



Influence of Emotions on Decision-Making

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ABSTRACT

The purpose of this study is to verify whether emotions and feelings influence the decisions of entrepreneurs differently in terms of gender using data collected via instruments i.e. questionnaire and a semi-structured interview. The findings suggest that out of 13 factors under study, 8 showed significant differences in the responses given by the two groups: love, unfairness, compassion, dissension, individualism, insecurity, anger and surprise. Men tend to face a decision situation as an intellectual challenge. They avoid listening to other people and decide rapidly, as they understand these actions as a sign of capacity and independence. The results showed that male and female entrepreneurs are significantly affected by feelings and emotions. Women showed a greater tendency than men did towards the following factors: love, jealousy and dissension. This study contributes to the entrepreneurship literature and broadens the empirical base of studies related to the influence of emotions and feelings of male and female entrepreneurs, providing a possible new perspective regarding decisions, taking into account the gender of the decision maker.

Keywords: Entrepreneurship, entrepreneurship in Brazil, decision and emotion.

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1.0 INTRODUCTION

Entrepreneurship is a theme that has been widely addressed in the academic and business communities in recent times. It is the role of innovation in the entrepreneurial process that results in the creation of new production methods, products and markets (Timmons and Spinelli, 2004).

The entrepreneur identifies, seizes and takes advantage of opportunities, seeking resources to transform an opportunity into successful business. According to the study conducted by the Global

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Entrepreneurship Monitor (GEM), the results are highly favorable for entrepreneurship in Brazil. With the increasing number of start-up entrepreneurs, it is estimated that forty million Brazilian between the ages of 18 and 64 are involved in entrepreneurial activity. Brazil is fourth place in the ranking in terms of the absolute number of entrepreneurs, behind China, India and Nigeria. The study also revealed that, for the first time in Brazil, the proportion of women entrepreneurs has overtaken the share of men (52.2% versus 47.8%). Entrepreneurship has come to be seen as a career option and source of income for Brazilian women.

An entrepreneur is not only someone who is beginning a new business alone, but also existing enterprises that can promote entrepreneurship as a way of leveraging the technical innovations of their products and/or services. Being an entrepreneur is not a very simple task, as it requires willpower, hard work, commitment, changes and a liking for what one does.

Irrespective of the size of the enterprise, decision-making is the basis of the administration and management of organizations. As decisions are part of the daily life of any entrepreneur, their importance to the survival of an enterprise is undeniable. It is through their decisions that entrepreneurs seek to lead their enterprises to a desired situation. The decision-making process is continuous in the life of an entrepreneur, whether it is to conduct a new action or to solve problems in daily organizational life (Welch, 2002).

Deciding means transforming information into action. Decisions are attitudes based on the evaluation of information. Situations and experiences have become much more complex nowadays, as today there are elements that interfere in the decision-making process that did not exist in the past.

Emotions and feelings are important in the decision-making process. Entrepreneurs use emotional, as well as rational, processes to make their decisions. Emotion affects judgment and decision-making, altering the behavior of decision makers. Furthermore, different emotions have a different effect on subjects, just as positive emotions interfere in a different way from negative emotions. All decision-making is altered depending on how individuals interpret the world through their beliefs and the interaction between cognition and emotions (Zhao, 2006).

This study may be relevant and opportune because it seeks to bridge a knowledge gap and thus broaden the empirical base of studies related to the influence of emotions and feelings on the decisions of entrepreneurs. The study also contributes to increasing the amount of information on the decision-making, emotions and feelings of entrepreneurs.

Entrepreneurs use emotional and rational processes to make their decisions. There are many factors and aspects to be considered when it comes to making a choice. However, the time we have to think and choose the best option is increasingly short. Moreover, there are also issues to be considered concerning how entrepreneurs decide, including the heuristics used and the biases resulting from a decision (Ashkanasy, 2000, Eich et al. 2000).

1.01 RESEARCH PROBLEM AND OBJECTIVE

Based on the above and considering that the research problem is the basis for the development of a study, showing its purpose and importance, the present study is centered on the following question: Do emotions and feelings influence the decisions of entrepreneurs?

Therefore, the general goal of this study is to verify whether emotions and feelings have a different effect on the decision of entrepreneurs in terms of their gender. Therefore, the study investigates whether emotions and feelings (affection, love, jealousy, compassion, dissent, individualism, unfairness, fear, anger, sensitivity to criticism, surprise and sadness) have a different influence on the decisions of entrepreneurs depending on their gender.

1.02 SUBSTANTIVE HYPOTHESIS

Men and women react differently to external stimuli (Fischer & Manstead, 2000, Bradley et al. 2001, Guillem & Mograss, 2005; Kimura, 1999 and Wilson, 1992). Therefore, it is expected that men and women in the field of entrepreneurship will be affected differently by their emotions when it comes to making decisions. Therefore, the present study begins with the general hypothesis that emotions and feelings have a significant but different effect on the decision-making of male and female entrepreneurs.

Considering different constructs associated with feelings and emotions, the substantive hypothesis that guides the present study (written alternatively of the H₁ style) is the following:

H_a: Male entrepreneurs differ significantly, at a significance level of 0.05, from women entrepreneurs in relation to the factors of affection, love, jealousy, compassion, confidence, dissent, individualism, insecurity, unfairness, anger, sensitivity to criticism, surprise and sadness.

2.0 LITERATURE REVIEW

Entrepreneurship is a topic that has been widely addressed by the academic and business communities in recent times. The fact that people are turning to entrepreneurship as a career option has generated a vast field of studies in the academic and scientific circles.

According to both Schumpeter (1947) and Drucker (1987), entrepreneurship is associated with innovation. Schumpeter (1947) turns his gaze to entrepreneurial activity, which is a driving force for all western achievements, giving birth to large organizations that today generate jobs and taxation. They also fund research in all fields of knowledge. Furthermore, according to the author, it is the role of innovation in the entrepreneurial process that creates new production methods, products and markets. Being an entrepreneur is no easy task, as it requires willpower, hard work, commitment and change, and particularly a liking for what one does (Drucker 1987). To the author, the essence of the entrepreneur is transforming innovative ideas into lucrative actions, as an entrepreneur sees in change an opportunity for business. Leite (1998) has a market perspective of entrepreneurs, defining them as people capable of identifying market opportunities and having the financial and business expertise to provide what future consumers will want and satisfy his own needs in terms of professional achievement.

In the understanding of Timmons and Spinelli, (2004), an entrepreneur is someone capable of identifying, seizing and taking advantage of opportunities, seeking to manage resources to transform the opportunity into successful business.

According to De Vries (1996), when analyzing any type of business, be it a large organization or a small enterprise, because of technological innovations and especially because of social changes, there will always be a confrontation involving a series of factors related to human behavior. The general direction of an enterprise does not only include conscious aspects. Top executives do not always follow the rational and prescribed process of analyzing the environment as suggested by the science of business management. To this author, even with concrete plans, the actions of entrepreneurs are influenced by their personal psychological characteristics with deep individual roots. For this reason, the study of the nature of individuals who construct or manage an organization is fundamental, as their personal attributes are reflected in the organizational attributes of the company that they create or manage.

De Vries (1996) also claims that it is clear that the factors that form an entrepreneurial decision-making process do not only include individual behavior within the organization itself. They also include the interpersonal and organizational dynamic and that of the group as a whole, in addition to the dynamic between the organization and its environment.

The essence of administrative activities is fundamentally a decision-making process. This in turn is an eminently human activity (Simon, 1959). To be an entrepreneur it is necessary to be persevering and optimistic, take calculated risks and not give up easily. Being an entrepreneur means many things, and

one of them is recognizing that there are problems and obstacles that have to be overcome and accepting the challenge to do so.

2.01 BELIEFS AND VALUES

In society and in firms, culture is defined by the values or beliefs of people. Entrepreneurs, by definition, are those who establish these values in their companies and keep them alive through their full dedication to them in their daily behavior (Farrel, 1993). Emotion affects judgment and decision-making, altering the behavior of decision makers. Furthermore, different emotions influence subjects differently; and positive emotions have a different effect from negative emotions (Bechara & Damásio, 2005).

