

**STUDY OF THE HALLOS & TRIADS METHOD'S
IMPACT ON EXPANDING SELF-AWARENESS
AND IMPROVING THE RELATIONSHIP
BETWEEN LEADERS AND MEMBERS**

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List of Abbreviations

CEO	Chief Executive Officer
EQ	Emotional Intelligence
FFM	Five-factor model of personality
IQ	Intelligence Quotient
LMX	Leader-member Exchange

Abstract

In recent decades, organisations have been undergoing significant transformations, from a model in which professionals had little opportunity to express themselves. The relationship between leaders and members was of submission to defined roles and the authority of the leader. The new challenges started to demand that leaders develop social skills to interact with the diversity of their teams' diversity. Among these skills, Self-awareness has stood out as a fundamental trait in high-performing leaders, confirmed by several surveys (Gardner et al., 2005; Tekleab et al., 2007).

For this reason, Self-awareness has become one of the pillars of this project. The research aimed to investigate a new way of increase Self-awareness in individuals and whether these changes promote improvements in the relationships between leaders and members of their teams. The study addressed an existing research gap using the Hallos method explicitly created to expand Self-awareness and monitor its impact on the improvement of dyadic relationships over time.

Two studies were carried out. In the first, 750 professionals from 17 companies in Brazil, Spain and Chile completed a questionnaire as a self-report about their level of Self-awareness, the importance of diversity, and the improvement in their interpersonal relationships before and after learning the Hallos method. In the second study, their team members evaluated the leaders of 5 different companies in the variables Self-awareness, Transformational Leadership, Emotional Intelligence, leader-member Exchange, and Emotional Intelligence before and after the Hallos method intervention.

The empirical research's main findings indicated positive results and suggested that the Hallos method promotes the expansion of Self-awareness. The analysis also positively aligned with other existing studies, which raise Self-awareness to improve relationships between leaders and members.

Another important finding is that there is a correlation between all the variables studied. It was observed that trust might be a common point in all taxonomies. Besides, it was found that there is a correlation between Self-awareness and leader-member Exchange theory, which is not shown in another research.

The results open space for the use of the Hallos method both in academic research and in the corporate world as a way to investigate and improve dyadic and group relationships, in addition to expanding the understanding and acceptance of the diversity of human types in the work environment as a way to enhance organisational effectiveness.

Dedication

I dedicate this thesis to my beloved wife Ana Beatriz, my son Guilherme, my daughter Ana Carolina, my parents, my family, and my ancestors.

I also offer this thesis to all those who dedicate their lives to understanding human beings and who work for their development.

Declaration

I declare that no portion of the work referred to in the thesis has been submitted in support of an application for another degree of qualification of this or any other university or other institute of learning.

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Chapter 1: Introduction

The introduction chapter aims to present the project's general context and the objectives, justifications, and contributions. Section 1.1 presents the general context of the project. Section 1.2 presents ideas that justify the development of the investigation. Section 1.3 presents the project objectives. Section 1.4 presents the research questions, and finally, session 1.5 describes the project contributions.

0.2. General Context

In the last decades, organisations have experienced changes in their dimensions, such as technical and economic, psychosocial, and political (Malvezzi, 2000). The changes speed, such as companies' purchase and acquisition, has led multiculturalism to large multinational corporations, bringing volatility to their identities and organisational culture, increasing management challenges. Economy globalisation, the interaction required with different cultures, quick access to information, and internet communication (Heifetz, 2009) changed the corporate world. For instance, how can a global company leader manage a professional managing a factory in a faraway country that does not speak his/her language and with different culture? The workplace became complex, and Malvezzi (2000) notes that the organisation that already had a certain stability level has become a place of uncertainties and instability to companies and individuals.

In this context, the leadership subject and the relationship between leaders and members have been analysed in several research studies (Graen & Uhl-Bien, 1995) and books, as Bass, (2009) and Burns, (1978). Among the current most significant theories are Leader-Member Exchange (Graen & Uhl-Bien, 1995), Transformational Leadership (Bass, 1990), Servant Leadership (Greenleaf, 1997), and Authentic Leadership (Gardner et al., 2005; George, 2009). Even though leadership transcends the issue of relationship and encompasses other skills, such as management, technical skills, and understanding of business, a common point in theories cited is that, despite different taxonomies and objectives, the dimension of the relationship between leaders and members is the central issue in all of them.

Perhaps this occurs because the relationship dimension has never been more relevant than when we realise the contrast between the last decades' organisational environment.

In the recent past, a leader worked in a hierarchic management model, typical authoritarian posture, command, and control, in a culture that acted through fear and punishment (Snook, 2008; Lara, 2006). In this period, people were considered only gear parts to move the machine managed by the leader. The relationship between leaders and members was only a subject-object relation (Buber, 1974), as almost a feudal power of one over the other, in which the death sentence would be the dismissal. As old generations used to say, "We should obey blindly," and any attempt to be different would be punished. In this context, members were generally concerned with doing the right thing to please their leaders. For instance, in meetings, the search for the best idea was subordinated to comprehending what the leader wanted and avoid the risk of rejection, punishments, and possible humiliations. That was how members used to be accepted in their leaders' circle, in a constant search for belonging. There was no teamwork, in which individuals would participate in decisions and work collaboratively because only the leader determined the members' paths and tasks. In this environment, most individuals had little opportunity to express themselves, demonstrate their innate talents, and the relationship between leaders and members was only of obedience to roles and authorities (Goshal, 2000; Hess, 2014; Seagal and Horne, 1998). Jack Welch, CEO of GE, one of the precursors of this change, said that companies underutilised the talents of professionals and that organisations should build a place where professionals could develop a sense of accomplishment, "a place that would bring out the best in each one" (Ghoshal, 2000, p. 19).

The corporate world and the relationship between leaders and members reflected the existing behaviour in society. Like in the company, the family relation was autocratic, with little room for questioning or open relationships; obedience and discipline were the essential values. That happened similarly to the school. One was not allowed to talk during class or do tests in groups. The diversity was not accepted; actually, it was punished. As a paradox to this culture that valued discipline, obedience, and individual competitiveness in academic life, professionals were

encouraged to work in teams as one reached the work environment. However, they did not learn to do this. Individuals have been “educated” and conditioned to be competitive and express themselves in an individualistic way (Levinas, 2007, p. 26).

