</td>
<td>2116</td>
<td>325</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>SCHOOL OF LAWS</td>
<td>1565</td>
<td>309</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>SCHOOL MEDICINE</td>
<td>1080</td>
<td>284</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4761</strong></td>
<td><strong>918</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample Characteristics 1
Collection of the initial information:

Initial data was related to the total population estimates to analyze, in this case is the total number of active students in the undergraduate first half of 2011. With this information size was calculated representative sample with an expected margin of error of 5% and expected level of confidence of 95%.

Implementation of the instrument:

On the relevance of the study was trying to have a homogeneous sample of the total population of undergraduates, for this reason it was decided to select a convenience sample of students as following way:

The student sample was determined by faculty to in function of the error margin and expected reliability.

- Compared to the total population of students in the selected faculty ratio of students per semester is calculated and the same value to the sample is extrapolated to determine the number of questionnaires to be applied per semester.

- To simplify the collection of information prompted the director responsible for the deanship access to courses and number of rooms required to cover the total required sample per semester.

- Research assistants attend the selected course, made the presentation and implementation of the instrument, its application should not last more than 10 minutes per person, the results are expressed in an answer sheet which is returned to assist the rating.

Tabulation and analysis of the results of research:

By having all the information to proceed to enter the same to some statistical program for analysis.

With the information gained in the implementation of the questionnaires the process continues to enter the information into a statistical application that allows the development of analysis.
The results of the statistical analysis collected with the use of the tool are important because is the first diagnosis of an entrepreneurial profile that needs to be built in the Universidad Del Rosario and the whole country, so there should be more studies like this in the future to see the progression or retrogression of the entrepreneurship skills that the educational process must provide to their students. Additionally some demographic relevant questions were included in the tool like the city where the students were born, and the fact of having or lacking an entrepreneur in the family. As a Prejudice it could be inferred that students from management should have stronger tendencies to entrepreneurship, because much of their classes are designed to encourage soft skills as leadership and analysis, however the results show the following information

6. RESULTS

6.1 GENERAL

GENERAL STUDENTS GRAPHIC

General Students Graph 1
<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>17.5</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Law</td>
<td>17.7</td>
<td>9.79</td>
<td>3.13</td>
</tr>
<tr>
<td>Management</td>
<td>17.54</td>
<td>6.6</td>
<td>2.57</td>
</tr>
<tr>
<td>General</td>
<td>17.58</td>
<td>25.62</td>
<td>5.06</td>
</tr>
</tbody>
</table>

The first information to analyze was the comparison between the three bigger faculties of the Universidad Del Rosario (Law, Medicine, and Management) in terms of quantity of students.

6.1.1 Data Analysis

Based on the radar graph we can see the differences in attitudes and skills of the students of business (management) with an average of 17.54 a medium of 17.57, a variance of 6.59 and a standard deviation of 2.56, medicine with an average of 17.5 a medium of 17.55, a variance of 9.79 and a standard deviation of 3.12 and law with an average of 17.70 a medium of 18, a variance of 9 and a standard deviation of 3, evidencing that law students had a superior performance according to McClelland profile of entrepreneurs.

Comparing the overall averages can be seen that the group of law students is the one with a higher faculty compared to administration and medical school data, this means that all the data obtained in the study reach greater upward trend in this power, which shows that law students are those who are more likely to venture into a grand total. But by contrast with the standard deviation can denote that although faculty Court has the range of higher data, these are more scattered around the mean, indicating that there were many high and low points in the study, suggesting that the average of that option was influenced to a greater extent by a group of faculty and not as a total. You can also prove this statement by the data obtained from the variance of the powers, showing that the mean of the deviations in the case of law students is the highest showing that the data are more scattered upward, increasing as such the overall average.
According to the study of quartiles performed it can denote that the medical school has 3 quartiles above average which shows the tendency of students to be in a higher state in terms of the propensity to entrepreneurship, showing that much of the students of this faculty have studied the characteristics described by McClelland in his study. Similarly, in the faculty of law in the same process as the medical school, however the trend of the data is even greater, resulting in a greater degree in the values of the study, showing similar trends to thrown in the statistical study the means, deviations and variances. Analyzing the power management can be seen that the data is a general average of past medical and laws, since the data are in a similar range, obtaining a higher value in quartile 3 but a lower value in quartile 4.

it was more notorious in variables like , abilities in goal setting, more persistence and more interest in the Fulfilling of commitments wish are characteristics inside the achievement variable, so according to McClelland (McClelland 1963) if law students have a higher need of achievement analyzed in characteristics they have a bigger probability to become in successful entrepreneurs also they are more interested in Information-seeking, wish is a characteristic from the affiliation variable that help students from law to be further from a manager profile an even closer to an entrepreneurial profile (D McClelland; 1982), In addition law students had a superior rating in the independence and self-confidence characteristic, so we can assume that they have a higher need of power, completing a superior performance in the three variables mentioned by McClelland so we could say that they have a higher probability of being successful entrepreneurs.