The effects of feelings are related to how people deal with them during decisions (Larsen, 2000). Emotions are important elements in decision-making. They also allow individuals to choose one alternative or another and help them recognize traps in this process. Emotions should be included in formal decision models, as diverse studies have pointed out that emotions affect decision-making. Therefore, it is a consensus among researchers that emotions and feelings have a strong influence on decision-making (Ariely, 2008; Damásio, 1994; Elster, 2009; Frith & Singer, 2008; Lehrer, 2009). In this sense, Meireles and Sanches (2009) claim that all decision-making is linked to how individuals interpret the world through their beliefs in the interaction between cognition and emotion.

Emotions are so intense that they end up affecting all aspects of action because they act directly on something that is ingrained in all human beings: their beliefs and desires (Elster, 2009). Through attempts to make sense of the things in the world, beliefs arise. They in turn are the foundation of how people interpret the events that occur around them. Beliefs interact and create a map that shows who the individual is, what the world means to that individual and how these two parts articulate. Beliefs trigger the thoughts of an individual concerning who he is, or even what the world is like to him and how he should relate to it, evaluating what other people deserves and what he himself deserves.

These interpretations govern people's emotional state. As they interpret the events around them, they give meanings to things by controlling the various psychological systems (behavior, emotion, attention and memory) preparing them to adapt to the world and the society where they live. This interpretation is based on relevant experiences since childhood. Through these experiences, individuals develop a system of schemata, basic beliefs at the unconscious level. As a result, what they think when an event occurs will determine the emotions they will feel (anger, anxiety, sadness). These emotions will determine (decision-making) their behavior (follow, give up, react, run away) (Meireles & Sanches, 2009). Individuals, when adults, are capable of making choices. However, these choices also depend not only on knowledge, but also on the decision-making process that is made up of, among other things, beliefs and values. According to Schwartz (2001), values are criteria or goals that transcend specific situations. They are placed in order of importance, serving as principles that guide an individual's life and defining the concept of values as guides for selecting and evaluating actions, situations and people (Schwartz, 1992: 55).

This author believes that the origins of values are the universal requisites of a human being, pre-existing in the individual. They are constituted by: 1) biological needs, 2) requirements for coordinated social interaction, and 3) requirements for the survival and well-being of groups (Schwartz 2001).

According to Solomon (2002), values are beliefs that one condition is preferable to another. These beliefs can be personal, work-related or organizational (Tamayo, 2007b). Values inevitably give rise to a preference, a distinction between the principal and the secondary, for what has value over what does not (Tamayo, 2007a).

Rokeach (1973) claims that a person's knowledge regarding values should make it possible to predict how he will behave in experimental and real-life situations. According to Porto and Tamayo (2003),

personal values have been applied to demonstrate people's behavior and actions, changes in society and to determine groups.

Therefore, it could be said that a decision is based on knowledge or beliefs regarding the relationships of cause and effect of the available options, and aspires to the alternative with preferable consequences. According to Robbins (2006), values are important for studying organizational behavior, as each person has his own ingrained values. When they enter an organizational structure, their values are confronted with those of their colleagues, superiors and other people, leading to a clash of values.

This author also claims that values influence people's attitudes, and this is what leads companies to study organizational behavior. Most of the time, values are relatively stable and do not change. Beliefs are the compasses and maps that guide people towards their goals and make them feel certain about achieving them (Robbins 2006).

With strong beliefs to guide them, individuals have the power to make decisions and create the world in which they wish to live. Therefore, altering their beliefs alters their behavior. If they wish to alter their beliefs, they have to know their source.

External stimuli and events activate beliefs, which stimulate thoughts, which cause feelings and emotions. These in turn guide responsible decisions through the definition of behavior.

2.02 DECISION AND BIASES

In terms of etymology, the word decision comes from the "Latin verb *decidere*, i.e., to separate, cut, followed by a relationship between reason and action". According to Maldonado (2005), a decision involves concerns over the fundamental aspects of human action, as it has a connotation with reason and action.

Theoretical and empirical researchers strive to perfect their understanding of the decision-making process. This process occurs on a number of occasions, irrespective of the subject's age or social position. Decisions are made every day in the most varied situations of daily life.

Irrespective of the size of a company, decision-making is the basic aspect of administrative activity and the management of organizations. According to Freitas *et al* (1997) decision-making is crucial for organizations. It occurs all the time at every level and directly influences the performance of the organization. As decision-making is part of the daily life of any entrepreneur, its importance to the survival of the enterprise is undeniable. It is through their decisions that entrepreneurs seek to lead their companies towards achieving their goals.

The decision-making process is continuous in the life of an entrepreneur, either when it comes to preparing a new action or solving daily organizational problems. In companies, decisions can be shared between planned decisions, i.e., those that are planned and happen constantly and those that happen occasionally (Elster, 1998 and Eisenhardt, 1989).

In decision-making, it is important to understand the context of the problem and arrive at hypotheses and solutions for the situation in question. Laroche (1995) claims that decisions and the decision-making are social representations. In this sense, people think and act on decision-making content. Ethical, cultural and religious factors can directly encourage decision-making according to each manager and his environment.

Hammond (1999) states that decisions limit the lives of subjects. Consciously or unconsciously, with good or bad consequences, they are the fundamental tools used for subjects to address opportunities, challenges and uncertainty in their reality. This author also claims that knowing how to make decisions is a fundamental capability in people's lives. In light of this, Hammond (1999) also comments on the

decision-making process and establishes six criteria to be followed. It should focus on what is important; be logical and coherent; acknowledge subjective and objective factors and analytical blends with intuitive thinking; require only as much information and analysis as is necessary to resolve a particular dilemma; encourage and guide the gathering of relevant information and informed opinion; and be straightforward, reliable, easy to use and flexible (Hammond, 1999:17).

According to Cloninger (1999), personality is a person's temperament and character. Temperament corresponds to factors inherent to emotion to respond to the environment and show personality traits that are essential for determining a person's decisions. Character shows the qualities and moral standards, characterized by environmental, social and cultural influences, that the person shows during decision-making to adapt to and survive in the environment.

According to Beck (1995), thought that does not require a motive to emerge is automatic thought. It can be positive or negative, manifesting in decision-making. Automatic thoughts are the results of how an individual interprets daily situations. During decision-making, the cognitive system based on beliefs registered in the unconscious interpret the reality that will determine the emotions and produce automatic thoughts.

The product of the sum of temperament, character, beliefs and values with the emotional characteristics of the individual interferes in how the personality is formed and influences decision strategies. The interference occurs in the sense of the decision influencing personality and in the sense of the personality interfering with the decision (Beck 1995). The effects of this interference, together with the person's knowledge, are interpreted, structured and stored in the memory through a system of unconscious schemata.

Cognitive schemata can be defined as cognitive superstructures that demonstrate past regularities as captured by the individual (Serra, 2006). Serra (2006) also claims that cognitive schemata are continuously analyzed based on the positive results of decisions grounded in these decision strategies, whether rational or not. As these schemata interfere in the quality and intensity of emotion and behavior in a given situation, they absorb the results of the decision-making processes, selected by the beliefs and values of the subject. In this sense, rationality shows a conscious decision-making model that is anxious for a good result.

Bazerman, (2004) claims that rational decision-making absorbs some fundamental points, such as characterizing the problem clearly and simply, identifying all the factors and their relative importance, analyzing classifying and prioritizing the elements. It also involves identifying all the alternatives, categorizing the alternatives for each element and identifying the optimum solution.

According to Bazerman, (2004), decision-making is based on a set of premises that determine how a decision should be made and not how it is made. The consequences may be similar in many situations, but the paths to the decision will mostly be different for each individual. As companies suffer external interference, society is also directly affected by organizations.

The decision-making process does not always involve all the possible variables because if on the one hand the human capacity to store information is infinite, on the other hand the processing during the decision-making process is finite. Therefore, the rationality in decision-making is limited by the schemata that demonstrate considerable experiences to the subject, in addition to his beliefs and values, except for the emotions added to the decision-making process (Baron & Shane, 2007).

According to Furubotn and Richter (1991), in the scenario of neoclassical economic theory, subjects are apt to learn and process all accessible information and make decisions to achieve their goals. Furthermore, their interactions stem from an adjustment process to attain equilibrium. Experience in situations and decision-making ensure a manager professional maturity, guaranteeing greater accuracy

in his decisions throughout his professional life. Each phase of decision-making is a complex process in itself.

Deciding is fundamentally a human and behavioral action. It includes conscious or unconscious selection of some attitudes among all that are physically plausible for the author and for those people on whom he has influence and authority (Simon, 1959). This author challenged economic theory, proposing that every personal judgment is bounded in its rationality, because although people attempt to make rational decisions, they often do so as a result of their cognitive limitations and a lack of information. Thus, most people are only partially rational, being emotional and irrational in the rest of their attitudes (Simon, 1959).