The passage from this social reality to a new and current one that is continuously changing has been a challenge to companies, leaders, and members. If we can express ourselves like this in the old paradigm, it was autocratic, dogmatic, and positivist; accepting a new social reality in a post-positivist world was very difficult for social agents. If autocracy has almost disappeared in social and family life and the children can now express themselves almost freely, we cannot say the same about companies and schools. Even though the organisations are invited or ‘pressed’ by changes, as a way to survive, and also to become competitive and attractive to young talents, the vast majority still resists bravely. This “new” group lives the ambiguity of speaking fluently on current context requirements and needs, including autonomy, collaboration, trust, engagement, and empathy. Besides, they also reproduce the same old culture with new guise, in which transparent and authentic relations are not valued. Therefore, these companies experience a paradox between old practices and current needs concerning more open relationships with their members. Besides, these organisations’ leaders who needed only power, knowledge, and a specific management capacity were not ready to act in this chaotic world or an activity and relationship interconnected world network, as Meg Wheatley (2011) stated. According to her, most of the ways we have been taught to think, reason, and comprehend no longer provide us with the means to make wise decisions. In this context, although power and hierarchy structures remain in most traditional companies, there is a significant demand so that the structures organisational becomes more horizontal and in which leaders and members have more autonomy and a more collaborative relationship (Abrams, 2014).

A problem that arises within the current world complexity and multiplicity: as one acknowledges that the former qualities required of a leader are no longer as useful as in the past, what would be the present’s ideal qualities? There are hundreds of books that approach the leadership subject and introduce lists of qualities required to contemporary leaders. They include determination, humility, flexibility, coherence, listening skills, respect, collaboration, genuine interest in the other,

including professionals in their decisions, and influence. However, in their vast majority idealised, book images do not represent the leadership reality find in day by day. In real life, one can be listing a hundred examples of acknowledged and successful leaders that do not have the qualities described as desired. Many leaders do not listen, do not respect, do not engage with their teams; nevertheless, they achieve outstanding outcomes and loyal teams. In our days, leadership reality is that the 20th and 21st centuries mentioned above can even be useful and desired for the 'Ideal' and politically correct leader that lives inside us. However, such qualities do not guarantee the current global leader's success. The organisations reject 'Great' leaders that cannot achieve outcomes even if they have all the qualities detected. In contrast, leaders that achieve results even if they do not have many of the qualities desired are still totally accepted by their companies and teams. The fact is that a leader's leadership and success do not rely solely on the qualities abovementioned; they go beyond them and require a new look at the complexity of the subject (Page, 2011). Maybe due to that, George Graen says that 'despite decades of studies on the leadership subject and thousands of researches, we still do not have a clear understanding of what leadership is and how it can be achieved' (1995, p. 220).

To understand past and present needs, Goffee (2006) introduces an exciting differentiation between management and leadership. He links management to the past and everything associated with assets, governance, and process; on the other hand, leadership is linked to how one deals with people. Goffee (2006) notes that it is necessary to understand that we manage assets and things, and that 'leading is not organising people'. Thus, we can have excellent leader managers and a few people leaders. If we see that, in the past, we needed technical skills, and in the present, new talents, including adaptability and social skills, this differentiation makes total sense. We know that today leaders must prepare to deal with uncertainties and adaptive challenges, not only technical ones (Heifetz, 2009; George, 2003; Goleman, 2014). Heifetz says that one of today's biggest mistakes is when leaders try to apply technical means to solve adaptive challenges (Kegan, 2009). Leaders are no longer asked to command and control tasks and roles; they are asked to influence individuals of different types and cultures, especially new generations (Bednarska-Wnuk, 2014; Chicca & Shellenbarger, 2018; Crisan, 2016). These young members who had a significant impact in the work environment due to the wish for more

active participation and the possibility of expressing their talents, has made that many companies today to invite the professionals to the dialogue, express their ideas, and work in teams.

On the other hand, If the past autocratic and mechanistic relationship divided the company into ethnocentric departmental structures, including finances, sales, and research, for instance, nowadays, despite the professionals having achieved extensive freedom to position themselves and interact, they discover a considerable difficulty to relate with other different co-workers. Thus, they form ethnocentric groupings by affinity, by social or academic training, for instance, that work in opposition, ones concerning the others. As Peter Senge says, if in the hierarchic model, the rule of the game was to perform your tasks and please your boss; now the challenge is working and learning with people that are different from other ones in terms of experience, education (Seagal and Horne, 1998) and also in psychological types.

It is possible to conclude that if in the past professional needs generally necessitated technical skills that were associated with cognitive intelligence (IQ) (Sternberg, 1985) with the evolution of leadership in the late 1990s, companies also began to consider the perspective of Emotional Intelligence (EQ) (Goleman, 1995; George, 2000) in the development of leaders. Although these two types of intelligence continue to be necessary, they are no longer sufficient to meet an era in which relationships have a more critical role than in the past. In this sense, in an era that demands relationships that are more open to dialogue, social skills, which can also be termed as relational intelligence, become a fundamental capacity to be developed by leaders so that they can learn to deal with the diversity of human types and their different demands in the workplace.

This new reality introduces the debate of perception that diversity in terms of different personalities, including other individual characteristics and behaviours that were forbidden in the past, if on the one hand, provides benefits to productivity and organisation (Page, 2007; Esty, 1995; Fields, 2009; Ilmakunnas and Ilmakunnas, 2011), also generates more stress to the leaders. This can be explained by the fact that the members simply obeyed in the past, and now leaders must relate with the diversity of human and personality types, a subject rarely approached within

organisations. Furthermore, like any other individual, leaders also prefer to work with similar people (Seagal and Horne, 1998; Guillaume et al., 2013). These differences among individuals foster sympathy and antipathy exaggeration, which, as abovementioned, makes the leader include part of the people (in-group) and exclude another part (out-group), even unconsciously. This challenge introduces a dilemma to the leaders: hiring similar people or investing in diversity (Seagal and Horne, 1998). Perhaps it is easier to deal with equal people than different individuals (Seagal and Horne, 1998), which may bring about leadership concerns. Despite this discomfort, leaders can notice that when accepting and learning how to deal with these differences, this can enrich their own lives, according to Senge (Seagal and Horne, 1998). The difficulty lies in understanding individuals, their differences, and working with them (Seagal and Horne, 1998). These differences (Seagal and Horne, 1998; Page, 2007) are an innovation source, and those people that look (Seagal and Horne, 1998; Page, 2007) at the world differently have new ideas and can solve complex problems with greater ease. This understanding reinforces the conception that the relationship between leaders and teams with a diversity of types, and even among the team members themselves, is one of the essential elements that companies will have to invest more and more in the present.

1.2. Project justifications

If the current need is learning how to deal with diversity and including different ones, how can a leader do that if he/she cannot perceive the impact caused by their behaviours in team members? The leadership relation can also be a power relation (Yukl and Tracey, 1992), and this relationship can cause to lose the wealth that could exist through a relationship where there are trust and empathy between equals. There is always a concern with the speech consequences for those in the leadership position, as they serve power and can share (Greenleaf, 1997) or use that power only to pressure the member (Yukl and Tracey, 1992) which is more common.