6.1.2 Hypothesis contrast

**Hypothesis 1:** (There is a positive relationship between lengths of studies and need for achievement) cannot be proved because medicine is the longest of the three careers of the study (law, medicine, management) and medicine was not the best rated according to the radar chart but in the other hand, the law career is longer than the management career and as it was mentioned before it had superior ratings.

**Hypothesis 2 a:** (Students have a below average need for affiliation) is remarkable that the students in general have a high ability to seek for information but a very bad rating in
Systematic planning and monitoring wish are the two characteristics to qualify the variable of affiliation a judgment cannot be done because in one characteristic they had a acceptable performance and in the other was the opposite.

**Hypothesis 2b:** (there is no or a negative relationship between the year of studies and the need for affiliation). This hypothesis cannot be analyzed in this graph because we are not taking in to a count the year of study in wish the analyzed students are, so it can be proved or tested.

**Hypothesis 3:** (There is a positive relationship between the needs of studies and the need for power.) The information in the radar graph in inclined to the opposite of what the hypothesis propose, as it can be seen the need of power is qualified by the characteristics independence /self-confidence and persuasion / networking, as is known the longest college career of the three analyzed is medicine and as it can be seen students of medicine were the ones with less ratings in the need of power qualification, secondly we can observe that law is the second longest career, and it can be clearly seen that law students obtained a better rating in independence and self-confidence wish gives them an advantage in the power variable.

**Hypothesis 4** (Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education.) This hypothesis cannot be tested with the information that this radar graph gives; information of income, gender, work experience and the others is not analyzed in this graph.
6.2 AGE

AGE GRAPH ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>16/18</td>
<td>17,70</td>
<td>11,82</td>
<td>3,44</td>
</tr>
<tr>
<td>19/21</td>
<td>17,58</td>
<td>8,71</td>
<td>2,95</td>
</tr>
<tr>
<td>22/25</td>
<td>17,51</td>
<td>5,85</td>
<td>2,42</td>
</tr>
</tbody>
</table>

This radar chart is about how skills change among the age of students during their career, dividing them in three groups by ages, (16-18; 19-21; 22-25) the graph is analyzing the changes that students have during(through) their education process in terms of the progress of certain characteristics that Education should teach. By intuition we could assume that if students are in an University that seeks to entrepreneurship the logical effect would be that the more
advanced students are in their career the superior rating they supposed to have and also the more they trend to become entrepreneurs.

6.2.1 Data Analysis

The first group is from sixteen to eighteen years their ratings were average 17.04, a medium of 17.83, a variance of 11, 82 and a standard deviation of 3.43. The second group is students from nineteen to twenty-one their ratings were average 17.57, a medium of 17.78, a variance of 8, 70 and a standard deviation of 2.95. And the last group is students from twenty two to twenty five years got these ratings average 17.50, a medium of 17.55, a variance of 5.84 and a standard deviation of 2.41. Comparing the sample means denoted by ages with the general average of the authority alone can overcome the overall average of all faculties is the value that is denoted by the age of 16 to 18 years. This shows that students with these ages have a higher propensity to be entrepreneurs. This apparently shows that the model of university education is not being effective in the growth process of the entrepreneurial profile in their students.

In terms of the standard deviation compared to the general faculties studied can be seen that in terms of age data are less dispersed in the age ranges in the total. Showing that the education provided by each faculty generates greater interest in the venture, while analyzing the age ranges are more entrepreneurial faculties show each student has no prior instruction.