Among researchers, it is agreed that the classical definition of the bounded rationality of individuals is at least debatable (Simon, 1959, 1965; Kahneman & Tversky, 1979; Kahneman et al. 1982). Decisions generally have two objects: action at the moment and the description of a future (Simon, 1959). The action of the moment chooses the state of future things and guides behavior towards the chosen alternative. The description of a future state can lead to a right or wrong choice.

Simon (1959) goes on to say that decisions are made under different conditions, conditions of certainty, uncertainty and risk. Programmed decisions normally involve a smaller degree of risk than non-programmed decisions. When dealing with decisions under conditions of certainty, the decision-maker has knowledge of the consequences or results of all the alternatives and therefore can choose the best option.

Decisions are more than real hypotheses. They are definitions that can be true or false in a practical sense, of a future state of affairs. For this reason, they also have a dominating quality, as they choose one future state as the result of another. Moreover, decisions provide advice on behavior for the chosen alternative, supported to a greater or lesser degree by paths that reduce thought, as pressure from the environment has a great impact on the time taken to find expressive data on the target and context of the decision (Simon, 1959).

The concept of bounded rationality and mistaken targets characterizes many of the circumstances in which subjects face the decision to become entrepreneurs. According to Hammond (2006), in many cases a bad decision is the consequence of how it was made, i.e., without a clear definition of alternatives, the necessary information and exact calculations of cost and benefit. Most of the time, the error does not lie in the decision itself but in the head and style of the person making it.

The importance of decision-making in an organization is very clear and can be seen empirically in any organizational analysis. This process is constant in the life of an entrepreneur. This relationship is not so narrow that it is impossible to think of the organization without considering the constant occurrence of the decision-making process. These decisions are made clear because they require agility, intention to reduce risks and reach their target. Organizational activities at their various hierarchies are fundamentally processes of decision-making and solving problems (Simon et al., 1992).

Entrepreneurs handle the complex scenarios in which they operate with every decision-making process. For this, they count on the mechanisms that the human brain has created to compensate for bounded rationality and insufficiencies imposed by the lack of information in the search for the best solution (Eisenhardt & Zbackari, 1992). One of these mechanisms is overconfidence. The cognitive characteristics are factors that influence how entrepreneurs think and make decisions. In general, a person has to make a decision about something unknown under conditions of uncertainty and limited information. These conditions are prone to cognitive and heuristic biases (Baron, 2002).

Baron (2002) also claims that entrepreneurs are more exposed to situations that increase the potential impact of a number of biases and errors, including excess information, high uncertainty, innovation, strong emotions and fatigue, and these situations test the cognitive capacity of entrepreneurs.

According to [Welch \(2002\)](#), there are important differences in the male and female decision-making style. Some studies have shown these differences ([Hisrich & Bowen, 1986](#); [Kergoat, 1996](#); [Loden, 1988](#); [Mendell, 1997](#); [Meyer, 1996](#); [Moore & Buttner, 1997](#) and [Vokins, 1993](#)).

The predominant form of the decision-making in organizations led by women has been participative, highlighting and valuing the individual. Women entrepreneurs tend to believe that their destiny depends more on their acts than the context or situation ([Vokins, 1993](#); [Hisrich & Bowen, 1986](#)).

2.03 ERROR AND BIASES IN DECISIONS

Biases are interferences in the decision-making that act on the heuristics to distort perceived reality ([Tversky & Kahneman, 1989](#)). A heuristic is a mental path created to facilitate the decision-making process, as the options available make the decision complex. This generally leads people to make impulsive or wrong decisions, because these decisions are induced by unconscious heuristics. They are adaptive cognitive mechanisms that reduce the time and effort used in judgments, aiding the decision-making process, but may lead to errors and biased thinking ([Tonetto et al., 2006](#)).

According to [Hastie and Dawes \(2001\)](#), the most interesting aspect is that people are not only irrational, but systematically irrational, related to their habits of automatic or 'limited' thought. Their heuristics and biases demonstrated this systematized irrationality.

According to [Kahneman and Tversky \(1974\)](#), heuristics are intuitive interpretations of the brain that are unaware of the laws of probability and statistics, provoking cognitive biases that compromise decision-making. ([Stoner & Freeman, 1992](#)). In other words, a heuristic is a process that shows the life experience of subjects that use memories and records that enable them to "overcome" the diversity, lack of resources and pressures of time involved in decision-making, especially in moments of uncertainty ([Slovic et al., 2000](#)).

According to [Tversky & Kahneman \(1989\)](#), decision-makers make decisions based on a limited number of heuristic principles that reduce the act of analyzing probabilities and options to simplified conditions. However, these heuristics, although necessary, can lead to huge systematic errors, which are biases. Subjective evaluations of events are similar to subjective evaluations of physical quantities, distances and dimensions. A point in question is assessing the apparent distance of an object due to the lighting, as the more details that can be seen of the object, the closer it appears to be.

A decision is not a final act. It is a process that can be learned. Therefore, it is subject to error and bias in the cognitive process, as is the knowledge of the decision maker ([Meireles & Sanches, 2009](#)). [Bazerman \(2004\)](#) claims that to avoid bias or error in the decision-making process, it is necessary to acquire experience and technical knowledge and use a normative approach, making statistical observations, consolidating the information collected in accordance with the degree of certainty that can be associated with each type of information.

Decision makers also allow errors and systematic biases to cloud their judgment. This happens because of an attempt to streamline the decision-making process. To minimize effort and avoid dilemmas, people tend to make excessive use of their own experiences, impulses and rules of common sense, which seem convenient at the time ([Kahneman and Tversky 1974](#)).

According to [Bazerman \(2004\)](#) and [Russo & Schoemaker \(1993\)](#), the most common errors and biases are cognitive: plunging in and anxiety, frame blindness, overconfidence, shooting from the hip and not keeping track.

2.3.1 COGNITIVE BIASES

Cognitive biases cannot disappear, according to [Milanez \(2001\)](#), given that people are very confident in their attitudes and ignore facts that go against their prior beliefs, especially in situations of great optimism (speculative bubbles) or pessimism.

[Macedo et al. \(2003\)](#) show that knowing the cognitive biases aids not only awareness of imperfections in judgment and decisions, but also a need to review the decision-making processes of a company, leading decision makers to consider the occurrence of these limitations in their decisions and learning to recognize, control or avoid their effects.

2.3.2 PLUNGING IN AND ANXIETY

Plunging in is a consequence of the anxiety that leads individuals to make decisions without understanding the different forms of the problem. This occurs when decision makers do not collect sufficient information on a problem and understand how to decide. Anxiety is a warning sign that alerts an individual of imminent danger. Depending on his interpretation, it can prepare him to take steps to face this situation. In other words, when an individual needs to face a situation that makes him vulnerable to a danger because he underestimates his own resources for facing it, the situation is one of anticipating fear, i.e., anxiety ([Meireles & Sanches, 2009](#)). *Plunging in* means concluding, despite still collecting information, without the need to understand the fundamental points or the decision that has to be made ([Russo & Schoemaker 1993](#)).

2.3.3 FRAME BLINDNESS

Frame blindness or *masking* is an attempt by the decision maker to ensure that participants in the study do not know which treatment is being used to solve a problem. The process has a limited focus, simplifying the problem or having only one view of it. To [Russo & Schoemaker \(1993\)](#), *frame blindness* is the act of attempting to solve the problem in the wrong way, as because of the paradigms, the decision maker creates a mental structure for the decision without reflecting, discarding options or losing sight of the real goals.

2.3.4 OVERCONFIDENCE

In situations of *Overconfidence*, the decision-maker does not collect data because he is sure that the data he already possesses is sufficient for decision-making. According to [Robbins \(2008\)](#), overconfidence leads a decision maker to think that he knows more than he actually does. From an organizational viewpoint, one of the most interesting discoveries regarding overconfidence is that people with lower intellectual and interpersonal aptitudes are more prone to overestimating their performance capacity. Thus, the more and better an individual entrepreneur learns of his field, the less likely it will be for him to become overconfident. Overconfidence occurs in the form of judgments that do not consider important facts and information because the decision maker has a great deal of conviction concerning his own ideas ([Russo & Schoemaker 1993](#)).

