

# The concept of love: an exploratory study with a sample of young Brazilians<sup>1</sup>

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**Abstract** — Studying love scientifically is an arduous task due to methodological difficulties and conceptual improprieties intrinsically related to this type of investigation. Is love, as a psychological phenomenon, capable of being scientifically studied by psychology? The present study proposed to study love in a less subjective way and had as objectives: (1) to identify the characteristics most commonly attributed and / or associated to the word love by Brazilian subjects of different ages and social conditions and (2) to verify if there are statistically significant differences depending on the variables: gender, age group and education level. Six hundred subjects participated in this study (390 women - 65%; 209 men - 34.83%), with an average age of 23.82 years, distributed in seven groups according to the city of origin of the collection and the education level of the participants. From the collected data, 14 categories were created, which were independently assessed by five judges chosen by the proponent of this study. The analysis of the results, based on the theoretical view of the concepts, allowed to verify that: (1) over time, people associate love more with positive representations and less with romantic, family and friendships; (2) women associate love more than men, related to friendship, family, animals and as a source of positive emotions, attitudes and behaviors; (3) the higher the level of education of the participants, the more they associate love with positive aspects.

**Keywords**— Love, concept, concept formation.

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## I. INTRODUCTION

The popular concept of love implies, in general, the establishment of an emotional bond with someone, or with some object that can receive this loving behavior and sending the sensory and psychological stimuli necessary for its maintenance and motivation (Almeida, 2017; Almeida, & Lomonaco, 2018; Almeida, & Dourado, 2018). It is considered by many to be the greatest of all human achievements. Or again, an ethical experience of otherness, since it presupposes the capacity to strictly respect the differences of the other, asserting itself as if these were our own qualities (Hunt, 1974). In this sense, love leads a couple to commit to each other, by establishing a deep bond between them. In this sense, the love between partners, henceforth, for our interests, called only love, can be understood as a complex and dynamic system that involves cognitions, emotions and behaviors often related to the happiness of being. Thus, the term love is used very freely in everyday life. But what is this extraordinary phenomenon that makes it possible for people, hitherto

unknown to each other, to approach and express the desire to build a life together?

For many centuries different conceptions of love have been proposed by poets, philosophers and novelists, but there is still no consensus (and, perhaps, never there) on a definition of the love phenomenon capable of identifying its essence, given its diversity and subjectivity. Therefore, love as a phenomenon that can be studied does not allow itself to be easily scanned by all those who try to understand it in its entirety. In this way, many thinkers expressed their ideas about love, sometimes emphasizing its positive and exclusively human value, identifying in it the ineffable expression of transcendence, now treating it as an unattainable goal and, even, as something to be avoided by its consequences harmful.

But although there are many doubts about what love is, it never stopped being talked about. Currently, in the most different contexts, many questions are asked about it. These questions intrigue not only the individuals who ask them, but also many psychologists, even those

professionals whose focus is apparently not on the question of interpersonal loving relationships.

To understand the love, many people sought to formulate definitions in order to identify its essential attributes. The difficulty of the task is very well expressed in this quote by Hunt (1974): "Love is, without a doubt, a mercurial word; although we can clearly see where he is, just touch your finger to find that he is not there, but somewhere else" (p. XI).

Despite such a finding about the difficulty in conceptualizing it, some psychologists insist on asking: what, in fact, is love? How can we conceive it to encompass all its varied expressions? Is love, as a psychological phenomenon, capable of being scientifically studied by psychology? Is it possible to define it precisely? These are some of the questions of interest in this work.

## II. THE GENESIS OF THE INTEREST IN LOVE IN PSYCHOLOGY

Although some efforts to understand people's romantic attitudes, such as that of the sociologist Llewellyn Gross, in 1944, with the construction of one of the first 80-item scale to identify romantic attitudes or a realistic view of romantic relationships, have only been developed more recently, positive emotions and feelings are no longer considered a marginal area of scientific research in psychology. The science of psychology was very reluctant to study love for understanding it as something so abstract and subjective that it defied any attempt to measure it. In fact, for decades psychology has been very concerned with the psychopathological aspects of human beings, much more about mental disorders than about understanding or developing positive mental health. According to Seligman (2002, 2009) "during the second half of the 20th century, psychology was consumed with a single topic - mental illness - and everything went reasonably well. Currently, psychologists are able to measure previously confusing concepts like depression, schizophrenia and alcoholism, with considerable precision". (p. 11).

Seligman (1998) considers the historical context that led psychology to stick only to the study of pathologies and comments on the missions that psychology has failed to fulfill. According to him, psychology proposed three missions: (1) to cure mental illnesses; (2) making people's lives more productive and happier; and (3) identifying and creating talent. However, with the Second World War, the scientists' focus was largely on the treatment and development of therapies in order to care for ex-combatants, neglecting the other two missions, mainly the third.

The dynamics of the interpersonal relationship between a man and a woman only began to be studied in a more systematic way less than six decades ago. After a series of investigations in sexology, after the Second World War, it began to invest in the scientific study of phenomena related to romantic love, in its strictest sense. Among the works that preceded such studies are the research by AC Kinsey, WB Pomeroy and CE Martin, which resulted in the famous Kinsey Report on male sexuality (Sexual behavior in the human male, 1948) and female sexuality (Sexual behavior in the human female, 1953); the works of William H. Masters and Virginia E. Johnson (Human sexual response, 1966, and Human sexual inadequacy, 1970); and Shere Hite's The Hite report: a nationwide study of female sexuality (1980s and 1990s).

Scientific publications in psychology, until the 1950s, were incipient, few and often related to the love between mother and children. What until then were published were publications more focused on self-help. Despite the conceptual difficulties in understanding the phenomenon of love, some scholars have proposed to work in this area and to conceptualize love through psychological science. Some examples of authors who considered love in their works and theories can be remembered: Erich Fromm (1900 - 1980), Carl Rogers (1902- 1987), Erik Erikson (1902-1994), Abraham Maslow (1908 - 1970) and, more recently, Martin Seligman, professor of psychology at the University of Pennsylvania, United States, creator of the so-called Positive Psychology.

Rogers, an American psychologist, is considered a precursor of humanistic psychology and creator of the theoretical line known as the Person Centred Approach (PCA) (Rogers, 1951). According to the author, the existence of a context of interpersonal relationships in which the child feels accepted and loved unconditionally, is the crucial factor in the evolution of a personality that allows the maximum expression of the natural tendency of what he called a actualizing tendency.

Fromm (1956/2002) takes up the Augustinian thought that indicated that love was the force that would free human beings from their bonds and limitations and points it as the only satisfactory answer and solution to the problem of human existence. According to Fromm, there are six types of love, namely: (1) Filial love: it is the bond that unifies the family nucleus through fruitful relationships between parents and children; (2) Maternal love: it is the bond of unconditional acceptance in which the mother loves her child without depending on any merit or quality that influences her determination to welcome and care for her children; (3) Fatherly love: it is based on the condition within which the child meets or obeys the

norms of behavior established by the father's authority, which protects him and motivates him to put into practice his necessary loyalty, respect and responsibility in life adult; (4) Self-love: it consists of an adequate valuation of one's own person, without which it is impossible to establish any kind of appreciation for the people around us; (5) Romantic love: it is the physical and mental attraction that produces a compatibility of feelings between two people of the opposite sex, which generates a reciprocal relationship between the couple that connects them in a commitment that, later on, may result in a shared home. ; (6) Neurotic love: it is the obsession with a particular person, in a kind of idolatry that reduces our supposed love to a simple psychological dependence that generates profound frustration and disappointment.

Maslow (1954), in his Motivational Theory, lists a set of five vital needs, among which he emphasized love as one of the most important social needs and of which the human being could not be deprived throughout his life in order to fulfill your potential. Although this author emphasizes the difficulty for a hungry person to think of concepts and feelings such as freedom, love, justice, respect and etc., because such concepts and feelings “do not fill the stomach” (Maslow, 1975, p. 343) , if our needs for love, affection and belonging are not met, we will feel lonely and useless.