According to the variance given in terms of age, all are smaller than the variance of all the faculties, which shows that the trend of the dispersion of the points of deviation is not so large when the analysis is performed in terms of demographics and social than in academics studies. However, in the age range of 16 to 18 years, which was the highest score obtained compared to the other, the variance is more inclined towards the upper limit of the data so it can be inferred that a large mass of students of those ages increases the overall propensity to be entrepreneurs.
According to the analysis of the quartiles in the range of 16 to 18 years, it can be seen that most data are in a higher state in terms of values towards entrepreneurship. Comparing with other age ranges can be seen that this interval has a performance superior to others.

Between groups almost every characteristic does not change significantly, except for Independence and self-confidence from the need of power variable goal setting and Fulfiling of commitments, both from the need for achievement it’s important to note that the younger the students are, the better rating they got.

6.2.2 Hypothesis contrast

Hypothesis 1: would not be proved (H1: There is a positive relationship between lengths of studies and need for achievement ) taking into account that in most cases the older the students are the more advanced they are in their academic career we would infer that the older they are the better the ratings would be, but the radar chart shows the opposite, the younger they are the better ratings they receive, especially in variables like full fill of commitments and goal setting is significantly higher than ratings than the other two ages, the younger students (16-18) only show a little underperform in these variables: calculated risk taking and Demand for quality & efficiency.

Hypothesis 2: (Students have a below average need for affiliation.) Is totally notable especially in the. Systematic planning and monitoring variable, so the students profile is more inclined towards a manager profile according to McClelland what a manager needs is high power and low affiliation so the manager takes decisions “without worrying of being disliked” (D McClelland; 1982).

Hypothesis 2b: (there is no or a negative relationship between the year of studies and the need for affiliation.) Assuming again that most of the older students are more advanced in their academic career than the younger ones, the hypothesis 2b cannot be proved because the need of affiliation is composed by the characteristics information seeking where we can notice a
superior performance from the younger group (16-18) and systematic planning and monitoring where the best rating was the older group (22-25) so a clear conclusion cannot come out.

**Hypothesis 3:** (There is a positive relationship between the needs of studies and the need for power.) cannot be analyzed in this chart because data from ages has nothing to do with need of study.

**The hypothesis 4:** Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education) this is certainly showed in the radar chart, because the changes are notorious between groups of age what makes us incline to the certainty of the hypothesis, Sixteen to eighteen years that had a superior performance over the other groups of ages and over the general chart.

### 6.3 CITY (ORIGIN GRAPH)

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Medium</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Born in principal city</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Born in secondary city</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This chart compares the aptitudes of entrepreneurship between two groups of students: students born in a principal city and students born in a secondary city according to the GEM (GEM 2011; 2012) inform we could insight that students from a principal city are going to get superior ratings than the ones that were born in a secondary city because according to the GEM Inform the rate of entrepreneurial creation is higher in principal cities.

<table>
<thead>
<tr>
<th>Born in principal city</th>
<th>17,59</th>
<th>17,76</th>
<th>7,54</th>
<th>2,75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Born in secondary city</td>
<td>17,67</td>
<td>17,89</td>
<td>10,56</td>
<td>3,25</td>
</tr>
</tbody>
</table>

6.3.1 Data Analysis

Students from a secondary city got these ratings: average 17.58, a medium of 17.75, a variance of 7.53 and a standard deviation of 2.74 presenting a superior performance in these characteristics: goal setting, information seeking persuasion and networking, independence & self-confidence, persistence and fulfill of commitments. Students from a principal city got these ratings: average 17.66, medium 17.89, a variance of 10.55 and a standard deviation of 3.24 having a superior performance in these characteristics: opportunity seeking & initiative and demand for quality and efficiency.

Statistically it can be seen that social and demographic characteristics affect a higher form of entrepreneurial profile that education itself, with respect to the standard deviation can analyze the information collected by dividing students by hometown is more accurate and the deviation is much lower compared to the general profile. In the analysis of the overall mean of the three schools with students of the province and the capital, clear differences can be denoted. The biggest difference in the variance is compared indicating that the average of the deviations is more towards the right side or left side of the hood, which indicates that the total power over the data are grouped into high values towards entrepreneurship while analyzing the same population by area of birth changes by more than 14 points, which in statistical terms is a huge amount.
In terms of quartiles can be seen that Q2 quartiles, Q3 and Q4 is higher than the mean implying that the highest concentration of data is on top for both types of source state, but for people in the main city is greater the degree they have to incline by the project and not be managers or specialists.