2.3.5 SHOOTING FROM THE HIP

Shooting from the hip occurs without any effort of knowledge or reflection in the cognitive system. It has an intuitive criterion, based on experience to make assessments and judgments, leading to the bias. For this reason, shooting from the hip leads to inconsistent or uneven decision-making ([Russo & Schoemaker 1993](#)).

2.3.6 NOT KEEPING TRACK

Not keeping track means allowing a decision to be made without monitoring the results, assuming that its lessons will be available automatically. No systematic records are kept to enable an understanding of the decision as it happened. When a person notices that lessons are learned through experiences, this

leads to not keeping track, with no records of how the decision was made and how the results were understood. Not checking the decision through an organized and systematic approach to understand the criteria and method used in decision-making means that the decision maker will be prone to making the same mistakes again (Russo & Schoemaker 1993).

According to Laroche and Nioche (1994), cognitive biases are uncountable. They can be entrepreneurial in origin (e.g., a badly conceived information system; individual (e.g., stress), or related to people. To elucidate cognitive biases, Kahneman and Tversky (1979) presented three effects detected as the result of using cognitively biased processes: i) the “certainty effect”: individuals place greater emphasis on the outcomes that are more certain; ii) the “reflection effect” or “loss aversion”: individuals are averse to risk when faced with an alternative of gain, but they also take risks when the alternative is losing; and iii) the “isolation effect”: in an effort to simplify the decision-making process, individuals generally disregard the shared components of elements and focus on the distinguishing alternatives.

With this in mind, the study was projected and conducted. In the next chapter, the elements regarding the methodology are described.

3.0 DATA AND METHODOLOGY

3.01 TYPE OF STUDY

In the study, a survey (Babbie, 1997:93) uses qualitative data (Soafer, 1999) obtained from the application of a Likert scale that conducts an analysis using non-parametric statistical techniques. Thus, the study can be classified as quali-quantitative.

3.02 SAMPLES

The population is made up of managers of micro and small enterprises in the municipality of Campo Limpo Paulista, in São Paulo State, Brazil. There are two convenience samples: one of 36 women and another with 36 men. Ten men and ten women from these samples participated in semi-structured interviews. The respondents were identified as FR (female respondent) and MR (male respondent), respectively.

According to Godoy (2005), respondents should be chosen using clearly defined criteria. The inclusion criteria were as follows. The respondents had to be entrepreneurs of micro, small or medium-sized enterprises in the region of Campo Limpo Paulista and in the retail, industrial or services sectors. They could be of either gender and had to agree to participate in the present study.

3.03 DATA COLLECTION INSTRUMENTS

There were two data collection instruments. The first is Questionnaire Q1, which was specifically prepared for the present study, with 58 propositions. It can be seen in the Appendix to this study. The other instrument was a semi-structured interview script.

3.3.1 QUESTIONNAIRE Q1

Questionnaire Q1 was constructed and validated specifically for the purposes of the present study and is shown in the Appendix. Initially, statements were sought in the literature regarding emotions, sentiments, beliefs and values in the decisions of managers of enterprises and their effects on these elements on the results of decision-making. Studies were made in the databases of scientific articles such as the Scientific Electronic Library Online (SciELO), Scientific Periodicals Electronic Library (Spell) and Proquest. This was followed by the construction of 76 propositions that were submitted to analysis by a group of ten specialist psychologists, who identified the type of emotion to which each proposition

referred. In general, the results showed that the responses of the specialists were consistent. Although their opinions were not unanimous for any of the propositions, it was possible to label each proposition with a specific emotion agreed upon by most of the specialists.

This was followed by the validation of the scale. According to [Krech et al. \(1975\)](#), validation establishes to what extent the instrument actually measures what it is intended to measure. The validation used was that of [Likert \(1932\)](#), in accordance with [Baquero \(1974, p. 333\)](#). The validation included the following stages:

i) The content was validated by four specialists in the field, authors of academic works on the psychological profile of entrepreneurs. The specialists were given the propositions. They marked those that, in their understanding, are associated with the theme of decision-making by entrepreneurs. Three propositions were removed from the Scale during content validity.

ii) The internal consistency index of each proposition was calculated in accordance with [Likert \(1932\)](#), [Baquero \(1974, p. 336\)](#). The purpose of this was to evaluate whether each proposition effectively succeeded in separating or differentiating who had and who did not have priority related to the item. Twenty respondents with characteristics similar to those of the researched population were used. With the total points of each respondent, the sample was split into two parts: those who scored fewer points (Group 1) and those who scored more points (Group 2). The points obtained by the respondents were then calculated per respondent with fewer and more points. The total responses given by each group were then calculated for each proposition and divided by ten. Twelve propositions were eliminated that had absolute discriminatory power of less than 1: $<|1|$.

iii) The validity of the construct (or concept) is considered, according to [Pasquali \(2003: 164\)](#), the most fundamental form of validating the instrument. This concept was developed by [Cronbach and Meehl \(1955\)](#) and uses the Cronbach's α coefficient. SPSS 17 software has a Reliability Analysis function analyzes the reliability of the instrument. The Corrected Item-Total correlation shows Pearson's correlation coefficient (r) between the item (proposition) and the total indicator reading of its own contribution. According to [McHorney et al. \(1994\)](#), in the development of a measurement instrument, it was established that the item-total correlation should be at least 0.40. In the present study, three propositions were removed that had an item-total correlation lower than 0.40. With the test redone, the value obtained for Cronbach's α was 0.839. This indicator assumes values between 0 and 1 and works on the premise that the correlations between the items are positive. In general, a good value of the α would be 0.70 or higher (obtained with a significant sample). [Pereira \(1999: 87\)](#) claims that to interpret the Cronbach's α , a squared correlation coefficient (R^2) can be considered as a supposed real measure of the phenomenon.

The validated questionnaire was reproduced and applied to the samples.

3.3.2 INTERVIEW SCRIPT

To complement the information collected through the questionnaire, twenty semi-structured interviews were conducted, with ten men and ten women. According to [Triviños \(1987:146\)](#), a characteristic of this type of interview is to ask basic questions that are supported by theories and hypotheses that are related to the research theme. The interview has the following structure: line of work; duration of experience as an entrepreneur; the main types of decisions made in the daily life of the enterprise; if it was difficult to make decisions and why; if the person believed that emotions or sentiments could affect decision-making by an entrepreneur; if the respondent had made a decision on a highly emotional occasion and how this occurred; if the respondents would have decided differently on another occasion; if the respondent had regretted the decision made under the influence of strong emotions and gone back on it; and what types of entrepreneurs are more affected by emotions when they make decisions, men or women?

The interviews were recorded and transcribed and are considered in the analysis of the present study.

3.04 VARIABLES

The analysis of the variables considered the degree of adherence, which is addressed below. The data from Questionnaire Q1 were analyzed by proposition and by factor (set of propositions on a given feeling). The degree of adherence of each proposition (DA_p) measures how much the respondents adjust to a response considered ideal (I totally agree). The DA is determined by the stochastic oscillator of Wilder (1981) using Formula (1).

$$(1) \quad DA = 100 - \left(\frac{100}{\frac{ITA + IA + (I/2)}{ITD + ID + (I/2)} + 1} \right)$$

‘Agreement’ with the proposition is shown by the sum of answers in agreement ($IA+ITA=$ I agree + I totally agree) plus half of the indifferent responses($I/2$); ‘Disagreement’ is determined by the sum of the answers voicing disagreement ($ID+ITD=$ I disagree + I totally disagree) plus half of the indifferent responses. The example shown in Table 1 illustrates the calculation of the degree of adherence for each proposition of the Confidence factor and the degree of adherence of the factor (DA_f) as a whole. For proposition P01, the DA was calculated as shown in Formula (2):

$$(2) \quad DA_{p01} = 100 - \left(\frac{100}{\frac{ITA + IA + (I/2)}{ITD + ID + (I/2)} + 1} \right) = 100 - \left(\frac{100}{\frac{21+43+(2/2)}{3+3+(2/2)} + 1} \right) = 100 - \left(\frac{100}{\frac{65}{7} + 1} \right) = 90,28$$