In his theory, Maslow believed that the human being should study and cultivate the experiences that he called “culminating experiences of consciousness” (for example, love), as a way to achieve personal growth, integration and fulfillment. According to Maslow (1999), the culminating experiences are unifying and ego-transcendent and are similar to the experience of biblical creation, which the author describes as a loss of oneself or a transcendence of oneself due to a fusion with the observed reality and as a kind of integration of oneself with the other, that is, a non-dual experience. Examples of culminating experiences are the fascination with an occupation, the loss of love, the disconnection from the moment or place, when people are in love. Maslow (1976) makes it very clear that the culminating experiences occur whenever something is interesting enough to keep us fascinated, that it captures our attention completely. Maslow found that people who updated themselves perceived reality with precision. These people were extremely independent and creative, they acted spontaneously and naturally with others, they saw their work more as a career or vocation than as a job, they had a strong moral code and, occasionally, had moments of intense satisfaction or fruition, which he called culminating experiences. They bring a sense of purpose and a sense of integration to the person. Individuals most likely to have

climaxing experiences, such as love ones, are self-fulfilling, more mature and healthier. All individuals are susceptible to culminating experiences, a finding pointed out by both Maslow (1976, 1999) and James (1991).

Erick Homburger Erikson was born in Germany in 1902, moved to the United States in 1933 because of the threat of Nazism and died in 1994. Son of Danish parents, but abandoned since his birth by his father, he was educated by Theodor Homburger, a Jewish-German pediatrician, who thought he was his real father. His interest in human development started from his childhood experiences, when he suffered at school for being different from his peers (Erikson was tall and blue-eyed for his Nordic ancestry) and for being Jewish. In Erikson's opinion, personality is formed as people go through psychosocial phases. In each phase there is a conflict to be faced and resolved, in a positive or negative way. The positive solution results in mental health; the negative leads to maladjustment. Conflicts are all present at birth, but they predominate at specific times. Erickson identifies eight stages of personality development, referred to as psychosocial stages. The eight stages of psychosocial development will be cited, and it is intended to stop in more detail at the stage related to love, the focus of this study. The psychosexual stages according to Erickson are: trust versus mistrust; autonomy versus doubt and shame; initiative versus guilt; effort versus inferiority; clarification of identity versus confusion of roles; intimacy versus isolation; adult productivity versus stagnation; integrity versus despair.

From the 1960s onwards, psychologists like Byrne, London and Reeves (1968) proposed to study the phenomenon of interpersonal attraction. This study encompassed a variety of social experiences such as admiration, love, friendship, intimacy, lust and pleasure. Three main factors were identified that would interact in the context of interpersonal relationships, namely: physical attraction, proximity and similarity (Huffman, Vernoy, & Vernoy, 2003). And, in this way, the dynamics of the interpersonal relationship between a man and a woman began to be studied in a more systematic way less than five decades ago.

In Eriksonian theory, romantic-affiliation needs are related to the sixth stage, proposed in his theory that corresponds to the young-adult phase that, according to the author, would occur between eighteen and thirty years. The objective of this stage is to achieve intimacy, as opposed to isolation. This goal refers to the individual who, having overcome the basic issues of his identity problem (previous stage of Eriksonian development), can move towards issues of relationship with others, such as intimate

relationships, friendship, love, intimacy sexual and even intimacy with yourself. According to Erickson, intimacy is really the ability to merge your identity with that of the other, without fear of losing something of yourself. The virtue developed at this stage is love. Love, for this theoretical context, is being able to put aside antagonisms, in the name of a good relationship. It would not be restricted only to the manifestation of love as found in situations of romantic partnerships, but it would also encompass love for friends, or for the neighbor, or for the co-worker, among others.

The essential task of this internship is the establishment of lasting intimate (loving, and friendly) relationships with other people. The negative aspect is isolation, on the part of those who are unable to establish commitments or exchange affections with intimacy. In establishing a defined identity, the person will be prepared to join the identity of another. This phase is characterized by this moment of union, which suggests the association of one ego with the other. For there to be a positive association, it is necessary that the individual has built a strong and autonomous ego, in order to accept the coexistence with the other ego, in a more intimate perspective. When this does not happen, that is, the subject has not built a secure ego, the person will prefer isolation, to preserve that ego.

Although probabilistic sampling techniques have been developed and incorporated into population surveys since the 1930s and 1940s, until the 1960s, it was believed that it was impossible to adopt them in research that focused on sexuality or even sexuality. investigation of phenomena such as feelings and emotions, given their subjectivity and the intimate and private character of the responses, which could cause a high percentage of refusals and / or false responses. However, Cronbach (1996) already warned "if a thing exists, it exists in a certain amount. If a thing exists in a certain quantity, it can be measured" (p. 53).

In 1973, Miller Kirsten (quoted by Berks, 2009) raised a very significant state of the art figure: the topic of love had not been reviewed in any of the 23 volumes of the Annual Review of Psychology. This journal, published since 1950, covers recent developments in the field of psychology, including: biological bases of behavior, sensation and perception, cognitive processes, learning, animal behavior, human development, psychopathology, clinical psychology and counseling, social psychology, personality, environmental psychology, community psychology, among others.

In the 70s of the last century, there was a heated debate in the United States, with the focus being the financing of research on love, which probably increased interest on the

topic. If we do a computerized search for the term "love", using the PsycINFO database, between 1950 and 1973, it will result in 149 articles. But, if we perform the same search, in the time interval from 1974 to 1996, that is, 23 years later, the search will result in 1459 articles. In other words, almost 10 times more references.

In 1970, Zick Rubin created a scale to psychometrically measure the love phenomenon. Through his research, Rubin (1970) demonstrates that concepts as closely linked as "liking" and "loving" are independent, differing in the essence and intensity of affection and, therefore, should not be part of a single continuum as before understood. According to this author, love can be defined as "an attitude that one person directs to another in particular, involving predispositions to think, feel and behave in certain ways towards this other person" (Rubin, 1970, p. 265). Therefore, for Rubin, loving refers to physical attraction, the willingness to help, the desire to share emotions and experiences and the feeling of exclusivity and absorption. Liking is about interpersonal relationships and includes feelings like respect, trust and the perception that the person you care about has goals like your own. As a result, this author developed a scale of loving and another of liking, which he applied to 158 couples at the University of Michigan. Both scales showed satisfactory internal consistency ( $\alpha = 0.84$  for men and  $\alpha = 0.82$  for women on the love scale and  $\alpha = 0.83$  for men and  $\alpha = 0.81$  for women on the like scale). The feelings of liking and loving showed a higher correlation in the male sample ( $r = 0.60$ ) than in the female sample ( $r = 0.39$ ), with such significant differences ( $p < 0.05$ ), which suggests that the women have a more accurate ability to differentiate between these two feelings (Rubin 1970; 1973).

Then, starting in the 1980s, several studies were carried out with probabilistic samples and psychometric instruments, proving the feasibility of research that addresses the theme of love and its consequences. This led psychology to increasingly study positive aspects of human nature and to study human personality factors that did not emphasize as much the reduction of anxiety throughout life, as proposed in the Freudian matrix theory. These ideas and those of other authors about love led to publications such as *The Psychology of Love*, launched in 1988, by the editors Robert Sternberg and Michael L. Barnes, which sparked new research in the area. This book presents contemporary studies by researchers whose area of expertise is the study of love and intimate relationships. Publications like these represented a notable paradigm shift, considering that, throughout practically the entire 20th century, the focus of studies remained on pathological affective states. This change was mainly due to the



influence of Positive Psychology.

Positive Psychology is a scientific and applied movement that aims to identify people's qualities and promote their positive functioning (Snyder & Lopez, 2009), contributing to the flourishing and healthy functioning of people, groups and organizations through the strengthening of skills, instead of correcting deficiencies (Paludo & Koller, 2005). Seligman (2002; 2009) conceptualizes it as the scientific study of ideal human functioning that aims to discover and promote the factors that allow individuals and communities to prosper. Its emergence occurred at the end of the last millennium, when Martin Seligman published a series of articles on the need to change the focus of psychology to the study of the healthy aspects of the human being and not just the pathological ones (Paludo & Koller, 2007). According to Seligman (2009), although the discoveries about genetic aspects, biochemistry, psychological dynamics and the causes of psychopathologies, have led to considerable relief for the people affected by them, this occurred to the detriment of the concern with adaptive situations and positive feelings, such as love.

Seligman and Csikszentmihalyi (2000) emphasize that psychology is not only the study of pathology and weakness, but also that of strength and virtue. According to Cloninger (2006), aspects such as morbidity and mortality are more strongly related to the absence of positive emotions than to the presence of negative emotions. Thus, it is observed that some aspects that, probably, would be related to a better treatment and / or the cure of some pathological symptoms were mostly neglected.