6.3.2 Hypothesis contrast

**Hypothesis 1:** we can conclude that this chart has nothing to do with H1: (There is a positive relationship between lengths of studies and need for achievement.) because the length of the studies is not being analyzed in this chart.

**Hypothesis 2:** (Students have a below average need for affiliation.) we can have an approach to the certainty of this hypothesis looking at the ratings of the chart, the affiliation characteristic does not change significantly between the two groups, in the characteristic systematic planning and monitoring the rating was low, near sixteen (16) and in information seeking the rating was near 18 wish is still not a high rating, to make us incline to the certainty of the hypothesis.

**The hypothesis 2b:** cannot be analyzed with these chart, (H2b: there is no or a negative relationship between the year of studies and the need for affiliation). Because data does not analyze the years of study so no information from this chart has a relation with the hypothesis.

**Hypothesis 3:** cannot be analyzed with these chart neither (H3: There is a positive relationship between the needs of studies and the need for power.) we cannot determine how high is the need of studies from the two group of students (born in principal city, born in secondary city) so the information cannot be compared.

**Hypothesis 4:** analyzing the data from the chart, a relation can be noticed, (H 4 : Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education.) There are some different characteristics clearly strengthen in the two groups of students, wish throw us to the possible conclusion that demographic factors can change the entrepreneurial profile of a student.
**6.4 FORMAL BUSINESS**

**FORMAL BUSINESS GRAPH**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a formal business</td>
<td>17,81</td>
<td>9,13</td>
<td>3,02</td>
</tr>
<tr>
<td>Does not have a formal business</td>
<td>17,59</td>
<td>8,46</td>
<td>2,91</td>
</tr>
</tbody>
</table>

In this chart we can see the comparison from two other groups wish are students who have a formal business and students who don’t have a formal business, by intuition we could get inclined to the idea that students who have a formal business, have more developed these entrepreneur qualities, according to that it would be expected that they would receive a better rating.
6.4.1 Data Analysis

The ratings of students who have a formal business and got these ratings: an average 17.81, a medium of 17.79, a variance of 9.13 and a standard deviation of 3.02 and the ones who doesn’t have a formal business got these ratings: an average 17.58, a medium of 17.79, a variance of 8.46 and a standard deviation of 2.90. Like other graphics, students at the University of Rosario are afraid of taking risks, but the students who have a formal business are less afraid of taking risks. As is said by author J Gonzales entrepreneurs tend to be people who like to take risks (Gonzales and Rodriguez 2008), also they have more demand for quality and efficiency further they have a bigger persistence rating which lean us to believe that students with a formal business got a higher rating in the need of achievement, plus students with a formal business got better ratings in characteristics like: Persuasion & networking and Independence & self-confidence two characteristics of the need of power variable so these group has a higher probability of being entrepreneurs compared with students who do not have a formal business.

In addition assuming that students with a formal business have a higher level of responsibility taking decisions we could conclude that they get even closer to the entrepreneurial profile while students who doesn’t have a business are getting closer to the specialist profile (McClelland 1963).

What both groups have in common is the low affiliation rating which is so similar qualified in characteristics like information seeking and systematic planning and monitoring which make us assume that these students can be more related with the leader profile (McClelland 1982)

In this aspect of students who have formal business or don’t have one, it is shown a great difference to the overall average of the powers, particularly in the data obtained from the study to students who have a formal business clearly show superior performance than the overall average, the group of students without a formal business are not as distanced from the overall average. With respect to the observed data variance make us think that students are away from the entrepreneurial profile, on the other hand the standard deviation showing a much higher homogeneity in the general profile of the data.
Quartiles in terms of it can be seen that quartiles Q3 and Q4 are higher than average implying that there is a group that is inclined to the entrepreneurial profile.

In the group of those without a formal business quartiles can be seen that the quartiles Q2, Q3 and Q4 is above average implying that the highest concentration of data is in superior condition.

6.4.2 Hypothesis contrast

**Hypothesis 1:** cannot be related with the information of this chart (H1: There is a positive relationship between lengths of studies and need for achievement.) This hypothesis is analyzing students who have a formal business and people who do not have one, no lengths of studies at all, so there is no relation.

**Hypothesis 2:** can be analyzed with the information from the chart (H2a: Students have a below average need for affiliation.) we can have an approach to the certainty of this hypothesis looking at the ratings of the chart, the affiliation characteristic does not change significantly between the two groups, in the characteristic systematic planning and monitoring the rating was low, near sixteen (16) and in information seeking the rating was near 18 wish is still not a high rating, to make us incline to the certainty of the hypothesis.