Table 1: Example of the calculation of the Degree of Adherence (DA)

| Proposition | ITD | ID | I | IA | ITA | TOTAL | Discordants | Concordants | DA |
|---------------------|-----|----|----|----|-----|-------|---------------|---------------|--------------|
| P01 | 3 | 3 | 2 | 43 | 21 | 72 | 7.00 | 65.00 | 90.28 |
| P06 | 4 | 35 | 8 | 21 | 4 | 72 | 43.00 | 29.00 | 40.28 |
| P11 | 2 | 6 | 5 | 48 | 11 | 72 | 10.50 | 61.50 | 85.42 |
| P20 | 2 | 9 | 5 | 38 | 18 | 72 | 13.50 | 58.50 | 81.25 |
| P21 | 4 | 14 | 9 | 32 | 13 | 72 | 22.50 | 49.50 | 68.75 |
| P22 | 5 | 12 | 14 | 36 | 5 | 72 | 24.00 | 48.00 | 66.67 |
| Trust factor | | | | | | | 120.50 | 311.50 | 72.11 |

Legend: Proposition: number of the propositions that calculates the factor; ITD: I totally disagree responses; ID: I disagree responses; I: indifferent; IA: I agree responses; ITA: I totally agree responses; Total: sum of respondents; Disagree: sum of ITD+ID+I/2; Agree: sum of columns I/2+IA:ITA; DA: degree of adherence calculated using Formula (1)

The values of the degree of adherence (for proposition DA_p or factor DA_f) are in the interval $[0;100]$ and it is convenient to have a standard to determine a weak or strong value. Davis (1971, p.70) proposes and interpretation that can be adapted for the purposes of expressing the degree of adherence, as shown in Figure 1. According to the figure, there is “very strong agreement” with Proposition P01 (If I make a decision, I consult the opinion of my collaborators, employees or people I trust) $DA_{p01} = 90.28$; as for Proposition P06 “I make decisions without fear of error”, with $DA_{p06} = 40.28$, there is “slight disagreement”.

| Figure 1: Interpretation of DA values | |
|------------------------------------------|--------------------------|
| DA value | Response |
| 80 or more | Very strong agreement |
| 50 to + 79.99 | Agreement |
| 20 to + 49.99 | Disagreement |
| 19.99 or less | Very strong disagreement |
| Source: Adapted from Davis (1971, p.70). | |

3.06 LIMITATIONS AND DIFFICULTIES

This study has limitations related to the size of the sample of 72 entrepreneurs and the literature review on the influence of emotions, feelings and gender in decision-making of entrepreneurs, as the information was difficult to obtain.

4.0 RESULTS AND DISCUSSION

The main results of the study are given below. Table 3 shows the propositions with degrees of adherence which, calculated by Formula (1) are in agreement (with $DA \geq 50$) and do not represent a relative difference higher than 20%. In the upper part of Table 3 are the propositions that have a degree of adherence higher than 80, indicating very strong agreement. In Lines 5, 20 and 21 of Table 2, the difference in the responses is $\geq 16\%$.

Table 2: Propositions in agreement with a difference $<20\%$, ordered by Degree of Adherence

| P | Agreement with $ Dif\% < 20\%$ | GApt | GApf | GApm | L |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|----|
| Very strong agreement | | | | | |
| P08 | When I'm in doubt about the decision I have to take, I turn to people I can trust. | 94.44 | 88.89 | 100 | 1 |
| P01 | If I make a decision, I consult my employees, collaborators or people I feel I can trust. | 90.28 | 88.89 | 91.67 | 2 |
| P32 | I try to get to know everyone on my team and their needs. | 90.28 | 88.89 | 91.67 | 3 |
| P15 | I am involved in the decisions that affect me and my work. | 86.81 | 86.11 | 87.5 | 4 |
| P23 | I love it when things happen as I planned them to avoid surprises. | 86.11 | 79.17 | 93.06 | 5 |
| P11 | In unexpected situations, I feel confident about deciding based on my positive experiences. | 85.42 | 80.56 | 90.28 | 6 |
| P16 | When it comes to strategic decisions, no matter how experienced I am, I seek help or advice from someone more experienced. | 84.72 | 83.33 | 86.11 | 7 |
| P43 | I worry about my workers before making a decision. | 84.03 | 79.17 | 88.89 | 8 |
| P20 | When I make a decision, I believe that the decision is the best of the possible alternatives. | 81.25 | 80.56 | 81.94 | 9 |
| Strong agreement | | | | | |
| P25 | There are days that are not good for making decisions. | 79.17 | 76.39 | 81.94 | 10 |
| P45 | I feel embarrassed when I'm criticized in public. | 71.53 | 73.61 | 69.44 | 11 |
| P34 | I get attached to the people I work with. | 71.53 | 72.22 | 70.83 | 12 |
| P12 | When I perceive a risk in decision-making, I feel anxious. | 70.83 | 68.06 | 73.61 | 13 |
| P30 | I try to think about every possibility before making a decision so that I don't hurt an employee's feelings. | 70.83 | 70.83 | 70.83 | 14 |
| P22 | I use some degree of intuition when making decisions. | 66.67 | 70.83 | 62.5 | 15 |
| P44 | I get upset when I make a wrong decision and people call me out on it. | 66.67 | 69.44 | 63.89 | 16 |
| P28 | When I make a decision and I'm criticized for it, I feel upset. | 65.28 | 62.5 | 68.06 | 17 |
| P24 | It's not possible to completely separate emotions during decision-making. | 58.33 | 55.56 | 61.11 | 18 |
| P37 | When I'm sad, I try to avoid making decisions and take a break or even decide not to decide, no matter how strategic or urgent the situation is. | 56.25 | 54.17 | 58.33 | 19 |
| P27 | I get nervous in unexpected situations. | 54.86 | 59.72 | 50 | 20 |
| P36 | If I'm humiliated in front of other people, I get angry at the person who humiliated me, or I feel ashamed because of the people that saw it. | 54.86 | 50 | 59.72 | 21 |
| P39 | When I have to let a worker go, I can't make the decision without taking his emotional aspect into consideration. | 50.69 | 50 | 51.39 | 22 |

Legend: P: proposition number; ASSERTIVE: proposition; GApt: degree of adherence to the proposition of all female respondents; GApf: degree of adherence to the proposition of all male respondents; |dif%| absolute difference I module between the respondents, calculated thus: $|(GApf - GApm)/GApt|$; L: line of the table

Table 3 shows the discordant propositions, i.e., propositions in which the degree of adherence is lower than 50. Line 8 shows with a difference in the degree of adherence between female and male respondents of approximately 20%.

Table 3: Discordant propositions with a difference <20%, ordered by Degree of Adherence

| P | Disagreement with Dif% <20% | GApt | GApf | GApm | L |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|----|
| Strong Disagreement | | | | | |
| P31 | To take more risks, I should be less cautious. | 47.92 | 48.61 | 47.22 | 1 |
| P03 | Before dismissing a worker for what I consider a good reason, I think about the trouble being fired will cause their family and, if possible, I avoid firing the person. | 46.53 | 48.61 | 44.44 | 2 |
| P33 | In some situations, I'm really suspicious and this makes it difficult to find alternative routes. | 46.53 | 47.22 | 45.83 | 3 |
| P09 | If I have to dismiss a good worker to restructure the company, I don't take the salary into account. | 42.36 | 43.06 | 41.67 | 4 |
| P41 | I can't separate emotions completely when making a decision | 37.5 | 34.72 | 40.28 | 5 |
| P26 | I try to put things off. I don't always manage, but I should. It's precisely when I need to that I can't do it. | 36.81 | 34.72 | 38.89 | 6 |
| P05 | If I fire a worker in a moment of anger, I don't go back on that decision, even if I recognize that it was not a case for dismissal. | 35.42 | 33.33 | 37.5 | 7 |
| P13 | In situations when there is tension or pressure, I can't make a decision. | 30.56 | 27.78 | 33.33 | 8 |
| P50 | Sometimes, I'm intolerant and don't measure the consequences of my actions for the good of the company. | 30.56 | 29.17 | 31.94 | 9 |
| P53 | Sometimes I get aggressive or go on the defensive with my subordinates. | 28.47 | 29.17 | 27.78 | 10 |
| P46 | I feel uncomfortable when people form friendships at work. | 23.61 | 25 | 22.22 | 11 |
| Very strong Disagreement | | | | | |
| P56 | It's hard for me to work with different ideas and thoughts. | 19.44 | 19.44 | 19.44 | 12 |
| P48 | I feel bitter when the friendship of a colleague is courted. | 18.75 | 18.06 | 19.44 | 13 |
| P17 | I make decisions without consulting anyone and I try to persuade other people that I'm right. | 13.19 | 13.89 | 12.5 | 14 |
| P52 | I tend to tell other people about their colleagues' complaints. | 13.19 | 13.89 | 12.5 | 15 |
| P51 | Sometimes, I tend to block valuable opportunities for people and the company. | 11.11 | 11.11 | 11.11 | 16 |

Legend: P: proposition number: ASSERTIVE: proposition; GApt: degree of adherence with the proposition of all respondents; GApf: degree of adherence to the proposition by the female respondents; GApm: degree of adherence to the proposition of the male respondents; |dif%| absolute difference in module between the respondents, calculated thus: $|(GApf-GApm)/GApt|$; L: line of the table.