Yunes (2003) argues that postulating a science that focuses on human potentials and qualities requires as much conceptual, theoretical and methodological seriousness as the present in the study of human disorders. Paludo and Koller (2007) comment on the importance of studying the positive aspects without attributing relevance either to the positive or negative aspects, as it is up to science to study both, without the predominance of one over the other.

Finally, it is worth remembering that positive psychology does not intend to promote a split in the theoretical body of psychology. On the contrary, this movement does not deny the existence of human suffering and the quality and effectiveness of treatments for psychological problems, but aims to establish a balance between understanding human problems and potential through scientific studies that investigate the positive aspects of development human (Graziano, 2005; Paludo & Koller, 2007).

### III. CONCEPTS: A BRIEF THEORETICAL REVIEW

Since the time of Plato and Aristotle, there has been a concern with the practices of naming, defining and categorizing stimuli and elements. Thus, the nature of the concepts has been one of the most studied issues in philosophy. It can be said that a concept is formed when the individual elaborates a mental representation that can cover all examples of a category (Lomônaco, 1997). At this point, it is appropriate to distinguish between the terms concept and category or class, which are frequently and wrongly used as synonyms. According to Cazeiro (2013): "the categorization process occurs through the comparison of an object, event or person with a mental representation stored in memory, that is, with a previously formed concept" (p. 48). Lakoff (1987) warns that there is nothing more basic than the dynamics of categorization for our thinking, for our perception, for our action and for our speech. Consequently, it can be observed that the categorization process occurs at all times, as people are daily and frequently exposed to different types of stimuli in their daily lives and must decide which elements can be included or excluded as components of a category once formed (Lin & Murphy, 2001).

For (Medin & Ross, 1996), the functions of categorization, according to the cognitive perspective are: (a) classify, which is the function that enables the mind to perform its interaction with the environment; (b) support explanations and ensure a degree of predictability in relation to the future, which can be used to select strategies and behaviors; and, (c) supporting, from a cognitive point of view, the mind, as it becomes unnecessary to retain and store all the facts and their possibilities, if the inferences can be derived from previously stored information. Consequently, from the cognitive conceptual structuring, thoughts, feelings and human behavior are organized. Additionally, concept formation enables knowledge and exploration of the sensitive world, as it emancipates human beings from the immediate perceptual context, making it possible to go beyond sensory and concrete impressions to reflect reality in a rational and abstract way (Cavalcanti, 2005).

In the field of Psychology, the concepts began to be studied, experimentally, from 1920. With the development of studies, the vision of how people represent the concepts, has changed over the years. Once concepts are accepted as a mental representation, the way to conceive this representation is what will differentiate each of the theories proposed to describe and explain the concept formation process. A collection of ideas about the notion of concept was made by Lomônaco (1997), in his thesis of Free

Teaching entitled: The nature of concepts: psychological visions. In this work, the author analyzes four theories or views (as they are commonly called) about concepts as the most representative of attempts to explain the concept formation process: the classical view, the prototypical or probabilistic view, the view of the specimens and the theoretical view, the latter being the most recent. Among these, the theoretical view is the approach that underlies this work. As a result, the first three theories will be presented more succinctly and the theoretical view in more detail.

In short, the main characteristic of the classical view is the assumption of the existence of defining attributes necessarily common to all elements of a category, whether they are things, people, states or events (Lomônaco, Paula, Mello, & Almeida, 2001). Thus, for this view, the defining attributes of a concept are singularly necessary and together enough to define it. According to Lomônaco, Cazeiro and Ferreira (2006):

Through the isolation of common attributes, the subject forms a representation, which is the concept itself. The set of things covered by the concept is called a category. For example, because we come into contact with a great diversity and variety of living beings, we gradually become aware of similarities and differences between them. Due to such similarities or common attributes, mental representations are created that will constitute concepts such as animals, vegetables, dogs, cats, parrots, trees, flowers, bacteria, etc. (p. 86).

Therefore, the members of a category are precisely those elements, which exhibit the necessary and enough characteristics that define the category; and those who do not exhibit these characteristics are considered non-members. In this way, concepts are formed when there are several members of a group, and we determine the unique characteristics that divide these members into separate classes. Consequently, in this theoretical model, it is clearly outlined what constitutes or not an example of a category, whose boundaries are clearly defined.

The prototype view or theory was specifically proposed to explain the deficiencies in terms of defining attributes of its predecessor, the classical theory. Therefore, the prototypical view presupposes that the concept is formed by the abstraction of the attributes that occur most frequently among members of a category and no longer by the common elements as determined by the classical view. Consequently, when interacting with several examples in a category, we abstract the attributes that we observe most often and, with them, form a mental representation that encompasses the other examples of the concept. This

mental representation is called a prototype. In short, the concept is formed from the most likely attributes, consisting of a summary representation of the characteristics most common to the category (Cabral, 2011). It is through the prototype that the individual includes or does not include an item to the category, according to the proximity or similarity in relation to the prototype. The other elements would be arranged in a continuum, depending on the degree of prototypical representativeness, until the most peripheral elements of the category were reached. In other words, the closer and like the prototype, the more representative the example will be, and the more distant from the prototype model in question, the smaller its representativeness. Consequently, the defining attributes of the classic view that preceded it are denied, and features that would be more frequent are used to define whether an item is included in a category.

According to the view of the specimens, the categories are represented by their individual examples, instead of being represented in summary form that encompasses the class as a whole (Lomônaco, 1997). In other words, in the view of the specimens, the individual uses some individual examples that become representative of the categories, as in the case of the teacher who, throughout his professional life has met many studious students, will end up taking all "good student" one that gathers characteristics of its pre-formed model (Lomônaco et al., 2001; Lomônaco et al., 1996; Lomônaco, 1997). Thus, once one or a few examples are selected, these (s) will (s) represent the concept of "good student". Like what occurs in the prototypical view, new items will be included or excluded from the category due to the similarity with previously stored examples of the category. The specimen models have in common the idea that the categorization of an object is based on the comparison of that object with known specimens of the same category. So, for someone to decide whether an item belongs to a category or not, that person must compare it to examples of the concept previously stored in their memory. If the item is similar to any of the examples, it will be included in the category, if not, it will be excluded. These authors consider as an advantage in relation to the prototypical conception the fact that the copies bring information about the whole set of values of a property, as well as information about all correlations between properties.

Unlike the other approaches, for the theoretical view the concept is no longer seen in isolation but interrelated with other concepts that the person has of the world. In other words, the concept is part of a network of relationships with other concepts, from which its meaning derives (Nunes & Lomônaco, 2008). This network of

relationships is called theory. According to this approach, in the words of Keil (1989): “concepts are constructed as types of things intrinsically relational. They are not isolated entities connected only in the service of propositions. No concept can be understood without some understanding of how it relates to other concepts” (p. 1). In this context, the term theory does not mean or refer to academic / scientific theories, but also (and, perhaps, mainly) to the naive theories and the knowledge that is part of the common. As Gelman and Coley (2008) explain, the naive theories that guide the acquisition of concepts are not as formal, nor as explicit as those used by specialists. And, since concepts form a relational structure, changing a concept or learning a new concept intrinsically alters this entire network of relationships. Thus, the meaning of a concept is derived from the concepts that are related to it. This approach originated from the work of Susan Carey, in 1985, and the criticisms made by Gregory L. Murphy and Douglas L. Medin, in the article called The role of theories in conceptual coherence, to the classic and prototypical views (Oliveira, 1994, 1999; Lomônaco, 1997). However, it was the American psychologist Frank C. Keil who, in his work Concepts, kinds, and cognitive development, published in 1989, systematized the theoretical view.

Keil (1989) believes that the factor that maintains the cohesion between the nodes of the networks is the causal relationships between the concepts that compose it. This phenomenon by which different concepts remain highly interrelated and mutually reinforced was called causal homeostasis. For the theoretical view, the inclusion and maintenance of a concept in a category are dependent on the relationship it establishes with the other elements. Therefore, the concepts that form a network must be strongly related. From this understanding, it appears that it is impossible to modify an attribute of a given structure without affecting the others. Additionally, when a new concept is learned, the representation must be consistent with this entire network of related connections. These relationships come from the individual's experiences, acquired by common sense or school education. It is, therefore, due to the causal relationships between the concepts that the structure remains cohesive and in balance. However, this balance is dynamic, and can be reconfigured by learning new information, giving rise to a reorganization of the conceptual network (Lomônaco & Cazeiro, 2006). In short, what is conceived by causal homeostasis is the fact that the characteristics grouped in categories form a network and present an internal coherence, so that one does not exclude or contradict the others, but form a network of causal relationships in which the attributes of the concepts remain in balance. It is,

therefore, due to the causal relationships between the concepts that the structure remains cohesive and in balance.