Although the leaders can value the trust and transparency in relationships and, at the same time, recognise their difficulties in dealing and engaging professionals, change is not simple. This occurs because every human being lives conditioned

habits, and it is necessary for a considerable effort to change old habits. Even the leaders who are committed to improving may not know how to make, and even if they believe in the need for new behaviours, they can have difficulties to put what they verbalise into actions.

Therefore, nowadays, it is challenging to lead in an emerging culture of young professionals disconnected from old models and wish to act with their leaders under another contract type. Such difficulty is that, like any individual, the leaders, besides working based on an old model, are not fully aware of what they do and the impact, whether positive or negative, their behaviours cause people. The mental models that guide the way individuals see and relate with the world are, at the same time, barriers that create limitations or blind spots. As the French writer, Anaïs Nin, says, 'we do not see the world as it is, but how we are.' Kegan, (2009) states that 'any way of building reality will inevitably contain some blind spot, and that generates an adaptive challenge that will involve a certain acknowledgement and correction of our blindness' (p. 3760).

The leader not always realises their preferences and rejections concerning their team members. Several times they are not able to pay attention and perceive his/her internal and external situation (Kofman, 2002). This attitude may impact credibility, impartiality, and trust, significant elements concerning their teams (McAllister, 1995; Zhu and Akhtar, 2014).

Several researchers, like, for instance, George (2009) and Goleman (2014), noted that blind spots could be reduced by expanding Self-awareness. This has been confirmed by several studies that have been performed in the last years, linked to Authentic Leadership (Gardner et al., 2005), Transformational Leadership (Tekleab et al., 2007), and Emotional Intelligence (Goleman, 1995). Self-awareness is the self-perception an individual has concerning his/her behaviour, strong and weak points, values, and impact on others (Goleman, 2011, p. 6). Self-awareness enables leaders to achieve clarity concerning their motivations, identity, and goals (Gardner et al., 2005). With Self-awareness, he/she is able to self-observe of one's own self and govern one's own self (Kofman, 2002, p.133) and understand who he/she is and in what he/she believes. Consequently, he/she is able to be aware that blind spots can

twist reality, damage relationships, decision quality, and impact the life standard of others (Goleman, 1995) severely.

How can a leader deal with different individuals if he/she does not know himself/herself? As a leader expands his/her Self-awareness and him/herself more deeply, his/her perception about him/herself and the others improves. Thus, he/she can leave automatism, develop more acuity in people's observation, understand them, and use different behaviours according to their types. Within organisations' interest, Self-awareness has been highlighted as a key trait in high-performing leaders, confirmed by several types of research (Church, 1997; Gardner et al., 2005; Tekleab et al., 2007). Thus, in the current context, Self-awareness has been acknowledged along with social skills (Goleman, 2005), as one of the outstanding qualities that should be considered in leadership development to improve relations between team leaders and team members (Tekleab et al., 2007).

Self-awareness has demonstrated its significance in developing individuals, as presented in studies associated with leadership theories, such as transformational (Tekleab et al., 2007) and authentic (George, 2000). Few studies specifically discuss the impact of Self-awareness in the relationships between leaders and team members, and few works mention how Self-awareness develops.

Some studies suggest that tools like Coaching (Saporito, 1996; Yeow and Martin, 2013), Life Stories (Goleman, 2014, Burkhard, 2006), and 360-type assessments (Goleman, 2014) can expand individual Self-awareness. However, few studies associate Self-awareness with evaluations related to personality or psychological types (Jung, 1991) as instruments that can generate Self-awareness expansion. Among the existing tools related to the personality, it can highlight the MBTI (Myers and Myers, 1985; McCarthy and Garavan, 1999) based on the psychological types of Jung (1991), the Big-Five (Wilt, and Revelle, 2012), and others like "DISC", "Insights", and "Hogan" most recent. All these instruments are aimed at developing teams (Myers and Myers, 1985) and solving interpersonal conflicts, and hiring leaders, and understanding how personalities influence the reception of feedback from tools such as 360 (Tekleab et al., 2007).

Based on the perspectives presented and the current needs of leaders and organisations, this project proposes to study whether an instrument similar to MBTI and Big-five, the Hallos method, can promote the expansion of Self-awareness and analyse the effects of these changes in the relationships between leaders and members. The Hallos method, an instrument and typology used in this project, similarly to Jung’s typology (1991), has been developed for approximately 20 years. Although like other personality theories, its focus is on human relationships structured on three pillars; Self-awareness, diversity, and collaborative relationship associated with three dimensions; the leader, the team member, and the relationship.

The present study is within a context that highlights that one of the relevant factors in the quality of the relation between leaders and members is linked to understanding and inclusive of the diversity of human types in the workplace, within the ‘bio-psychologic’ scope, and not only gender, ethnicity diversity, or any other classification.

When diversity is accepted, consequently, it enables improvement in innovation and the ability to solve a complex problem and enhances productivity and work in teams (Ballesta, 2014, Delloite, 2013, Downey et al., 2015). In this sense, via the expansion of Self-awareness, the Hallos method can contribute as a new way of understanding and including human diversity in the work environment.

1.3. Objective of the project

From the above, the Hallos method has its primary objective to demonstrate that learning and understanding the diversity of human types can stimulate the increase of Self-awareness of individuals and positively influence interpersonal relationships and relationships between leaders and members of their teams.

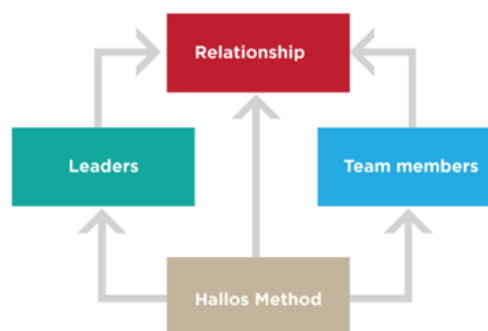


Figure 1 – A summary model of the project

Title of the project:

Study of the Hallos & Triads method's impact on expanding Self-awareness and improving the relationship between leaders and members.

1.4. Research questions

As already described, although there are countless studies on Self-awareness, few analyse theories that generate Self-awareness and even less investigate the association between personality instruments and the expansion of Self-awareness.

This project's initial questions of interest are associated with investigating the Hallos method's impact as an instrument for generating Self-awareness expansion and influencing the relationships between leaders and members.

Another subject of interest to the project and an essential part of the Hallos method is that, although many studies talk about diversity in the work environment, few studies assess the diversity of human types, whether in terms of personality or archetypes, as influencing the relationships between leaders and team members.

From these perspectives, there are seven issues to be studied in this project:

1.4.1. The first question is whether the Hallos method promotes the expansion of Self-awareness in individuals who learn about the method.