4.01 TEST OF THE HYPOTHESIS

The study was based on a substantive hypothesis that emotions and feeling influence the decision-making of men and women entrepreneurs significantly but in different ways. Table 4 shows the degree of adherence of women (Da f) and men (DA m) entrepreneurs to the propositions, now clustered by factors or feelings. In this table, the factor is the feeling of Affection, and is constituted by three propositions.

Table 4: Degrees of adherence to the propositions, clustered into factors, by gender.

| P | Factors (feelings) | DA f | DA m | DA m+f |
|------------|--------------------------------------------------------------------------------------------------------------------------------------|-------|-------|--------|
| Affection | | | | |
| P15 | I am involved in the decisions that affect me and my work. | 86.11 | 87.50 | 86.81 |
| P32 | I try to get to know everyone on my team and their needs. | 88.89 | 91.67 | 90.28 |
| P43 | I worry about my workers before making a decision. | 79.17 | 88.89 | 84.03 |
| Love | | | | |
| P02 | I can say that I make decisions more with my heart than with my head. | 48.61 | 30.56 | 39.59 |
| P34 | I get attached to the people I work with. | 72.22 | 70.83 | 71.53 |
| Unfairness | | | | |
| P05 | If I fire a worker in a moment of anger, I don't go back on that decision, even if I recognize that it was not a case for dismissal. | 33.33 | 37.50 | 35.42 |
| P07 | When hiring a worker, I consider experience above everything else. | 34.72 | 61.11 | 47.92 |

| | | | | |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|
| P09 | If I have to dismiss a good worker to restructure the company, I don't take the salary into account. | 43.06 | 41.67 | 42.37 |
| P10 | If I have to reduce the payroll, I don't consider whether the worker has a family to support. | 29.17 | 43.06 | 36.12 |
| P31 | To take more risks, I should be less cautious. | 48.61 | 47.22 | 47.92 |
| P49 | I hide data from colleague or only given them partial information about the workings of the company. | 25.00 | 31.94 | 28.47 |
| P50 | Sometimes, I'm intolerant and don't measure the consequences of my actions for the good of the company. | 29.17 | 31.94 | 30.56 |
| P56 | It's hard for me to work with different ideas and thoughts. | 19.44 | 19.44 | 19.44 |
| P58 | When a worker I late, I send him a warning. | 27.78 | 38.89 | 33.34 |
| Jealousy | | | | |
| P46 | I feel uncomfortable when people form friendships at work. | 25.00 | 22.22 | 23.61 |
| P47 | It bothers me when some workers are promoted. | 16.67 | 12.50 | 14.59 |
| P48 | I feel bitter when the friendship of a colleague is courted. | 18.06 | 19.44 | 18.75 |
| Compassion | | | | |
| P03 | Before dismissing a worker for what I consider a good reason, I think about the trouble being fired will cause their family and, if possible, I avoid firing the person. | 48.61 | 44.44 | 46.53 |
| P04 | When hiring a worker, I believe that the situation of an unemployed candidate should be taken into account over that of one who has a job. | 47.22 | 73.61 | 60.42 |
| P24 | It's not possible to completely separate emotions during decision-making. | 55.56 | 61.11 | 58.34 |
| P30 | I try to think about every possibility before making a decision so that I don't hurt an employee's feelings. | 70.83 | 70.83 | 70.83 |
| P39 | When I have to let a worker go, I can't make the decision without taking he emotional aspect into consideration. | 50.00 | 51.39 | 50.70 |
| P41 | I can't separate emotions completely when making a decision | 34.72 | 40.28 | 37.50 |
| Confidence | | | | |
| P01 | If I make a decision, I consult my employees, collaborators or people I feel I can trust. | 88.89 | 91.67 | 90.28 |
| P06 | I make decisions without fear of making mistakes. | 36.11 | 44.44 | 40.28 |
| P11 | In unexpected situations, I feel confident about deciding based on my positive experiences. | 80.56 | 90.28 | 85.42 |
| P20 | When I make a decision, I believe that the decision is the best of the possible alternatives. | 80.56 | 81.94 | 81.25 |
| P21 | When I make a decision, I am sure it is the best one. | 61.11 | 76.39 | 68.75 |
| P22 | I use some degree of intuition when making decisions. | 70.83 | 62.50 | 66.67 |
| Dissent | | | | |
| P52 | I tend to tell other people about their colleagues' complaints. | 13.89 | 12.50 | 13.20 |
| P53 | Sometimes I get aggressive or go on the defensive with my subordinates. | 29.17 | 27.78 | 28.48 |
| P54 | Sometimes, I make my subordinates feel that I view them negatively. | 16.67 | 5.56 | 11.12 |
| P57 | I pick on my subordinates for petty reasons. | 12.50 | 22.22 | 17.36 |
| Individualism | | | | |
| P14 | I make decisions without consulting anyone, but I'm willing to change it if there are credible objections. | 30.56 | 41.67 | 36.12 |
| P17 | I make decisions without consulting anyone and I try to persuade other people that I'm right. | 13.89 | 12.50 | 13.20 |
| P23 | I love it when things happen as I planned them to avoid surprises. | 79.17 | 93.06 | 86.12 |
| P51 | Sometimes, I tend to block valuable opportunities for people and the company. | 11.11 | 11.11 | 11.11 |
| P55 | I don't listen to others and don't consider their opinions before making a decision. | 18.06 | 11.11 | 14.59 |
| Insecurity | | | | |
| P08 | When I'm in doubt about the decision I have to take, I turn to people I can trust. | 88.89 | 100.00 | 94.45 |
| P12 | When I perceive a risk in decision-making, I feel anxious. | 68.06 | 73.61 | 70.84 |
| P13 | In situations when there is tension or pressure, I can't make a decision. | 27.78 | 33.33 | 30.56 |
| P16 | When it comes to strategic decisions, no matter how experienced I am, I seek help or advice from someone more experienced. | 83.33 | 86.11 | 84.72 |
| P18 | It's hard for me to make a decision when it involves one or more criteria. | 33.33 | 43.06 | 38.20 |
| P25 | There are days that are not good for making decisions. | 76.39 | 81.94 | 79.17 |
| P27 | I get nervous in unexpected situations. | 59.72 | 50.00 | 54.86 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|
| P29 | I'm afraid of dealing with criticism. | 33.33 | 22.22 | 27.78 |
| P33 | In some situations, I'm really suspicious and this makes it difficult to find alternative routes. | 47.22 | 45.83 | 46.53 |
| P38 | For simple decisions, I seek help or advice from someone more experienced. | 48.61 | 65.28 | 56.95 |
| Anger | | | | |
| P36 | If I'm humiliated in front of other people, I get angry at the person who humiliated me, or I feel ashamed because of the people that saw it. | 50.00 | 59.72 | 54.86 |
| P42 | When I'm angry, I make decisions that I regret later. | 34.72 | 45.83 | 40.28 |
| Sensitivity to criticism | | | | |
| P19 | I formulate possible alternative decisions. | 75.00 | 91.67 | 83.34 |
| P44 | I get upset when I make a wrong decision and people call me out on it. | 69.44 | 63.89 | 66.67 |
| P45 | I feel embarrassed when I'm criticized in public. | 73.61 | 64.44 | 69.03 |
| Surprise | | | | |
| P35 | In unexpected situations, I'm surprised by the decisions I make. | 51.39 | 72.22 | 61.81 |
| P40 | If I make a decision in a hurry, I'm usually surprised by it. | 43.06 | 56.94 | 50.00 |
| Sadness | | | | |
| P26 | I try to put things off. I don't always manage, but I should. It's precisely when I need to that I can't do it. | 34.72 | 38.89 | 36.81 |
| P28 | When I make a decision and I'm criticized for it, I feel upset. | 62.50 | 68.06 | 65.28 |
| P37 | When I'm sad, I try to avoid making decisions and take a break or even decide not to decide, no matter how strategic or urgent the situation is. | 54.17 | 58.33 | 56.25 |
| Legend: P: proposition number; Factor: set of propositions related to a feeling; DA f: degree of adherence to the proposition of female respondents; DA m: degree of adherence to the proposition of male respondents; DA m+f: degree of adherence to the proposition of the respondents irrespective of gender. | | | | |