Because theories and studies on love are relatively recent and there is very little empirical research on what should be understood by love in human beings, especially in our country, this is a favorable field for scientific investigation. Therefore, it seems justified a study that has as a guideline to identify characteristics that ordinary people attribute most frequently to love, since its results can help to conceptualize the love phenomenon empirically given that, as seen, much of what was proposed about this area of knowledge are predominantly theoretical constructs, products of the reflection of a huge number of thinkers over the centuries. Bearing in mind that: 1) the concept that people have of love can be considered something that is learned and that evolves throughout human development and 2) that the concept of love prevalent in each culture and social stratum may differ depending on the gender, age group and education level, the present study proposes the following objectives:

- Identify the characteristics most commonly attributed and / or associated to the word love by Brazilian subjects of different ages and social conditions;
- Check if there are statistically significant differences depending on the variables: gender, age group and educational level.

## IV. METHOD

### 1 Participants

Six hundred subjects participated in this research (390 women - 65%; 209 men - 34.83% and one person who did not identify the sex - 0.17%). The average age of the participants was 23.82 years (minimum value = 14, maximum value = 73, standard deviation = 11.8), with 34.83% male and 65% female, one respondent did not indicate sex, corresponding to 0.17% of the total sample. The subjects were also divided into seven groups, according to the city of origin and were studying at a private or public educational institution.

### 2 Material

Each participant used a block of paper with two pages (two halves of sheets of bond paper, size A4, Annex 4). At the top of the first sheet, each participant informed some personal data (sex and school grade, if he were a student, or education level); the following instructions were printed at the bottom of that page:

“We are interested in knowing the characteristics commonly associated with the term love. Therefore, I have come to request your collaboration in this research work.

At the top of the next page, you will find the word love. What we ask of you is very simple: read the term and then, in the period of one and a half minutes, write in the blank space all the characteristics that come to mind in the face of this stimulus. Your first impression is very important, so you shouldn't have to worry about whether your answers are appropriate or not. What interests us are their evocations or associations in the face of the stimulus presented.

Thank you very much for your collaboration. ”

At the top of the second sheet, the word LOVE was printed in capital letters, in bold and centered. Everything else on that page was blank.

The instrument was applied collectively. The researcher clarified the doubts that, perhaps, were addressed to him and stressed his preference for filling the sheet with single words or with short answers. It was also informed that there was no limit to the number of responses given. From that, the participants had 90 seconds to complete the task. It should be noted that this data collection strategy is not created by the research proponent; it was conceived by Lomônaco and used in several studies (e.g. Lomônaco et al., 2012; Cazeiro & Lomônaco, 2011; Lomônaco & Campos, 2003; Lomônaco, Cazeiro, & Ferreira, 2006; Lomônaco, Nunes, & Sano, 2004).

After the proposed time, the researcher collected each sheet, at random, and kept them in an envelope, in order to avoid the possibility of the respondents being identified or even to reveal the responses of the people who participated in this collective application.

### 3 Data collection procedure

After receiving the favorable opinion of the Research Ethics Committee, whose protocol was assigned the name CAAE 40702813.8.0000.5561 by the Ethics Committee (CEP) of the Institute of Psychology at the University of São Paulo, the researcher recruited students from public and private schools, data collection participants. Each participant signed and delivered the Free and Informed Consent Term or the Free and Informed Consent Term formally declaring their voluntary adherence to the research. Subjects under the age of 18 were asked to deliver the signed Free and Informed Consent Term, in addition to the Free and Informed Consent Term, signed by their respective guardians, formally declaring their voluntary adherence to the research. After collecting these forms, the researcher read them to the participants and

informed every one of the instructions for completing this research instrument. After this reading, and the doubts of all participants were resolved, the personal data of each participant was informed. After such measures, data collection was carried out. The applications were supervised by the researcher, ensuring that the instructions and conditions were similar in all classes participating in this study. In each situation, data collection was collective.

### 4 Results analysis procedures

With the collected material in hand, all the participants' responses were typed and tabulated. Subsequently, some of the responses were broken down into their component parts. This process of fragmentation of the participants' phrasal responses, together with their singular responses, resulted in a total of 3243 responses, which were the object of further analysis and categorization.

## V. CREATION OF CATEGORIES

Then, there was the stage of creating the categories. The initially formulated categories were discussed between the researcher and his advisor in order to reach a consensus on which items should or should not be included in each category created, as well as which items would not be part of any of the elaborated categories and should be grouped in the “Other answers” category. In successive orientation meetings, 13 categories were reached, the fourteenth being reserved for idiosyncratic responses evoked by the various participants. Consequently, the categories were created, defined and exemplified, as follows.

### 5.1 LOVE AS A RELATIONSHIP BETWEEN SPECIFIC PEOPLE, NOT NECESSARILY ROMANTIC

Answers that indicate a relationship between the respondent and a specific person, usually named by a personal pronoun, surname, call, abbreviation or acronym, in order to particularize the indication of the participant. Also included were references to people who were not identified by proper names, but by some personal characteristic, such as “my redhead”, “my boyfriend” etc. Examples: “you are my best gift” (response from participant 197); “Lucas” (response from participant 41); “Willian” (response from participant 114), “CBJR” (response from participant 126); “Fernando P.” (response from participant 600).

### 5.2 LOVE AS AN ESSENTIAL/FUNDAMENTAL TO BE HUMAN AND/OR TO HUMANITY

Answers that consider love as something necessary, something fundamental, to man and / or the world and even, as a constitutive aspect of human nature. Examples: “It is what is missing in the world.” (response from



participant 6); "Just love, because that's what the world needs only" (response from participant 46); "It's everything in my life" (response from participant 51); "Love is everything" (response from participant 358); "In my experience, love is the foundation of all human actions and movement." (response from participant 421); "Nobody lives without love." (response from participant 430).

### 5.3 LOVE AS SOMETHING INDEFINIBLE, INEAPABLE, ETHERIC

Answers that explain the difficulty of defining / conceptualizing love, seen as an abstract phenomenon, without a specific definition, which cannot be explained or described by words. Examples: "Love for me is feeling something inexplicable for the person." (response from participant 427); "Love is an inexplicable feeling that exists within a human being in relation to something or someone." (response from participant 444); "Complexity" (response from participant 471); "It's something we don't see" (response from participant 517).

### 5.4 LOVE AS SOMETHING LINKED TO SEXUAL COMPONENTS

Answers that show an intimate relationship of the love phenomenon, explaining sexual / genital elements / components. Examples: "sex" (response from participant 83); "Sex" (response from participant 83 and many others); "Pussy" (response from participant 83); "Union between two beings through the sexual act" (participant's response 459).

### 5.5 LOVE AS A ROMANTIC RELATIONSHIP BETWEEN TWO PEOPLE

Answers that indicate that love is the product of the union between two people. Such responses generally emphasize that love is an aspect that unites / links two people, suggesting attachment and passion in their descriptions, which leads to a feeling of completeness or complementarity and / or to a feeling of union between them, in such a way that they come to be seen as a single person / entity. Examples: "a way to call a girlfriend" (response from participant 3); "Love as boyfriend and girlfriend" (response from participant 6); "Dating" (response from participant 32); "Relationship" (response from participant 256); "When my girlfriend shows affection to me" (response from participant 306); "(Participant's response).

### 5.6 LOVE FOCUSED ON FAMILY PEOPLE

Answers that indicate that the object of love are family members, such as mothers, fathers, grandparents, children, siblings, etc. Examples: "uncle" (response from participant 137); "Cousins" (response from participant 137);

"Grandchild" (response from participant 589); "Daughter-in-law" (response from participant 589); "Son-in-law" (response from participant 589); "Husband" (response from participant 280).