1.4.2. The second question to be studied is whether the Hallos method can improve interpersonal relationships in the participants' self-assessment.

1.4.3. The third question that can be analysed is whether Self-awareness remains over time in the participants' self-assessment.

1.4.4. The fourth question to be verified is whether the diversity of human types proposed by the Hallos method positively influences leaders' perception of diversity's general importance in the work environment.

1.4.5. The fifth question to be investigated is whether there is a correlation between Self-awareness changes and the importance of diversity after the Hallos method intervention.

1.4.6. The sixth question is associated with the team members' evaluation of their leaders. The interest is to investigate whether the Hallos method after its intervention promotes increased planned scales to study; Self-awareness, leader-members exchange, Transformational Leadership, and Emotional Intelligence.

1.4.7. Finally, a seventh question to be investigated is if a correlation between Self-awareness and the other variables is studied; Leader-member exchange, Transformational Leadership, and Emotional Intelligence in the assessment of team members.

1.5. Project contributions

1.5.1. General project contributions

This project can contribute to the development of knowledge about ways to increase Self-awareness by presenting a taxonomy of human types. The project also has the practical possibility of bringing an evidence-based method to organisations, which improves Self-awareness and, thus, enables improvements in dyadic relationships between team members and leaders. As a consequence, leaders can improve their skills in engaging diversity with different types of professionals. This means that Self-awareness expansion and this capacity can potentially contribute to leaders in minimising the rejection of the other (out-group) and increasing the number of members to their circle of interest (in-group). This change in attitude may improve the quality of dyadic relationships and the integration and increase of motivation and collaboration of the team as a whole.

1.5.2. Contribution to research

1.5.2.1. The project can contribute to the existing literature of the Leader-member Exchange theory by confirming the correlation between the growth of Self-awareness and the increase in LMX levels.

1.5.2.2. This study can also confirm the results of other existing research on Transformational Leadership and Authentic Leadership, affirming a relationship between high levels of Self-awareness and increased managerial effectiveness.

1.5.2.3. This study's Contribution to leadership can demonstrate a correlation between the theories studied, including LMX, transformational, and authentic, leading to the exploration of a meta-analysis on common points and each theory's effects.

1.5.2.4. The knowledge of the content and the method may stimulate new studies about the network of dyadic relationships, formed both between leaders and members, team members and the team as a whole, and the leader.

1.5.2.5. This project's contribution also is the availability of the Hallos method to researchers, who may be interested in analysing the relationship between the method's application and its effectiveness in leadership.

1.5.3 – Contributions of the Hallos & Triads method

1.5.3.1 The use of the method can contribute to understanding each team's individual and collective performance, through the evaluation of the existing individual talents, as complementary skills to reach the group's effectiveness.

1.5.3.2. With the knowledge about the Hallos method, leaders will be able to create specific contexts so that each professional can best express their talents in favour of the group. The leader will potentially choose individuals with the most appropriate talent to maximise the team's relationships and performance.

1.5.3.3. By understanding the diversity of individual types, the method can potentially reduce conflicts and pacification in the work environment, currently complicated and stressful.

Chapter 2: Literature Review

2.1. Introduction:

The literature review was structured in a way to meet the objectives of the project and using the three pillars of the Hallos & Triads method: diversity of human types (personalities), Self-awareness and the relationship between leaders and team members (Figure 2).

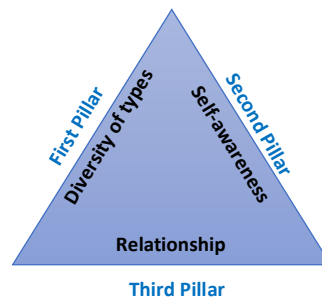


Figure 2 – Hallos & Triads pillars

The assumption of the method as already described is that the increase in individuals' Self-awareness, through the learning of human archetypal types (personalities), can promote a relationship where there is more empathy, understanding, trust, dialogue, and mutual collaboration.

Each of these three pillars is also structured in another triad. The framework below summarizes the general structure of the Hallos & Triads method, the centre of which represents the pillars of the Hallos method, and the expansion of each of these pillars into new triads.

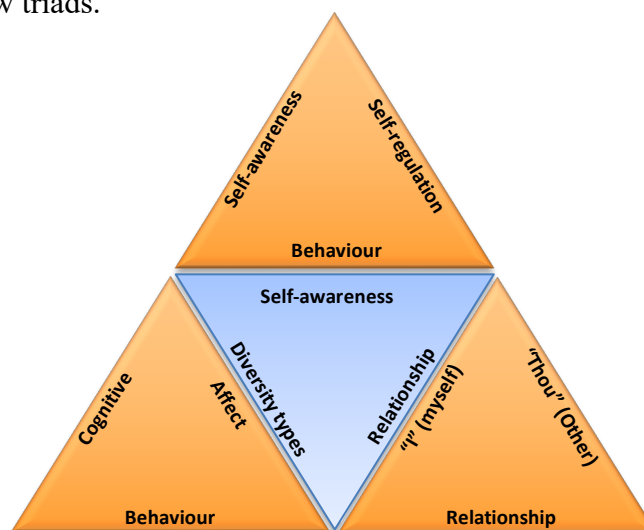


Figure 3 – Framework of the Hallos & Triads method

The Self-awareness pillar is subdivided into a systemic triad: Self-awareness, self-regulation, and behaviour. The diversity of types is also formed by a triad of types (colours), associated with archetypes or human systems; cognitive (thinking), affective (feeling), behaviour (acting), as will be presented. The pillar of the relationship is subdivided into three dimensions. “I”, “Thou” and “Us” (relationship). This triad is perhaps the most important for the Hallos method because it represents the fate that the method proposes. In leadership, this triad is represented by the Leader, the Team member, and the dyadic relationship.

Chapter 2 was structured based on the main pillars of the Hallos method.

The section 2.2 presents the dimension of Self-awareness, which brings a reflection on the concept of Self-awareness and the impact of this quality in the relationship between leaders and members, from existing studies. The section will also analyse the causes that drive Self-awareness and the auto-regulation process that lead to behavioural changes and improvements. Finally, this section also discusses leadership and the chosen variables for field research. These variables were selected for their relationship with the object of study and also for being related to Self-awareness. Section 2.3 of this chapter presents the dimension of relations, which represents the final objective of the Self-awareness expansion through the Hallos method. Relationships are currently the core theme of dyadic relations and a great challenge for organizations, as will be shown. This theme will also be approached through the philosophical and practical view of several authors, in a perspective broader than only the gathering of two people, or just a cause-and-effect relationship. Also, in this section, the polarity formed by sympathy and antipathy will be presented as a crucial element of influence in human relations and a core element of the Hallos method. Section 2.4 will present the dimension of the diversity of human types, proposed by the Hallos method. This section will show the foundations of the Hallos method. The details of the typology of Hallos typology are in Appendix 1.