For each feeling analyzed, the χ^2 was applied to verify whether there was a significant difference within each factor, between the adherence of women and men entrepreneurs. The results are shown in Table 5. Of the 13 factors in question, over half showed a significant difference by a significance level of 0.05 (marked with *) or a significance level of 0.01 (marked with **). Therefore, it can be stated that male entrepreneurs have significantly different degrees of adherence at the significance level of 0.05 in comparison with women entrepreneurs in relation to the factors of love, compassion, dissent, individualism, insecurity, unfairness, anger and surprise.

| Factor (feeling) | p-value | sign. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|
| Affection | 0.5573 | |
| Love | 0.0015 | * |
| Unfairness | 0.0063 | * |
| Jealousy | 0.3991 | |
| Compassion | 0.0483 | * |
| Confidence | 0.2296 | |
| Dissent | 0.0001 | ** |
| Individualism | 0.0491 | * |
| Insecurity | 0.0490 | * |
| Anger | 0.0489 | * |
| Sensitivity to criticism | 0.0899 | |
| Surprise | 0.0029 | * |
| Sadness | 0.0549 | |
| Legend: Factor: designation of the set of propositions referring to a certain emotion; p-value: value of adherence test for responses given by women and men; sign.: * significant to 0.05; ** significant to 0.01 | | |

5.0 CONCLUSION AND POLICY IMPLICATIONS

Decision-making by entrepreneurs has attracted the attention of researchers around the world. It is through their decisions that entrepreneurs seek to lead their companies to a desired position. The

decision-making process is continuous in the life of an entrepreneur, whether it is to develop a new action or to solve daily organizational problems.

The overall goal of this study was to gauge whether emotions and feelings affect women and men entrepreneurs in their decision-making in different ways. The results showed that they do, at least for most of the factors considered in this study: love, compassion, dissent, individualism, Insecurity, unfairness, anger and surprise.

It is important to include some considerations regarding the results. Concerning the goal of the study, it can be said that it was fully achieved, as shown by the results. The study was based on the substantive hypothesis that emotions and feelings have a significant but different impact on the decision-making of men and women entrepreneurs, and this hypothesis was not refuted. It is worth viewing the results considering the factors in question.

It can be said that love affects women entrepreneurs more. Male entrepreneurs show a significantly lower degree of adherence than women entrepreneurs regarding this construct. This result confirms the findings in the studies by Ariely (2008), Elster (2009) and Lehrer (2009).

Concerning compassion, the degree of adherence was significantly higher for male entrepreneurs. These results show that women who are more loving feel less pity. Men, but not women, before dismissing an employee for a good reason, consider the trauma that this dismissal will cause to the employee's family and sometimes even reverse their decision. When hiring an employee, they favor candidates who are unemployed over those who have a job. Men attempt to think of all the possibilities before making a decision in order not to hurt an employee's feelings.

The result for dissent shows that male entrepreneurs have a significantly lower degree of adherence in this sense than women entrepreneurs. Male entrepreneurs tend not to speak to other about the complaints of colleagues. They avoid becoming aggressive or going on the defensive with their subordinates, and do not lose their tempers over petty matters.

Men are more individualist. Male entrepreneurs have a significantly higher degree of adherence than women entrepreneurs regarding individualism. What does this mean? It means that they make decisions without consulting anyone (seeking to persuade others that they are right, but are willing to change their opinions if they are shown a sound reason to do so). They like things to go according to plan in order to avoid surprises, and they understand that in doing so they miss valuable opportunities for themselves and their company. Being individualist also means not listening to and not taking the opinion of colleagues into consideration before making a decision. They are, therefore, lone decision makers.

Male entrepreneurs are more insecure than women. Men, more than women, consult people they trust when in doubt. This statement appears to contradict the above information that men make decision without consulting anyone. They are more individualist, but do not hesitate to seek help. They are more anxious than women when they perceive a risk in their decision-making. They find it difficult to decide when tense or under pressure. When it comes to strategic decisions, no matter how experienced they are, they have a greater tendency to seek help or advice from someone more experienced. Men are also more insecure when dealing with multi-criteria decisions. They are not so afraid of dealing with criticisms and when handling simple decisions they do not seek help or advice from someone more experienced. They make their mistakes on their own.

Another contradiction that arises is that although men are more compassionate, they are also more prone to make decisions by taking into account what is considered fair. Regarding unfairness, male entrepreneurs have a significantly higher degree of adherence than their female counterparts. Men, who claim that they are more compassionate and take the trauma of dismissal and its effects on an employee's family into account, will dismiss an employee in a situation that angered him, and he will not go back on that decision. Even if he later recognized that the situation was not grounds for dismissal, he

will not recant. The same men, who claim to be compassionate if they have to reduce the payroll, do not take into account that the employee in question has a family to support. Men tend to hide data from their colleagues or only supply partial information on the company, sometimes behaving with intolerance and not measuring the consequences of their acts on the operations of the company. They have compassion, but when an employee is late for work, they issue a deserved warning.

Unfairness appears to explain anger. In this factor, men are significantly different from women entrepreneurs. When a man feels humiliated in front of other people, he feels angry with the person who humiliated him or feels ashamed of those who witnessed the humiliation. When men are angry, they make decisions that they later regret. Men claim they are more open to surprises. In unexpected situations, they are surprised by their own decisions. If they make a decision in a hurry, they already know that there will be surprises.

Regarding the other factors, there was no significant difference between the responses given by the men and the women: For instance, concerning affection, there was no evidence that the male entrepreneurs had a significantly lower degree of adherence than the women, an expected result. Both men and women feel involved in decisions that affect them or their work. They seek to become acquainted with their team and their needs. They become attached to the people they work with, are concerned about their employees, and consider them before making a decision. This is in accordance with [Kida et al. \(2001\)](#). They are equally jealous. They feel uncomfortable when people form friendships at work and when some workers are promoted. They feel bitter when others court the friendship of a colleague.

Regarding confidence, men and women, when making a decision, consult the opinion of their collaborators, employees or people whom they feel they can trust. Both men and women identified with this proposition (92% and 89%, respectively). These numbers are very high, especially when considering that, above, the men claimed that they tended to make decisions without consulting anyone. Both make decisions without fear of error, and in unexpected situations they feel confident about their decisions, believing that they have chosen the best possible alternative and using intuition to make these decisions, at least to a certain degree. The women claimed to be more intuitive than the men what meets the assertions [Parikh \(1994\)](#).

Men are more cautious than women. They do not differ much, but men recognize more than women that there are days that are not good for decision-making. It is a pity that which days are not known. The response is curious: 76% of the women and 82% of the men agree that this proposition is in essence intuitive. What characterizes a day that is not good for decision-making? However, 71% of the women claim that they are intuitive, compared with 63% of the men.

Men and women are both sensitive to criticism, with the women a little less so than the men (73% and 75%). This means that men are more upset when they make a wrong decision or are criticized for it. "I feel embarrassed when criticized in public, but who wouldn't?" Agreement with such sentiments, although high (74% women and 69% men), could be higher. Both men and women feel upset when they make a decision and are criticized. When they are sad, they attempt to avoid making decisions, taking pauses or even postponing them, irrespective of how strategic or urgent the situation is.

Thus, it can be concluded that the results show that women entrepreneurs and men entrepreneurs are significantly affected by feelings and emotions as they said [Carland et al \(2005\)](#). Emotions and feelings affect male and female entrepreneurs differently, and many of these differences are significant. Men tend to face a decision-making situation as an intellectual challenge. They avoid listening to other people and decide quickly, because they understand that these actions are a representation of ability and independence. Women show a greater tendency than men towards three factors: love, jealousy and dissent.

This study made a contribution to the study of entrepreneurship and expanded the empirical base of studies related to the influence of emotions and feelings on the decision-making of male and female

entrepreneurs. The data and results of the study have opened up interesting questions that can be analyzed in other research contexts.