### 5.7 LOVE FOR FRIENDS

Answers that focus on the importance of friendly relationships. The object of love is / are friends of the respondents. Examples: "love is when we lose a tooth and your friends continue to love you the way you were, or you are." (response from participant 10); "Friends" (response from participant 40); "Good friends" (response from participant 286).

### 5.8 LOVE FOCUSED ON DIVINE AND/OR SUPERNATURAL ENTITIES

In this category are included responses that indicate supernatural entities as objects of love, usually of a divine or religious character, such as God, Jesus, Our Lady, the Church itself, Bible verses etc. Examples: There is no greater love than that of Heavenly Father "(participant response 192); "The greatest example is Jesus, the son of God who died there on the cross, master of teachers, the kings of kings, in short form was made, to save me, to heal me, to be set free, for the love of you" (answer of participant 170); "God / Jesus" (response from participant 265); "Love is God, everything comes from him." (response from participant 328); "Gift of God" (answer from participant 373).

### 5.9 LOVE FOCUSED ON IRRATIONAL ANIMALS

This category includes a varied set of responses indicating that the object of love is animals, of some kind, or in general ("animal / animals") indicating that the person's response has converged to some living being, other than people or plants. Examples: response from participants: 40.52 (puppies), 119, 144 (pets), 150, 210, 212, 221 (loving animals), 225 (love is a passion for a certain thing, person or animal) 262, 274, 285, 301 (dog), 313 (dog), 314 (dog animals), 378 (animals), 405, 491, 504, 525, 540 (dog), 540 (parrot), 569 (nature, plants, animals).

### 5.10 LOVE FOCUSED ON INANIMATED BEINGS

This category includes a varied set of responses indicating that the participant's object of love is inanimate beings (e.g. flowers), objects (e.g. money), situations (living in nature) or events (e.g. travel), art and / or literary works (e.g. 'Mario Quintana'). Examples: "animated cartoon" (response from participant 174); "Academy" (response from participant 277); "Theater" (response from participant 122); "Music" (response from participant 12); "Playing chess" (response from participant 323); "Brazil" (response

from participant 211); “Netflix” (response from participant 250); “World” (response from participant 380).

#### 5.11 LOVE DIRECTED TO HIMSELF

Responses indicating that the object of love is the person himself and expresses self-worth. Examples: “me” (response from participant 88); “Being able to be who I am” (response from participant 320); “If you like it” (response from participant 62); “Having love for one's own life” (response from participant 221); “To love is also to love yourself” (response from participant 221); “love yourself.” (response from participant 252).

#### 5.12 LOVE AS A SOURCE OF EMOTIONS, ATTITUDES AND POSITIVE BEHAVIORS

Responses indicating that love implies or is related to a varied set of feelings, attitudes and behaviors that aim at human well-being and satisfaction / quality of life. Also included in this category were responses indicating that love motivates human beings to take appropriate actions and / or adopt certain positive attitudes. Examples: “affinity” (response from participant 375), “dedication” (response from participant 398), “love” / “loving” (response from several participants, for example, from participant 269 and participant 428, respectively).

#### 5.13 LOVE AS A SOURCE OF EMOTIONS, ATTITUDES AND NEGATIVE BEHAVIORS

Answers indicating that love implies or is related to a varied set of feelings, attitudes and behaviors that are not related to human well-being and satisfaction / quality of life, but rather the lack of these elements. Also included in this category were responses indicating that love motivates human beings to perform inappropriate actions and / or to adopt certain negative attitudes. Examples: “crying” (response from participant 12), “pain” (response from participant 157); melancholy (response from participant 157), “suicide” (response from participant 83), (response from participant 83), “killing me” (response from participant 83) “sudden death” (response from participant 83).

#### 5.14 OTHER ANSWERS

Idiosyncratic responses, with different content from all the other categories listed previously. Examples: “planning” (response from participant 23), “moments” (response from participant 47), “dreams” (response from participant 52), “love is an unforgettable feeling” (response from participant 109), “heart beats hard ”(Response from participant 110),“ Love brings peace, but it also brings pain ”(response from participant 117),“ saudade ”(response from participant 123),“ sacrifice ”(response from participant 140),“ different opinions ”( response from

participant 248), “Where is my love?”, or, “Who will it be like?” (both responses were issued by participant 361), “exclusivity” (response from participant 370).

## VI. JUDGES

From the creation, definition and exemplification of the categories, the list of responses was then read several times by the researcher and five other judges (namely: the advisor of this work, the proponent of this study, a mathematician, a librarian and a psychologist - these last three chosen by convenience), in order to identify common aspects that allow the insertion of the responses of each participant in this or that category for the subsequent grouping of data. An odd number of judges was adopted in order to avoid any situations of tie or stalemate. This blind interpretation work and its consequent grouping to the formulated categories occurred independently by the five judges. For this study, the reliability of the responses between the judges was 92.5%, indicating a high consistency between the categories created for this study and the responses that made up each category.

## VII. STATISTICAL ANALYSIS OF RESULTS

For the analysis of the results, Software R (R Development Core Team, 2016) was used. This software was created in 1996 and is a specific computational environment for statistical analysis and its license is free. It is available for download through the website <http://cran.r-project.org>. Being free software, R receives updates from users through packages. To perform the statistical calculations, version 3.3.1 of Software R was used. The data in this study were recorded on an ordinal scale, since the relationship between the responses of each of the interviewees was analyzed, which were later categorized. In this sense, we opted for the use of non-parametric statistical methods, since - due to the behavior of the collected data - the classic assumptions of parametric statistics cannot be assumed, that is, normality or equality of variances in the analysis model and / or very small sample sizes. The non-parametric methods used were the Kruskal-Wallis test and the Spearman Linear Correlation Coefficient, described below.

Table 1 presents the general statistics for the categories of love.

Table 1. Love categories for the entire sample (TOTAL): minimum, maximum, average and standard deviations for each category.

Variable	Min	Max	$\mu$	Sd
CAT1	0	4	0,14	0,40
CAT2	0	5	0,12	0,45
CAT3	0	5	0,20	0,56
CAT4	0	8	0,09	0,43
CAT5	0	4	0,30	0,58
CAT6	0	7	0,49	0,94
CAT7	0	2	0,23	0,43
CAT8	0	2	0,07	0,28
CAT9	0	2	0,04	0,20
CAT10	0	11	0,28	0,91
CAT11	0	4	0,04	0,25
CAT12	0	12	2,22	2,30
CAT13	0	8	0,37	0,93
CAT14	0	7	0,83	1,14

From what can be seen in Table 1, most respondents, on average, indicated terms that were later framed and considered relevant to category 12. In other words, 2.22 citations were obtained, on average, from terms that they were allocated and categorized, according to what was defined for category 12 (Love as a source of positive emotions, attitudes and behaviors). It is also observed that the lowest citations correspond to categories 9 (Love towards irrational animals) and 11 (Love directed at oneself), both with 0.04 responses, on average, which were later allocated to these categories.

Subsequently, the Kruskal-Wallis test was conducted to verify significant differences between the seven groups analyzed. The results can be seen in Table 2, below.

Table 2. Kruskal-Wallis test to check for significant differences between the seven age groups.

Variável	Estatística			
	g.l	X <sup>2</sup> crítico	H observado	Sig.
CAT1	1	3,83	3,4	0,064
CAT2	1	3,83	0,2	0,692
CAT3	1	3,83	0,3	0,557
CAT4	1	3,83	17,4	0,000*
CAT5	1	3,83	1,8	0,180
CAT6	1	3,83	7,8	0,005*
CAT7	1	3,83	4,8	0,029*
CAT8	1	3,83	0,0	0,917
CAT9	1	3,83	7,1	0,008*
CAT10	1	3,83	1,8	0,181
CAT11	1	3,83	0,2	0,635
CAT12	1	3,83	17,2	0,000*
CAT13	1	3,83	0,4	0,521
CAT14	1	3,83	0,7	0,415

\* Significant difference at the 5% level.

A Kruskal-Wallis test was also conducted to check for a significant difference due to three age groups considered, namely: up to 17 years, 18 to 30 years and over 30 years. The results of this test can be seen in Table 3, below.

Table 3. Kruskal-Wallis test to check for significant differences between age groups.