2.2. The dimension of Self-awareness

2.2.1. Importance of Self-awareness

There is almost unanimity in the literature and existing research of theories such as Transformational Leadership, Authentic Leadership, and Emotional Intelligence, that Self-awareness is the key to improving the relationships between leaders and their team members.

At the same time, Self-awareness is one of the pillars of this study and the Hallos method, and for this reason, it will be presented in all its scope. However, before analysing this quality in all its dimensions, it may be important to understand the cause that leads to the need for Self-awareness.

How many of us have not had to apologise for an attitude that we do not notice? How many times do we have inappropriate behaviours without realizing them? This occurs, according to Jung (1991), because the human being is a double entity. A being that has a conscious side, which he/she knows, and another unconscious side about which he knows nothing, although it is not necessarily hidden from other individuals. Jung states (1991) that the great sin of the human being is the unconsciousness of himself. According to him, a human being without Self-awareness acts instinctively, being a plaything of all illusions, “like someone whose left-hand does not know what the right hand is doing” (Evans, 1964, p.76).

This question is expressed brilliantly by the Scottish poet Robert Burns (Goleman, 2014, p. 69):

“Oh, that the gods
give us the gift
To see ourselves
as others see us “.

We all have blind spots (Goleman, 2014; 2015; Banaji and Greenwald, 2016; Pronin, Lin, and Roos, 2002). However, we believe that it is the others who have

blind spots because they do not see what we see (Pronin, Lin, and Roos, 2002). Goleman (2014) states that the human being does not see himself as other people see him, and such a difference in perception represents his blind spots. In the corporate world, Koonce (1996, p. 19) suggests that the manager who is “unaware of his / her blind spots or of how he/she influences others is a walking disaster in the workplace, a leader who may lead the troops over the cliff”. About this, Tekleab et al. (2007) ask if we are accurate when describing our own leadership. The existence of blind spots makes leaders’ self-assessments different from their subordinates, colleagues, or bosses (Tekleab et al, 2007).

If leaders saw exactly who they were, how they acted, and what positive or negative impact they had on their team members, it would not be necessary to have instruments such as Coaching, 360, nor feedback sessions in organizations. Self-awareness is possibly the best way to reduce blind spots.

2.2.2. Understanding Self-awareness

Individuals have the potential ability to look at themselves and understand not only their present state but also their ideal state (Ashley and Reiter-Palmo, 2012). This possibility is associated with the desire to evolve towards a better future, to identify limiting situations, and to evaluate alternatives. This process of evolution is associated with Self-awareness, which, in its construction, has essential elements such as self-examination, self-reflection, and introspection (Crook, 1980, p. 267). He says that the ability to be self-aware or to think consciously about oneself, “marks the boundary line between the animal and the human, the organism and the person, brain and mind” (p. 267). Goleman (2011) suggests that Self-awareness is a self-perception about its behaviour, strengths, weaknesses, values, and impact on others. Church (1997, p. 281) indicates a definition of managerial Self-awareness as “the ability to reflect on, and accurately assess, one’s behaviours and skills as they are manifested in workplace interactions”. Self-awareness represents a reflexive attitude with the attention that individuals direct their consciousness to some internal aspects of themselves (Gardner et al., 2005).

Tekleab et al. (2007, p.1), state that Self-awareness is associated with the idea of self-assessment. "I know myself; thus, my self-assessment will be more precise." It also includes the ability to recognise and evaluate not only what is happening within oneself, but with others around. Atwater and Yammarino (1992, p. 143) add that Self-awareness is "the individual's ability to assess other's evaluations of the self and to incorporate these assessments into one's self-evaluation". According to Gardner et al. (2005, p.349), "Self-awareness is not an end in itself, but a process whereby one comes to reflect on one's unique values, identity, emotions, goals, knowledge, talents, and capabilities, often triggered by external events."

They state that as the leader broadens his/her Self-awareness, he/she is expected to experience a greater coherence between his/her ideal "self" and his/her true "self." The "ideal self" represents what the individual would like to be or become, while the "true self" represents what the person thinks, feels, and acts in the day-to-day (Higgins, 1987; Phillips and Silvia, 2005). On the other hand, discrepancies between the two "selves," which become more visible with increasing Self-awareness, also increase tension and anxiety in individuals (Higgins, 1987).

What we can observe is that, although conceptualizations about Self-awareness may vary, at its core is the ability to focus one's attention within and to study oneself as if looking in the mirror. (Ashely and Reiter-Palmo, 2012, p. 1). In polarity to this inward look, there is also an outward look, that is, how the individual manifests his thoughts, feelings, and interactions with other individuals in social life. Self-awareness is thus related to the internal and external aspects of each individual: how he thinks and feels internally, and how he acts externally.

In short, Self-awareness is a process of self-recognition, by which individuals identify their behavioural patterns in everyday life, in the way they think, in their emotions, and how they express themselves in specific situations through their beliefs and motivations. This process aims to obtain greater understanding not only of themselves but also of how they relate to other people and to the social world (Jhangiani and Tarry 2014; Rodrigues, Assmar and Jablonski, 2014). Self-awareness leads the individual to become an observer of himself, in the external, and internal

world, and in this way, he/she can leave the influence of his/her automatisms and make freer choices.

According to Sturm et al. (2013, p. 658), what is observed is that most studies on Self-awareness focus on the issue of self-perception, which is only one aspect of Self-awareness. Few studies have considered, for example, meta-perception, which is essentially how an individual perceives how others see them. Thus, Self-awareness brings two perspectives. The first on how people see themselves and the process by which they make assessments about themselves, and the second the ability to detect how others see them. In this context, a relevant point for research involving meta-perception defines that the way individuals see themselves (self-perception) also determines their meta-perceptions (Kenny and DePaulo, 1993).

This means that mental models and beliefs become filters that make leaders imagine that the same criteria with which others evaluate them are probably the same that they use to assess their abilities (Taylor and Hood, 2011). This is perhaps one of the reasons raised by Tekleab et al. (2007) for individuals to underestimate or overestimate their evaluations concerning their members. Probably the discrepancies between self-evaluations and the classifications of others (Brutus, Fleenor, and Tisak, 1999; Tekleab et al, 2007) can indicate different criteria of evaluation or the opportunity to develop Self-awareness.

For the Hallos method, Self-awareness is mainly associated with how leaders see themselves and perceive the impact they have on other people. As an extension, there is an attempt to make leaders understand how their behaviour influences their teams and how the behaviour of their groups influences them (Taylor, 2010). The Hallos method is also used to increase team members' Self-awareness, to influence the relationship between them with their leaders too. For this reason, Self-awareness is one of the pillars of the method.