As it was said before Hypothesis 2b has no relation with these chart (H2b: there is no or a negative relationship between the year of studies and the need for affiliation.) Because data does not analyze the years of study so no information from this chart has a relation with the hypothesis.

**Hypothesis 3:** has nothing to do with the chart (H3: There is a positive relationship between the needs of studies and the need for power.) the need of power is clearly higher in students who have a formal business in both characteristics (Independence and self-confidence, persuasion and networking) they received a higher rating but we do not have the information of the need of studies in these chart to compare it.
**Hypothesis 4:** is related with the formal business chart (H4: Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education.) As hypothesis talks about work experience, having a business is clearly more than work experience, in the same way Entrepreneurship and business ideas can be often inspired by practice, as Author Senka Borovac mentions in her study (. Borovac Zekan ; Peronja 2012) it needs more responsibility and persistence, and as the chart show the ratings of students who have a formal business are superior than the students who does not have a formal business, for those reasons we can be inclined to prove the hypothesis, because the work experience clearly change the qualification of entrepreneurial profile.

6.5 INFORMAL BUSINESS

**INFORMAL BUSINESS GRAPH**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has/Have an informal business</td>
<td>17,79</td>
<td>6,31</td>
<td>2,51</td>
</tr>
<tr>
<td>Has not/Have not / informal business</td>
<td>17,59</td>
<td>8,66</td>
<td>2,94</td>
</tr>
</tbody>
</table>
Other type of students that were in the study were students that have and do not have informal business, as in the last radar graph by intuition we could assume that students who have an informal business have the entrepreneur qualities more developed than students who don’t have an informal business; the ones that have an informal business presented these ratings.

6.5.1 Data Analysis

An average 17.78, a medium of 17.86, a variance of 6.30 and a standard deviation of 2.51 against the ones that doesn’t have an informal business with these ratings: an average 17.59, a medium of 17.81, a variance of 8.65 and a standard deviation of 2.94 showing a superior performance in aspects like fulfill of commitment and calculating risk taking from the need of achievement, in the need of power the students with informal business also showed a best rating in characteristics like persuasion & networking and self-confidence, the only variable the students who do not have informal business showed a superior rating and it was a very small difference was in goal setting from the need of achievement.

Comparing this graph with the general we can see that the average of both groups is superior (have an informal business, doesn’t have an informal business) than the general noticing that the students that have an informal business have a bigger difference getting closer to the entrepreneurship profile

It can be clearly seen that students who have an informal business have a superior performance in all ratings of the three analyzed variables (power, affiliation, achievement), with the standard deviation we can get inclined to assume that students are more uninfected than the general profile in the entrepreneurship characteristics, In the other hand the information form the variances make us incline to put the students further from the entrepreneurial profile.

According to analysis with quartiles can be seen that students who have informal businesses are coming to be more enterprising. Since the need or purpose for which sold items such as candy, jewelry, etc. They create an environment that characterizes the start as entrepreneurs. However the change to those who have business casual, not totally great, because despite not having casual business students have innate characteristics, it is possible those who have had the need the have developed even more.
6.5.2 Hypothesis contrast

**Hypothesis 1**: is not analyzable with the information of these chart (H1: There is a positive relationship between lengths of studies and need for achievement.) because of course need of achievement is evaluated but it is supposed to be evaluated against length of studies and that is an information that this chart does not have.

**Hypothesis 2a**: can be studied in every chart (H2a: Students have a below average need for affiliation.) wish can be proved by the low ratings both groups had in the characteristics: systematic planning and monitoring and information seeking.

**Hypothesis 2b**: cannot be studied in this chart (H2b: there is no or a negative relationship between the year of studies and the need for affiliation.) in this chart we do not have information of the years or time of the career that is why it can be analyzed.

**Hypothesis 3**: cannot be analyzed neither, (H3: There is a positive relationship between the needs of studies and the need for power.) because with these chart we are not able to analyze the need of studies from the different students the chart is focused on other aspects.