Variable	gl	Statistics		
		X <sup>2</sup>	Ho	Mean
CAT1	2	5,99	5,5	0,063
CAT2	2	5,99	0,1	0,935
CAT3	2	5,99	0,2	0,904
CAT4	2	5,99	5,3	0,07
CAT5	2	5,99	12,5	0,002*
CAT6	2	5,99	12,5	0,002*
CAT7	2	5,99	8,6	0,013*
CAT8	2	5,99	6,3	0,043*
CAT9	2	5,99	2,5	0,293
CAT10	2	5,99	2,7	0,259
CAT11	2	5,99	1,7	0,421
CAT12	2	5,99	11,8	0,003*
CAT13	2	5,99	5,3	0,071
CAT14	2	5,99	5,1	0,079

\* Significant difference at the 5% level.

A Kruskal-Wallis test was also conducted to check for significant differences, depending on the level of education of the participants, namely: up to complete primary school, complete primary school, incomplete secondary school, complete secondary school, incomplete third school, third complete degree and postgraduate. The results of this test can be seen in Table 4, below:

Table 4. Kruskal-Wallis test to verify significant differences between levels of education.

Variable	gl	Statistics		
		X <sup>2</sup>	Ho	Mean
CAT1	6	12,59	5,8	0,442
CAT2	6	12,59	6,2	0,397
CAT3	6	12,59	9,9	0,128
CAT4	6	12,59	7,5	0,277
CAT5	6	12,59	14,6	<b>0,024*</b>
CAT6	6	12,59	13,2	<b>0,041*</b>
CAT7	6	12,59	8,1	0,228
CAT8	6	12,59	2,8	0,839
CAT9	6	12,59	2,8	0,829
CAT10	6	12,59	8,7	0,191
CAT11	6	12,59	6,6	0,357
CAT12	6	12,59	26	<b>0,000*</b>
CAT13	6	12,59	13,2	<b>0,040*</b>
CAT14	6	12,59	13,6	<b>0,034*</b>

\* Significant difference at the 5% level.

## VIII. DISCUSSION

This study sought to: (1) identify the characteristics most commonly attributed and / or associated to the word love by Brazilian subjects of different ages and social conditions and (2) to verify if there are statistically significant differences due to the variables sex, age and degree of instruction. The results / data of this research suggested to the author the analysis and discussion of the aspects presented below.

### 8.1 Contributions of the theoretical view to the analysis and discussion of data

As previously considered in the initial part of this study, we opted for the theoretical view to analyze the results, as the concept, within the assumptions of this theory, can never be analyzed in isolation, since it is part of a network of relationships with other concepts, from which its meaning derives (Nunes & Lomôncio, 2008). Consequently, the meaning of a concept is derived from the concepts that are related to it.

First, it is important to note that the results of this study confirm many other studies carried out in Brazil and in various parts of the globe (Jankowiak, Shen, Yao, Wang, & Volsche, 2015; Mouton & Montijo, 2016; Munck & Kronenfeld, 2016; Pilishvili, & Koyanongo, 2016; Fehr & Russell, 1991) that indicate that the love phenomenon is a complex, multifaceted and multidimensional concept. However, some studies (such as Fehr & Russell, 1984;

Fehr & Russell, 1991; Fehr, 1993; Fehr, 1994; Fehr, 1999; Regan, Kocan, & Whitlock, 1998) with similar objectives to this study were conducted and analyzed according to the assumptions of the prototypical view, a view that, as we have seen, has been subject to a great number of criticisms due to its limitations, as considered in the theoretical foundation of this work. Despite such an epistemological divergence, it appears that categories very similar to ours were found by these researchers. For example, Fehr and Russell (1991), in their study *The concept of love viewed from a prototype perspective*, conduct a series of six studies in which twenty manifestations of love from participants, namely: maternal love, paternal love, sibling love between men or women (in the original study: sibling love), friendship, fraternal love (in the original study: fraternal love), romantic love, love between male brothers (in the original study: brotherly love), love between sisters (in the original study: sisterly love), familial love (in the original study: familial love), love of affection (in the original study: affection love), commitment love (in the original study: committed love), love for humanity, spiritual love, passionate love (in the original study: passionate love), self-love, sexual love, patriotic love, love for work, love for animals, blindness / infatuation (in the original study: infatuation).

A crucial aspect to assess the relevance of the theoretical view in the interpretation of the results is to verify whether the phenomenon that Keil (1989) called causal homeostasis and that is fundamental in his theoretical perspective occurs. This term designates a state in which the different concepts associated with a nuclear or central concept converge in the same sense, that is, they do not present divergences or oppositions, but they form a coherent system (sometimes called "theory"). Can this phenomenon be identified in the results of this study?

We think so, because of the first thirteen categories considered (the category "Other Answers" will not be included in this specific analysis), in 12 of them we can observe the phenomenon of causal homeostasis, since all the categories created point in the direction of love as a positive emotion even if directed towards different and varied objects (family, animals, flowers, people, God etc.) and with different weights (as represented by the percentage of responses expressed in Figure 3). This aspect is particularly noted in category 12, which considers love as a source of positive emotions.

In other words, the aspects identified in these first twelve categories seem to remain in balance with each other, without apparent contradictions or oppositions between the associated concepts that constitute the network or system (or "theory") regarding love. It is these



relationships found between the concepts that make the system cohesive, giving it a character of totality or globality. And, in this cohesive whole, changes in one part, cause changes in the whole. And, since the different attributes of the same concept appear to be highly interrelated, it is impossible to change one attribute without affecting the others that are part of this conceptual network (Lomônaco, Cazeiro & Ferreira, 2006). It follows from this aspect that, as they develop, people modify their concepts according to their love experiences, since the new information interacts with this conceptual network already formed and causes a rupture in the system, leading to its reorganization. In other words, the network of interconnections between the concepts (that is, the “theory”) has undergone changes and is transformed during new learning.

This aspect can be observed in this study when we compare the statements of older people and / or those with a higher level of education, since, probably, these people, having had more experiences, stimuli or even instrumental knowledge throughout their life, emitted a bigger number of associations in this or that sense. For example, as younger people, in this study they issued responses relating love to more romantic aspects; older people and / or education level issued more responses related to love as an aspect related to positive elements, such as those described in category 12. So, it can be inferred that the dynamic phenomenon of causal homeostasis is present in formulation of the concept of love and is altered by factors such as new experiences, diverse learnings of human development and factors such as age.

A different aspect of this analysis is that of category 13, which sees love as a source of negative emotions, attitudes and behaviors and whose percentage frequency was 7%, not very high, but much higher than that of some other categories. How to interpret is apparent dissonance in the results?

Although the explanation for this apparent contradiction is not evident, it is possible to formulate some hypotheses in an attempt to understand it, although it must be clear that they are only speculations based on the historiography of love presented in the first part of this work.

As seen earlier, one of the contributions that may have influenced love as something close to that described in category 13, was the courteous love of the Middle Ages, the 19th century's ultra-romanticism or even the influence of American cinema. Elements such as idealization and suffering for the unattainable being loved and even aspects such as dramas between couples, loving suffering, affective

pessimism, interpersonal negativism and love disillusionment, could be found in the responses issued by the participants. That is, from the possible influence of medieval troubadours on Hollywood, the ideal of what can be considered negative or even undesirable by most people, perhaps it is, but a guide in the affective choices that people adopt when selecting a partner and elaborating their relationship. Perhaps, for such people, “I suffer, therefore I am” is a principle that will govern their affective-sexual relationships and the way of experiencing these experiences concerning the love phenomenon. In other words, either because of their life history or because of the various events that the person may experience during this course, loving and personal dramas can be considered requirements for a fruitful and lasting relationship, as they can be seen as tests that build relationships stronger. Thus, if we consider this perspective, it can be considered that, because these love dramas are perceived as inherent in the love phenomenon, they should not be considered as inherently negative.

An illustrative example of what was suggested is the case of jealousy, which was a response evoked by many respondents in this study and which, apparently, could be thought of as a negative aspect. For most people, as the studies by Mullen & Martin (1994) attest, there is a close relationship between romantic love, romantic relationships and jealousy. Even for other theorists such as Ferreira-Santos, 1998; Leonel, 1993; Mathes, 1991; Pittman, 1994; Salazar, Couto, Gonçalves and Pereira, 1996 and White and Mullen, 1989, there is the possibility of some neutral, or even positive aspect of jealousy, in the sense that it brings the couple closer together, as a useful strategy to deal with a threatening situation. As for common sense, and, above all, for Brazilian culture, we perceive the maintenance of an environment favorable to jealous attitudes. That is, the partners see themselves as obliged to show jealousy as proof of love (Ferreira-Santos, 1998). In fact, especially in the Brazilian context, many people who are the target of their partner's jealousy, depending on the degree and according to their life histories, are flattered to get this kind of attention for themselves. That is, in a Brazilian context, attitudes of jealousy are favored by people, they serve as a thermometer of the relationship. Anyway, if the jealous answer can be relativized in this way, perhaps other answers can also, thus reducing the frequency of allocation of some terms that, possibly, are redistributed to category 1 and redistributing them to category 14, eliminating themselves or, at least, greatly reducing the percentage of responses attributed to category 13.