2.2.3. The importance of Self-awareness to managerial members/teams

There is an overall view that increased Self-awareness has a positive effect on the performance of leaders (Fletcher and Bailey, 2003) and is an essential capacity in

high-performance leaders, which has been confirmed by several surveys (Church, 1997; Gardner et al., 2005; Tekleab et al., 2007). According to many writers, Self-awareness is also an essential skill for achieving managerial excellence (Van Velsor et al., 1993; Ashford and Tsui, 1991; Butler, 2014) and Church and Waclawski's empirical studies (1999) report that higher levels of managerial Self-awareness are positively related to higher levels of individual efficacy that can be perceived not only by the leaders but also by other evaluators such as peers and supervisors, which confirms the studies by Tekleab et al. (2007) on the evaluations of leaders instruments like 360o (Alimo-Metcalf, 1988; Atwater and Waldman, 1998).

In this sense, when the self-classification of an individual is congruent with the evaluations made by others, this is an excellent measure to infer that individuals understand their strengths and weaknesses (Fletcher and Baldry, 2000, p.389). Butler et al., (2014); Gardner et al. (2005), Church and Waclawski (1999), George (2000), argue that this occurs because heightened Self-awareness allows leaders to recognise and control the effects of their emotions, behaviour, and thoughts. Therefore, they should be more proficient in evaluating their behaviours, the impact on others, in developing healthier personal relationships with members, to become more effective leaders as assessed by Taylor (2010) and Gardner et al. (2005).

Gardner et al. (2005, p. 354), say that leaders with a high level of Self-awareness "can experience greater congruence between their ideal and actual selves." According to the same author, leaders with a high level of Self-awareness are aware that they can cognitively, affectively, and behaviourally impact members and encourage the co-workers to follow a self-discovery to find their strengths, resulting in team development. Leaders with a high level of Self-awareness bring more satisfaction to the workplace and team members (Gardner et al., 2005; Tekleab et al., 2007). According to Amundson (1995, p. 12), such positive environments "respond proactively to external circumstances and exert more control over long-term effects."

The aforementioned diverse studies demonstrate the relevance of Self-awareness, in the management context, and its potential capacity to change behaviour and relations between leaders and team members.

2.2.4. The other side of Self-awareness

If, on the one hand, some researchers have demonstrated the importance of Self-awareness in improving relations between leaders and members of their team, Trapnell, and Campbell (1999) suggest that high levels of Self-awareness can result in good or bad results. In favourable terms, high Self-awareness has shown psychotherapeutic effects, in addition to allowing individuals to adjust better to the environment (Ashley and Reiter-Palmo 2012), as well as improving the relationship between leaders and members. On the other hand, Trapnell, and Campbell (1999), state that the results of increasing Self-awareness are influenced by each individual's motivational willingness to engage in this Self-awareness. Likewise, the authors also suggest that heightened Self-awareness is associated with a series of diseases, like depression and anxiety (Trapnell and Campbell, 1999).

Many studies extol the importance of the increase in Self-awareness in the results of relationship and leadership efficacy such as Fletcher and Bailey, (2003), Van Velsor et al. (1993), Ashford and Tsui (1991), and Butler et al., (2014). However, paradoxically, perhaps more Self-awareness generates more anxiety and distress, demonstrating that the positive results show only a portion of the results. This indicates that it may be necessary to observe how individuals of different personalities and mental models deal with Self-awareness and the power of self-deception (Caldwell, 2009) that causes individuals to avoid accepting their own biases. (Pronin, Lin, and Ross, 2002).

In a broader view, what is observed in the organizational world is that people with low Self-awareness are more resistant and tend to ignore feedback about them and to have negative attitudes concerning work (Tekleab et al., 2007). Leaders with low Self-awareness tend to victimise themselves and attribute problems and errors to external factors and others, generally to their team members. In general, this is already a repetition of the conditioning built from childhood, where one avoids living with errors, failures, and criticisms that come from parents and teachers, as well as from society.

Studies conducted by Duval and Silvia (2002) demonstrate that when an individual attributes the failure to himself/herself, his/her self-esteem reduces. Self-deception leads individuals to a distorted view of reality and to avoid the truth (Caldwell, 2009). When the fault is attributed to another, the self-esteem remains unchanged. This resistance of the self in assuming its responsibilities can change as the individual develops his/her Self-awareness, for he/she starts to perceive contradictions in his behaviours that he did not see before or what was projected in others (Duval and Silvia, 2002) and starts to attribute to himself/herself the causality of positive or negative results of attitudes and behaviours generated by himself (Duval and Wicklund, 1973). On the one hand, this fact is very positive since the leader starts to see another reality and has the choice of promoting changes. On the other hand, some individuals with new perceptions can develop defensive attitudes toward adverse events, as reported in other researches (Tekleab et al., 2007; Trapnell and Campbell, 1999), presumably because people want to avoid the amplified feeling of failure (Caldwell, 2009).

This may seem to contradict the idea, according to which people who reflect on their behaviours and perceived discrepancies are motivated to change them to avoid living with these contradictions (Gardner et al., 2005). However, are few studies on leadership analyse in depth the negative points about Self-awareness concerning objective resistance, self-deception (Caldwell, 2009), and self-illusion, in addition to the necessary effort in the process of human behavioural change.

2.2.5. Resistance to Change

Leaders are by obligation or Self-awareness invited to adjust their behaviours, especially at present, in which relationships are more valued, and social skills and relational intelligence are more in demand. Many leaders who increase Self-awareness resist change and act like that blind beggar who, cured by a physician, continues to beg like before, preferring the old habits to the effort of transition to a new threshold (Bridges, 2003), for which he/she is not prepared, or doesn't want to face, even if there is a discrepancy between the actual behaviour and the ideal behaviour. Some claim that in their entire lives they have acted the same way, have been successful, and have always been respected by working this way and that,

therefore, they “cannot” change. In fact, they may not be willing to take this step. Imagine a leader who works twelve hours a day, pressured to seek results, which is the primary goal “of org”nisations. In addition to the stress of the work itself, through pressure from the company or Self-awareness, he “wakes up” and starts to reflect on the impact of hi“ behav”ours on his/her members, which is not the daily focus of his Attention. Where will he find the energy to make the behavioural changes that he knows are important? Many only take this step when they are threatened with dismissal. Even if they agree, the process of change is slow, and this is a side that is little evaluated when it comes to expanding Self-awareness.