**Hypothesis 4**: can be analyzed with the chart (H4: Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education. So we can assume the accuracy of the hypothesis 4 because clearly the work experience that students with informal business gained helped them to be closer to the entrepreneurial profile more than the students who don’t have an informal business. In addition supposing those students with an informal business are taking more responsibilities for aspects like initiating decisions (McClelland 1963) they have a clear entrepreneurial behavior, so they have a higher probability of being entrepreneurs.
6.6 ENTREPRENEURIAL FAMILY

ENTREPRENEURIAL FAMILY GRAPH

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial family</td>
<td>17.68</td>
<td>7.88</td>
<td>2.81</td>
</tr>
<tr>
<td>No entrepreneurial family</td>
<td>17.2</td>
<td>9.8</td>
<td>3.13</td>
</tr>
</tbody>
</table>

The final radar chart analyzed was from students who have an entrepreneurial kinsman of family and students who don’t; by intuition we could assume that students who have someone entrepreneurial in the family would have strengthened characteristics to get closer to the entrepreneurial profile.

6.6.1 Data Analysis

The ratings for students with entrepreneurial family were an average 17.68, a medium of 17.89, a variance of 7.87 and a standard deviation of 2.80 against the ones that doesn’t have an
informal business with these ratings: an average 17.19, a medium of 17.51, a variance of 9.80 and a standard deviation of 3.13. It can clearly be seen that students with an entrepreneurial kinsman got a superior performance in each and every of the characteristics that are evaluated so we can conclude that because they have a higher need of power, higher need of achievement and higher need for affiliation they are potentially (more probably) future entrepreneurs.

Comparing the information with the general chart, the group of students with an entrepreneurial family have an average rating over the general profile, in the other hand the students who does not have a kinsman with these characteristic got a rating below the general profile, wish make us incline to the importance of personal and demographic factors are really important in the construction of an entrepreneurial profile in students, Standard deviation is lower in both groups than what it is in the general profile so it can be analyzed that these group of students are more similar between them.

Analyzing quartiles can be seen as in either case of students, those who have family businesses and those who do not, a large percentage change in the need to become entrepreneurial and showing interest for this. A considerable gap between the studies of these students is to give students with entrepreneurial family as more likely to improve their powers of affiliation, achievement and power.

6.6.2 Hypothesis contrast

**Hypothesis 1:** cannot be analyzed in this study (H1: There is a positive relationship between lengths of studies and need for achievement.) the length of the career is not contemplated in the data of this chart.

**Hypothesis 2:** can be analyzed in the graph (H2a: Students have a below average need for affiliation.) it can be clearly seen that the affiliation rating of the students who have an entrepreneurial family is superior to the rating from the students who don’t have an entrepreneurial family.
**Hypothesis 2b:** cannot be proved or analyzed with these chart (H2b: there is no or a negative relationship between the year of studies and the need for affiliation.) because in these chart there is no data from years of study or time.

**Hypothesis 3:** cannot be analyzed neither (H3: There is a positive relationship between the needs of studies and the need for power.) because of course the need of power is analyzed but in this chart the variable of contrast (need of studies) is not studied or mentioned.

**Hypothesis 4:** has a high relation with this chart (H4: Demographic and personal factors (such as age, income, gender, type of degree, work experience) influence the effectiveness of entrepreneurial education). Because as it can be observed students with the personal factor of having an entrepreneurial family got superior ratings in all variables, wish suggests that personal factors can change the aptitudes and characteristics of students in entrepreneurship.

In addition we can assume that students with an entrepreneurial member of the family have the propensity to become entrepreneurs because of subjective characteristics like education in their household wish is very important in formation (Rosero, Terán; Gómez, León 2010) Other follow a similar entrepreneurial path because they saw the advantages of being an entrepreneur, so variables like having a greater freedom, economic independence, not having a boss and produce their own income (Gonzales and Rodriguez 2008) might be other motivators for them wish make them built more aptitudes for entrepreneurship

6.7 DISCUSSION:

On a daily level people usually are motivated toward entrepreneurship for reasons such as having economic independence, not having someone to give guidance or orders, produce their own income and have more free time among others (Gonzales; Rodriguez 2008). Further entrepreneurship is one of the most important forces instigating economic development and job creation (Thurik and Wennekers, 1999; Carree and Thurik, 2004), politicians and academics have failed to agree on the point of stating that the Entrepreneurship is the most convenient for
the economic progress of any economy the way it is developed or developing (Thurik and Wennekers, 2004 ;).