## 8.2 Understandings of love related to the participants' sex

According to many theorists, contemporary society based on characteristics of affective liquidity (Bauman, 2009), characterizes affective-sexual relationships based on an epicurean view of love associated with pleasure (not necessarily sensitive and sexual) (Del Priore, 2006). The data from this study show this relationship, but not as strongly as the theoretical and perhaps more speculative premises point out. In fact, this research points out: (1) that there is a low, but significant correlation when women mention romantic aspects (such as those described by category 5); (2) that men cite love related more to sexual elements (such as those described by category 4); (3) that there is a low but significant correlation when people cite romantic aspects (such as those described by category 5) and sexual aspects (such as those described by category 4) related to the love stimulus to hedonistic aspects; (5) that women show more positive characteristics of the love stimulus in their speeches (such as those described by category 12) than men.

From an evolutionary perspective, Buss (1988) proposed that love functionally was a selected behavior to: (1) attract a partner, (2) retain that partner, (3) reproduce with the partner, and (4) invest parenting in the offspring resulting and, therefore, men and women have some differences. However, as can be seen, men and women have behavioral differences that go beyond evolutionary mechanisms of reproduction and maintenance of the species, which cannot be explained only by social and cultural origins (Berry, Poortinga, Segall, & Dasen, 1992). These characteristics are also a product of biological differences (Hatfield & Rapson, 2002; Sprecher & Toro-Morn, 2002; Santos-Iglesias, Calvillo & Sierra, 2013) and psychological (Almeida & Madeira, 2014; Dosch, Rochat, Ghisletta, Favez, & der Linden, 2015), who act as agents of different configurations of romantic relationships and in the way of conceiving love in its most diverse representations.

As can be seen in this study, men are more likely to relate love to sex than women and women more often associate love with romance and related elements. This note is consistent with a great theoretical contribution that indicates that, in terms of sexual interest, men seem to be more interested in sexual aspects and associate the love stimulus, more often than women, with erotic or genital elements, such as those covered by category 4 of that study, thinking more frequently about the topic and reporting a greater number of sexual fantasies (Baumeister, Catanese, & Vohs 2001; Beck, Bozman, & Qualtrough, 1991; Carvalho & Nobre, 2011 a and; Hendrick, Hendrick,

Foote, & Slapion-Foote, 1985; Janssen, 2011; Murray, 2014; Sierra, Perla, & Santos-Iglesias, 2011; Sierra et. Al., 2014).

In compensation when the subject is family, women seem to care more about this reference and the contents related to it (for example, irrational animals) as can be seen in this study. Generally, women are more likely to think about the love associated with emotional commitment, the experience of being desired by the partner and the safety components that the partner can transmit to them (Buss, 1989; 2000; 2003; Cimbalo & Novell, 1993; Meana, 2010; Murray, 2014; Murray & Milhausen, 2012 a and b), while men are more accustomed to playing roles of nurturing and being financially responsible for the family. Therefore, our results confirm these studies that show a greater female interest with issues such as family and relate love to the most varied elements that evoke this stimulus. In other words, men and women value different aspects of the family, but men become more concerned with this issue when they are already part of a family unit. This data is in line with the literature (e.g. Matos, 2008) which highlights the great importance that women attach to more stable supports such as what family relationships can provide.

It is known from many studies (as can be cited: Gilman et al., 2008; Souza & Duarte, 2013; Souza & Hutz, 2008, 2012) that relating to the loved one and friends is the main indicator of well-being in someone's life. About the friendships, unlike what is taken for granted by common sense, women seem to remember friendship more as a possible manifestation of love than men. In other words, friendships are important, but especially for women. Studies such as those by Fehr and Broughton (2001), Warde and Tampubolon (2002) and Hendrick and Hendrick (2005) support this observation and go further, pointing out that women value friendships more than men. Friendship between women appears to be fundamentally different from friendship between men. Studies (such as those conducted by Mendelson & Aboud, 1999; Souza & Hutz, 2007) suggest that friendships between women are of better quality than between men, more intimate, close and fun, involving greater satisfaction and emotional exchanges. In addition to this discussion, Dunbar ([http://library.fora.tv/2010/02/18/Robin\\_Dunbar\\_How\\_Many\\_Friends\\_Does\\_One\\_Person\\_Need](http://library.fora.tv/2010/02/18/Robin_Dunbar_How_Many_Friends_Does_One_Person_Need)) points out that women have much more intense relationships, resembling romantic relationships.

It should be noted that in this study a moderate (0.52) and significant ( $p > 0.000$ ) correlation was observed between categories 5 and 6, which is consistent with these previous theoretical notes, due to the fact that, probably, the participants this research consider family and friends,

respectively, their closest environment that can produce validation, support and social support. These data rescue and confirm the importance of the Social Train Model. According to the social convoy theory (Kahn & Antonucci, 1980), people go through life surrounded by social convoys: social relationships among which circles of close friends and family they can count on for help, protection, socialization, support emotional, instrumental, for well-being and for social support and which, in turn, also offer assistance, interest and help. These people are significant and important to the psychological health of individuals.

With regard to the secular thinking of women associating and perhaps cultivating a more romantic view of love, the results of this study are in contrast to several studies (such as Hendrick & Hendrick, 1997; Spreacher & Metts, 1989; Weaver & Ganong, 2004) who intuitively point out that women are more emotional and therefore often make a greater number of associations than men between love and romance. These studies indicate that men have an even more romantic view of love than women. In a measure called the "romantic belief scale", which asks people to assess how much they agree with statements like: "There will only be true love for me" and "If I love someone, I know how to make the relationship work" , males had a higher score, and men would also be more likely than women to believe in the romantic notion of love at first sight.

To make sense of these apparently counterintuitive gender differences, the authors who defend the position of women associating love more romantically with romance, turn to evolutionary psychology. The authors are based on the premise that women tend to be more pragmatic when looking for a partner (Harrison & Shortall, 2011). In other words, men are more likely to feel that love must develop slowly and to be cautious before promoting a sexual affective bond in a medium or long-term relationship - a less romantic attitude. According to the evolutionary theory developed by David Buss, among other exponents, women must be more selective when choosing partners because, due to biological necessity, they must invest more in the care offered by their maternity. Authors like Buss and Schmitt (1993) show that, as men have at least the biological potential of having many, many more children than women, since women must spend nine months gestating and men only need to dedicate a few minutes of their time and ejaculate to become parents, which means that a more cautious and less romantic approach to love is more adaptable for women than for men - and that women in our ancestral past who took the careful approach to love were more successful in passing on their genes over time and, therefore, these trends came to constitute a behavioral

legacy for future generations (Rubin, Peplau, & Hill, 1981).

### 9.3 *Understandings of love during human development and the question of the age of the participants*

Regarding the most varied manifestations that this concept can take, we find romantic love, which would be the one that is established by its affiliation and dependency needs, passion, idealization, absorption and exclusivity between two people in a generally stable bond (Branden, 1988; Driscoll, Davis, & Lipetz, 1972). Furthermore, Branden (1988) highlights some needs implied in the love relationship, among them that of human companionship, someone to share values, feelings, interests and goals, as well as emotional support, having someone devoted to well-being, an ally in the face of life's challenges, and self-awareness and self-discovery, obtained through the process of intimacy and confrontation with another human being.

The results obtained in this study confirm the theory that people consider that love is a complex and dynamic system that involves cognitions, emotions and behaviors that are often related to human happiness, as scientifically pointed out by Almeida & Mayor (2006). As we could see, in all the age groups surveyed, category 12 had a higher frequency of notes than all the others, which is consistent with the theory that, loving someone, in the first analysis, means recognizing a person as a real source or potential for happiness itself (Ingenieros, 1910/1968; Simmel, 1993). In fact, love is a link, not necessarily related to satisfaction and / or personal gratification, but to situations, people, objects, which are important to the people around us.