There is a saying that “ignorance is a blessing,” and, at least for some leaders, this is a point to be considered. Self-awareness brings, according to Gardner et al. (2005), a constant self-evaluation of the Self, and this process of self-reflection can become a process of rumination and suffering for some leaders, which can lead to an exaggerated process of self-criticism, increased anxiety, and distress (Takano and Tano, 2009; Fenigstein, Scheier and Buss, 1975; Trapnell and Campbell, 1999). Thus, there are two ambiguous feelings in the expansion of Self-awareness. On the one hand, there is a process by which individuals have a continuous pleasure in reflecting about themselves, expressed as follows: “I love trying to discover myself” (Trapnell and Campbell, 1999, p. 285). On the other hand, there is psychological anguish expressed, according to Trapnell and Campbell (1999), in the phrase “I am always ruminating or questioning myself” (p. 285). With this, “rumination” leads the individual to a loop of suffering and reflection, to a path in search of alternatives to find a way out. Trapnell and Campbell (1999) propose this difference between rumination and reflection, making an association between neuroticism (rumination) and openness to experience (reflection), as proposed by FFM (the five-factor model of personality). According to them, people with a high level of neuroticism are prone to anxiety, low self-esteem, pessimism, irritability, and depression (Watkins, 2015; Pyszczynski and Greenberg, 1987; Costa and McCrae, 1995; Goldberg, 1990). While people with a high level of Openness to Experience tend to seek alternatives and new experiences in the cognitive and affective sphere, interest in imaginative and reflective thinking (Trapnell and Campbell, 1999).

This means that Self-awareness may not be developed in the same way and that different types of personalities may have different reactions, indicating that this process must be carefully observed in organisations. While for some professionals, this may be just another process of transformation, for others, it may be the cause of suffering and may require supporting the transition.

2.2.6. Synthesis of the change process: Self-awareness of new behaviour

The figure below aims to show in a synthetic way what happens in the process of changes in an individual's behaviour.

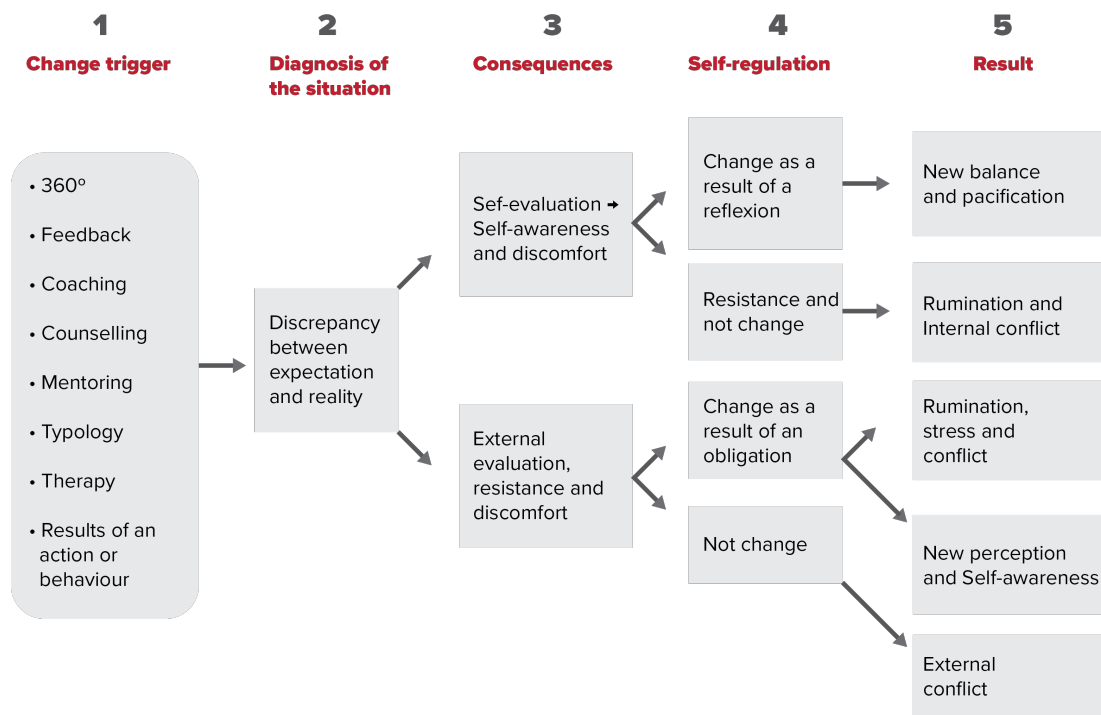


Figure 4 – Self-awareness process and change

1. Behavioural changes in individuals occur in several ways. Sometimes changes are generated when an individual realizes that an action of his/her has generated a negative result, for example. Instruments such as 360° feedback and the like also bring new perceptions, insights, and information, which can promote change.

2. There is an acknowledgment by the individual that there is a discrepancy between what he/she says and believes and what he/she does.

3. Through self-assessment and a reflexive process, the individual feels discomfort and expands his Self-awareness, and at that point in time, wants to get out of this situation. Another different possibility is when this individual is forced from 360° feedback to recognise that he/she is wrong and that he/she has to change, in which case there is resistance.

4. Either by Self-awareness or by obligation some individuals change through a reflexive process. However, many do not, and at most put on another social mask.

5. Individuals who are interested in changing and receive positive feedback enter a new balance and are satisfied, while those who resist and do not change live in conflict with the organisation or can remain in a rumination process, until they reach depression (Watkins, 2015).

2.2.7. Self-regulation – the transition process

Self-awareness is awakened when individuals realize that their real self is different from the idealized self, or that feedback about a specific behaviour is different from what they expected or believed. These situations cause a discrepancy between what is real and what is expected by an individual.

The gap between the state in which he was in apparent equilibrium and the discomfort generated by the perception of discrepancy between the actual and the desired behaviour activates in the individual a process called self-regulation (Yeow and Martin, 2013). This process encourages individuals to make efforts to reduce this discrepancy (Carver and Scheier, 2000) until they reach a new equilibrium that allows them to act consistently in relation to their goals and the way they think, feel. Hoyle et al. (2019) state that self-regulation is something inherent to the human being, starting in the first years of life and that the effort made to inhibit dissonant behaviours causes individuals, whether children or adults, to need to manage the fear and anxiety (Guoa et al, 2018) that this unexpected change causes. Gardner et al. (2005) also emphasize that self-regulation involves a self-control effort through the establishment of internal rules, evaluation of discrepancies in relation to new potential results, and the identification of actions intended to solve these dissonances. Self-regulation, when successful, allows individuals to manage the perceptions they

have of themselves and of the social environment, which may be essential for adaptive functioning in the work environment (Hoyle et al., 2019).