Therefore entrepreneurship education tends to be increasingly important not only in administration but in all education processes, also the educational system is devoting most studies making emphasis in entrepreneurial behavior. In the case of Colombia's economy and society need more people with entrepreneurial spirit for this reason every day attempting to create mechanisms of public and private support for entrepreneurs, a good example of this is the Law 1014 also known as the law the undertaking which is to promote entrepreneurship at all levels of education in the country as well as increasing financial and human resources to support entrepreneurship networks. Also the institutions of public and private education are giving their best to promote entrepreneurship among students as a way of life.

As stated before universities are making an effort to try from the educational process to build the entrepreneurial spirit in their students to contribute to the progress of the Colombian economy, the Universidad del Rosario has a center of entrepreneurship aimed also to encourage the entrepreneurship, this center needs information on what level of education on entrepreneurship students are, so it can strengthen weaknesses, and enhance the qualities of entrepreneurship among students through new ideas and strategies that will encourage the student to be an entrepreneur, also whether the strategies already launched to educate qualities of entrepreneurship are being effective or otherwise does not provide the student with the necessary motivation to approach entrepreneurial profile.

The project is important because previous studies have shown that entrepreneurship tends to hold more personal factors as training in your household (Rosero, Terán; Gómez, Leon 2010) than with the educational process, for this reason the study performed is a mixture of personal, social and demographic factors mixed with CCE. For this reason the University and entrepreneurship center aims to make the education process further entrenched entrepreneurial factors within each student.
7. CONCLUSIONS

Demographic and personal factors are variables which affect the entrepreneurial behavior in a huge dimension, more than education itself, no matter if the education that students are receiving is focused on entrepreneurship, all the graphs in the study showed a high sensitivity between the demographic and personal factors and the characteristics of an entrepreneur.

In conclusion it can be said that the Universidad Del Rosario despite some teaching facets of entrepreneurship in students, does not yet have a complete planning and execution of successful strategies to foster the entrepreneurial spirit in students. Also as student’s progress through their training they acquire more fear of risk and seeking new opportunities; it is responsible for educating the theoretical knowledge, apart from practice and the reality in which students will be involved in the future. Generating an uncertain environment in which students enjoy student’s imagination, analysis and goals but are not trained for proper planning of these objectives in a concise manner.

The Universidad Del Rosario takes entrepreneurship as skills that can acquire students in academic and social entrepreneurs, generating social capabilities to transform problems into opportunities. This shows that entrepreneurship at the University of Rosario is linked directly to issues of the changing environment of societies, using innovation and leadership. At no time is linked to entrepreneurship for creating company, using the use of support networks. This center support entrepreneurship students are through extracurricular events or conferences, generating skills in students creating value in entrepreneurship for students wanting to learn, in addition to research projects of the other teachers to know that actions be taken for each faculty.

However the University with the creation of the center of entrepreneurship is generating 3 projects of short and medium term to encourage entrepreneurship in the student arena. The first strategy is planned to create student electives lines that generate knowledge to strengthen. Cores and diversification will be created at the university. Diversification is about to give a mention a title of another race that will diversify along knowledge of all schools, and this nucleus in generating venture for any student from any faculty have knowledge in entrepreneurship. The
core deepening is only in the faculty of business administration focused on the scope; along of 12 credits to be taken by students for the deepening in entrepreneurship, this project is focused on 2015 year.

Factors such as the above coupled with unemployment and others put pressure on the national government to support and emphasize the pre-commissioning law; 1014 2006 law known as the law of entrepreneurship that aims to encourage entrepreneurship at all levels of education in the country as well as commitments: promoting and ensuring the link between education, business and entrepreneurship.

With the support of this policy, the social task of educational institutions is to meet the guidelines set by the government and formally entrepreneurship education form which allows the entrepreneurial spirit among students by encouraging them to address the road of entrepreneurship, form their own business and become generators of new jobs rather than employees.
8. RECOMMENDATIONS

This work should be taken as a reference to design a strategy for entrepreneurship training by the university. If at the time the university is running a plan with the aim of forming entrepreneurs, which this study shows that the process The University is taking in this moment not being fully effective. It would be desirable to implement new training strategies opening more courses that encourage students to take more calculated risks as they advance in the learning process.

It would be convenient to implement (Empretec) tool again waiting a period of approximately five years when the cycle of student rotates to measure the effectiveness of the new Strategies taken by the University to form entrepreneurs again.
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