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Appendix

Likert questionnaire with degree of adherence for each proposition of all respondents:

| | PROPOSITION | ITD | ID | I | IA | ITA | DA |
|-----|-------------------------------------------------------------------------------------------|-----|----|---|----|-----|-------|
| P01 | If I make a decision, I consult my employees, collaborators or people I feel I can trust. | 3 | 3 | 2 | 43 | 21 | 90.28 |
| P02 | I can say that I make decisions more with my heart than with my head. | 18 | 23 | 5 | 22 | 4 | 39.58 |

| | | | | | | | |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|-------|
| P03 | Before dismissing a worker for what I consider a good reason, I think about the trouble being fired will cause their family and, if possible, I avoid firing the person. | 14 | 20 | 9 | 20 | 9 | 46.53 |
| P04 | When hiring a worker, I believe that the situation of an unemployed candidate should be taken into account over that of one who has a job. | 7 | 13 | 17 | 27 | 8 | 60.42 |
| P05 | If I fire a worker in a moment of anger, I don't go back on that decision, even if I recognize that it was not a case for dismissal. | 11 | 29 | 13 | 13 | 6 | 35.42 |
| P06 | I make decisions without fear of making mistakes. | 4 | 35 | 8 | 21 | 4 | 40.28 |
| P07 | When hiring a worker, I consider experience above everything else. | 7 | 25 | 11 | 21 | 8 | 47.92 |
| P08 | When I'm in doubt about the decision I have to take, I turn to people I can trust. | 1 | 3 | 0 | 29 | 39 | 94.44 |
| P09 | If I have to dismiss a good worker to restructure the company, I don't take the salary into account. | 6 | 26 | 19 | 18 | 3 | 42.36 |
| P10 | If I have to reduce the payroll, I don't consider whether the worker has a family to support. | 12 | 31 | 6 | 22 | 1 | 36.11 |
| P11 | In unexpected situations, I feel confident about deciding based on my positive experiences. | 2 | 6 | 5 | 48 | 11 | 85.42 |
| P12 | When I perceive a risk in decision-making, I feel anxious. | 5 | 10 | 12 | 34 | 11 | 70.83 |
| P13 | In situations when there is tension or pressure, I can't make a decision. | 12 | 33 | 10 | 13 | 4 | 30.56 |
| P14 | I make decisions without consulting anyone, but I'm willing to change it if there are credible objections. | 20 | 23 | 6 | 18 | 5 | 36.11 |
| P15 | I am involved in the decisions that affect me and my work. | 1 | 5 | 7 | 34 | 25 | 86.81 |
| P16 | When it comes to strategic decisions, no matter how experienced I am, I seek help or advice from someone more experienced. | 3 | 5 | 6 | 27 | 31 | 84.72 |
| P17 | I make decisions without consulting anyone and I try to persuade other people that I'm right. | 42 | 19 | 3 | 8 | 0 | 13.19 |
| P18 | It's hard for me to make a decision when it involves one or more criteria. | 11 | 27 | 13 | 19 | 2 | 38.19 |
| P19 | I formulate possible alternative decisions. | 2 | 5 | 10 | 46 | 9 | 83.33 |
| P20 | When I make a decision, I believe that the decision is the best of the possible alternatives. | 2 | 9 | 5 | 38 | 18 | 81.25 |
| P21 | When I make a decision, I am sure it is the best one. | 4 | 14 | 9 | 32 | 13 | 68.75 |
| P22 | I use some degree of intuition when making decisions. | 5 | 12 | 14 | 36 | 5 | 66.67 |
| P23 | I love it when things happen as I planned them to avoid surprises. | 5 | 3 | 4 | 36 | 24 | 86.11 |
| P24 | It's not possible to completely separate emotions during decision-making. | 11 | 13 | 12 | 30 | 6 | 58.33 |
| P25 | There are days that are not good for making decisions. | 6 | 5 | 8 | 38 | 15 | 79.17 |
| P26 | I try to put things off. I don't always manage, but I should. It's precisely when I need to that I can't do it. | 16 | 20 | 19 | 12 | 5 | 36.81 |
| P27 | I get nervous in unexpected situations. | 6 | 19 | 15 | 26 | 6 | 54.86 |
| P28 | When I make a decision and I'm criticized for it, I feel upset. | 5 | 14 | 12 | 37 | 4 | 65.28 |
| P29 | I'm afraid of dealing with criticism. | 22 | 25 | 10 | 11 | 4 | 27.78 |
| P30 | I try to think about every possibility before making a decision so that I don't hurt an employee's feelings. | 5 | 14 | 4 | 30 | 19 | 70.83 |
| P31 | To take more risks, I should be less cautious. | 11 | 21 | 11 | 25 | 4 | 47.92 |
| P32 | I try to get to know everyone on my team and their needs. | 3 | 1 | 6 | 39 | 23 | 90.28 |
| P33 | In some situations, I'm really suspicious and this makes it difficult to find alternative routes. | 8 | 26 | 9 | 23 | 6 | 46.53 |
| P34 | I get attached to the people I work with. | 5 | 9 | 13 | 29 | 16 | 71.53 |
| P35 | In unexpected situations, I'm surprised by the decisions I make. | 5 | 17 | 11 | 36 | 3 | 61.81 |
| P36 | If I'm humiliated in front of other people, I get angry at the person who humiliated me, or I feel ashamed because of the people that saw it. | 9 | 17 | 13 | 24 | 9 | 54.86 |
| P37 | When I'm sad, I try to avoid making decisions and take a break or even decide not to decide, no matter how strategic or urgent the situation is. | 9 | 18 | 9 | 29 | 7 | 56.25 |
| P38 | For simple decisions, I seek help or advice from someone more experienced. | 7 | 19 | 10 | 25 | 11 | 56.94 |
| P39 | When I have to let a worker go, I can't make the decision without taking the emotional aspect into consideration. | 10 | 19 | 13 | 24 | 6 | 50.69 |

| | | | | | | | |
|-----|---------------------------------------------------------------------------------------------------------|----|----|----|----|----|-------|
| P40 | If I make a decision in a hurry, I'm usually surprised by it. | 4 | 25 | 14 | 24 | 5 | 50.00 |
| P41 | I can't separate emotions completely when making a decision | 12 | 30 | 6 | 21 | 3 | 37.50 |
| P42 | When I'm angry, I make decisions that I regret later. | 13 | 24 | 12 | 18 | 5 | 40.28 |
| P43 | I worry about my workers before making a decision. | 2 | 5 | 9 | 38 | 18 | 84.03 |
| P44 | I get upset when I make a wrong decision and people call me out on it. | 3 | 15 | 12 | 35 | 7 | 66.67 |
| P45 | I feel embarrassed when I'm criticized in public. | 4 | 11 | 11 | 41 | 5 | 71.53 |
| P46 | I feel uncomfortable when people form friendships at work. | 26 | 20 | 18 | 6 | 2 | 23.61 |
| P47 | It bothers me when some workers are promoted. | 41 | 16 | 9 | 2 | 4 | 14.58 |
| P48 | I feel bitter when the friendship of a colleague is courted. | 38 | 16 | 9 | 6 | 3 | 18.75 |
| P49 | I hide data from colleague or only given them partial information about the workings of the company. | 27 | 19 | 11 | 9 | 6 | 28.47 |
| P50 | Sometimes, I'm intolerant and don't measure the consequences of my actions for the good of the company. | 18 | 24 | 16 | 10 | 4 | 30.56 |
| P51 | Sometimes, I tend to block valuable opportunities for people and the company. | 38 | 22 | 8 | 1 | 3 | 11.11 |
| P52 | I tend to tell other people about their colleagues' complaints. | 38 | 20 | 9 | 4 | 1 | 13.19 |
| P53 | Sometimes I get aggressive or go on the defensive with my subordinates. | 27 | 19 | 11 | 13 | 2 | 28.47 |
| P54 | Sometimes, I make my subordinates feel that I view them negatively. | 37 | 22 | 10 | 1 | 2 | 11.11 |
| P55 | I don't listen to others and don't consider their opinions before making a decision. | 35 | 23 | 7 | 5 | 2 | 14.58 |
| P56 | It's hard for me to work with different ideas and thoughts. | 30 | 22 | 12 | 4 | 4 | 19.44 |
| P57 | I pick on my subordinates for petty reasons. | 33 | 22 | 9 | 7 | 1 | 17.36 |
| P58 | When a worker I hate, I send him a warning. | 21 | 23 | 8 | 14 | 6 | 33.33 |