Maturana (1998) attests that love becomes one of the greatest sources of socialization for human beings, contributing to human development since it includes relationships of proximity, cooperation, respect and collaboration, so we can say that it is one of the most fundamental foundations. important for man. Still, according to Maturana (1998), it is the hominid way of life that made language possible, and it was love, as the emotion that constituted the space of actions in which the hominid way of life was established, the central emotion in the evolutionary history that gave rise to the species. Other authors like Braz (2006) are categorical when stating that "without love, human beings would not form bonds. Without bonds, social systems would not form, without these there would be no genuine socialization of human beings and, finally, evolution would be compromised". This incomparable and singular bond (which is also called love) actively participated in the emergence of the human person as a psychological and social creature, according to Morin (1979) and May (1973).

As can be seen in this study, there was a homogeneity in the responses, which signals a similar cognitive and analytical process in some groups in the face of the love stimulus. For example, it can be observed that, over time, people abandon previous romantic references, as defined and delimited by Category 5, to conceptualize and understand this phenomenon as something described and delimited by Category 12. What can be seen when it is observed more attentively the existence of a positive and significant correlation only in relation to Category 12, while categories like 5, with age are less mentioned. In other words, people who previously had a conceptual understanding and a predominantly romantic loving reference system, begin to face love, with the passage of time with new criteria and consider it as a source of positive emotions, not necessarily romantic. Over time, affective interactions and, why not mention the disappointments that people will have throughout their life cycle, their conception of love and love relationship will also differ. It is more likely than that a person over 30 is more concerned with functional aspects of the relationship such as getting a boyfriend, fiancé, husband or wife to marry, nurturing or not feelings like passion that are related to romance, comparing themselves with age groups under 30, for which love and passion are essential elements for the relationship to occur. In other words, there are many motivations that lead a person to have a long-term relationship, such as marriage or living together, in addition to the issues defended and described by a romanticized sieve, such as the references that served as a bastion for the medieval troubadourism or even the romantic literary movement.

This study also found that people make more associations between the love stimulus and religious elements in the first and third age groups studied. Minor are the associations produced by respondents aged 18 to 30, who, perhaps, are focusing, albeit temporarily, on some other tasks and activities of human development.

It must be assumed that friendship will differ according to the stage of human development in which we find ourselves. In the early stages of life, a person had no restrictions on his interaction with friends. Gradually, with the passage of time and interpersonal relationships that this will consolidate each person will become more careful with those who want to live with (Borsa, 2013). Thus, it can be assumed that, on average, the number of friends decreases with the entry into adulthood and involvement in stable romance, marriage, the emergence of children and dedication to work (Carbery & Buhrmester, 1998). Contemporary authors like Laura L. Carstensen have developed a theory to explain this effect. This theory is

known as Theory of Socio-emotional Selectivity.

According to the theory of socio-emotional selectivity, people tend to decrease their network of social relationships and their social involvement, but the quality of relationships and engagement is maintained through a selection process. The foundations of this theory were proposed by Carstensen (1991), to explain social withdrawal, the decline in social interactions and the decline in the intensity and variety of emotional responses of the elderly, whose classic theories of activity (Havighurst & Albrecht, 1953) and removal (Cummings & Henry, 1961) pointed out as natural consequences of aging. Thus, according to the assumptions of this theory, adults and, above all, the elderly would invest in meaningful relationships, which involve emotional closeness, discarding those that are disturbing or that require additional emotional resources (Carstensen & Turk-Charles, 1994). They tend to choose activities in which they feel more competent, less threatened, more similar to their age pairs, or whose performance favors self-esteem and self-efficacy. They tend to abandon social activities that offer them less chance of ending up in these outcomes. In the process of socio-emotional selectivity, the elderly tends to relate to people who offer emotional comfort instead of investing in the search for information and social status. As we saw in this research, although the number of elderly participants has not been expressive, it can be observed that with the passing of age people will have some tendencies, such as, for example, to value friendships more, when under 17, than those who are over 30 years old. In short, our results confirm what the theory of socio-selectivity points to in its assumptions.

#### *8.4 Understanding of love over time and the question of the level of education of the participants*

In addition to the age factor, which is related to a greater number of lived experiences, whether positive or negative, a person's level of education also influences the way we conceptualize various phenomena around us. Although it is not possible to establish a correlation between education level and age, it can be assumed that, given the demands of contemporary society, in the places where the participants were recruited for this study and the competitiveness in the allocation of increasingly specialized people in the different sectors and positions of society, that there is some relation between age and education level. In this case, it is customary to think that the older you are, the more likely you are to be educated. And the greater the level of education, the greater the associations made by people for the various concepts they possess. Still, the truth is that regardless of the degree and quality of schooling, people formulate concepts, based on



their daily experience. Based on these assumptions, it can be suggested that the concept of love is a phenomenon that can be influenced by the schooling factor.

In fact, it can be seen in this study that several significant associations were made according to the level of education that people claimed to have. For example, it can be seen from the results obtained that people who are in incomplete high school adopt romantic conceptions and verbalize them, on average, often more than people with higher education, who are probably in an older age group than they meet.

Another important issue raised by the literature that addresses the idiosyncrasies found in romantic relationships is the one proposed by Aloni & Bernieri (2004). The authors raised the hypothesis that there may be differences in the constitution of schemes formulated about love according to different modalities of romantic relationships. From this perspective, individual experience and knowledge of the object of interest influence people's cognitive representations. Despite the lack of consensus in the literature, the authors claim that older people are generally more experienced in relation to love and develop richer cognitive schemes about the phenomenon. It can be observed in our study that, in general, people of the highest age groups are those who express a greater number of idiosyncratic quotes (such as those described and covered by category 14) about love in relation to younger age groups. Parallel to this observation, it can also be observed that people with a higher education level, such as having a postgraduate degree, significantly consider love as a typically positive aspect (as described and covered by category 12)

## IX. FINAL CONSIDERATIONS

Love is not a simple phenomenon. Throughout human history it has been understood and defined in multiple ways. What do people believe that love is? What are its attributes and characteristics? What types or examples of love best represent you? Despite its evident importance and omnipresence in our life, the term love is often used indiscriminately by people, leading to varied and different conceptions of what it is. Therefore, researching about the love theme impels us to reposition ourselves in the face of this phenomenon known since our youngest age, with which we grow up and sometimes experience it daily, but we do not reflect sufficiently on its real meaning. It must be shown that researching, talking or talking about love is an arduous feat. There is a risk of falling into banality, ambiguity, spiritualism or even sentimentality. And how could there be a vehement statement of universal validity

about love, considering the plurality of idiosyncrasies (many of them probably contaminated by ethnocentrism), which try to establish a primacy in defining what love really is. It is also a fact that conceptions of love have certainly evolved and continue to evolve over time due to the historical context in which it is inserted. In this sense, we believe that the findings of this study can help to obtain a better understanding of love as a psychological phenomenon, insofar as more objective empirical data could be collected in this area where subjectivism reigns.

As can be seen in this study, love is a plural and multidimensional phenomenon that includes the most varied expressions and that changes over time due to factors such as sex, age and level of education, considered in this study. Consequently, love can mean different things to different people in different cultures and historical moments. Although other studies in the past have proposed to define love and describe it according to their own criteria, this work, in an original way, tried not to start from a priori definitions, considering all possible and non-hegemonic expression of love over the others, as proposed by Lee (1988) among others. A study like this, with a sample of 600 subjects, identified 14 categories, analyzed seven groups and more than three thousand responses, is unique in both quantitative and qualitative terms.

However, even though this study has provided a lot of data and findings on the subject, it must be shown that its results, although obtained from a significant sample of subjects, cannot be automatically generalized to other groups and samples, since it refers to only two Brazilian cities and it was not possible, for practical reasons, mainly of an economic nature, to constitute a representative sample of our country.

Thus, it is suggested and expected that further research in the area, like the present study, will be carried out, expanding and diversifying the samples and / or investigating aspects or variables not considered in this work. For example, future researchers could consider other national and international, western and eastern samples in order to compare the results obtained, taking into account the design of the method used for this study, in such a way as to corroborate their results and / or suggest alternative theoretical interpretations and analyzes.

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