According to Yeow and Martin (2013), other theories, such as Goal Setting (Latham and Locke, 1991), Social-Cognitive Theory (Bandura, 2002) and Control Theory (Carver and Scheier, 1998), also present a converging view of the self-regulation process and how it starts. These same theories state that individuals, with self-regulation, look for congruence between their perception and that of other individuals, concerning their behaviours and competencies. In this wise, Lord et al. (2010) consider that research on self-regulation in the workplace emphasize the use of controlled and automated processes around task goals or achievements. Moreover, Bjork et al. (2013) also suggest that the self-regulation process can improve meta-competencies as well as the mental models of leaders. This is a very relevant point because, through these affirmations and the various studies on the subject, one can divide the self-regulation process into two aspects in the work environment.

The first aspect deals with the discrepancies between expectations and the assessment of professional skills and behaviours associated with tasks, methods, and processes. In this case, the individual decides for the change due to the recognition of the discrepancy or pressure from the company. This change is the individual's way of avoiding the risk of being rejected and of compromising his work. To Atwater et al. (1998), research has shown the importance of self-regulation for managerial effectiveness and for the development of leaders (Avolio and Gardner, 2005; Gardner et. al, 2005). According to these authors, the self-regulation process has given the leader the ability to develop important skills to perform tasks and see to the teams. The abovementioned theories, such as Goal Setting (Latham and Locke, 1991) and others, suggest that self-regulation is a competence that can be gained through training and that self-regulating individual tend to obtain the desired results (Latham and Locke, 1991).

The second form of self-regulation refers to behaviours associated with the relational aspect. As in the previous model, self-regulation can be brought about by the same tools and professional motivations. However, change can also be the result of a process of reflection that leads to an increase in the individual's Self-awareness.

Although the two forms of self-regulation may be relevant, and Self-awareness can be seen as competence or even a kind of intelligence (intrapersonal), it should be reaffirmed that Self-awareness is a process of self-evaluation, change in perception, and a reduction of blind spots and involves cognitive, affective, and behavioural aspects. The change in behaviour is not made due to obligation only, but also due to an internal choice and conscious attitude. In this wise, the self-regulation that concerns Self-awareness refers to behaviours related to an internal reflective process of change in the individual's perception of himself and his interaction with people and society. It requires a change in the mental model and not just competences that can be converted into rules and procedures, to which the leader can also adapt without a necessary change in Self-awareness. Without Self-awareness, the change is more difficult, and there is higher resistance because it is being imposed by external factors. With Self-awareness, change comes from within.

A relevant point to be highlighted in self-regulation is how much an individual is willing to make this effort. Silvia and Duval (2001), in a proposal to update the theory of objective Self-awareness from Duval and Wicklund (1972), based on various works and research by other scholars on the subject, highlight two factors that influence an individual's attitude when faced with a discrepancy. They claim that the action of an individual can be generated, it can be a behaviour or attitude (standard), or it can be related to the self itself. If the discrepancy is large, but there is positive progress, the individual will proceed with the change effort; otherwise, if it is negative, he will avoid change. Finally, if the discrepancy is large and the effort unproductive, he will avoid Self-awareness. Figure 5 below represents this idea.

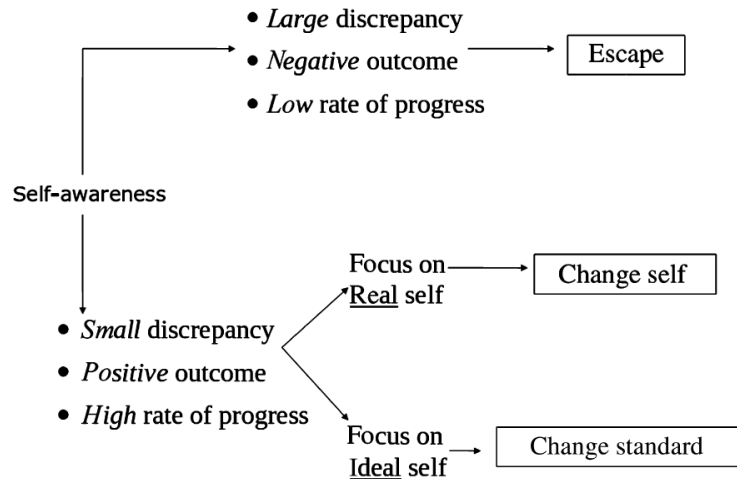


Figure 5 – The self-evaluation process (Morin, 2011)

This view reaffirms the complexity of the transformation process of individuals and that being aware of something does not necessarily mean changes. As already described in this chapter, an individual can give up on promoting change, despite the discomfort. On the other hand, this can generate emotional and cognitive disturbances.

2.2.8. Ways to expanding Self-awareness

There are several proposals on how Self-awareness can be awakened in individuals, in addition to the natural mechanisms associated with human development and awakened in childhood (Trapnell and Campbell, 1999). A simple conversation with friends can trigger cognitive, affective, and also behavioural processes that generate the expansion of Self-awareness, just as reading a book that brings reflections and identification with an individual can also promote important changes in way of being. Gardner et al. (2005, p. 348) says “one or more positive role models (e.g., a parent, teacher, sibling, coach or mentor) who demonstrated high levels of integrity, transparency, and trustworthiness are likely to have served as pivotal forces in the leader’s personal growth and resulting Self-awareness.”

In addition to these natural forms, some tools and methods can be used to develop Self-awareness. According to several scholars on the issue, there are four known ways of raising Self-awareness.

- **Life History:** The first one is the experience brought by the life story. Burkhard (2006), Gardner et al. (2005), George (2003) and Lievegoed (2006) say that the history of life, family influences, education, culture, and work experience can promote may be dramatic or subtle changes in the lives of individuals and induce their personal development and abilities required to operate in the world. It is important to emphasise that crises and adverse events, such as financial problems, loss of a relative, or health problems, can serve as a trigger for Self-awareness. Positive events, such as a new company, living in a country of a different culture, or a birth, can also be factors that trigger this awakening.

Also, listening to and studying the biography of individuals in counselling and coaching sessions enables deep reflections on mental models, cognitive functioning strategies, behavioural patterns, and beliefs, which lead to the development of Self-awareness and, consequently, a better way of relating and dealing with life issues. On this topic, Bill George, author of the book *Authentic Leadership* (2003) and a Harvard professor, suggests (Goleman, 2014) that the exercise of listening to our own story told by another is extraordinary and a way to awaken Self-awareness about who is the individual and his/her behaviours.

- **Multi-source feedback:** This is an instrument widely used in companies for leadership development (Liden et al., 2006; Smither et al., 2003) through assessments by members, bosses, and peers, to support the improvement in behaviour and interpersonal relationships in the workplace. Another underlying objective is that this instrument makes it possible to increase Self-awareness (Atwater and Waldman, 1998), because the evaluated individual may see himself/herself through the eyes of others (Goleman, 2014), which is corroborated by McCarthy and Garavan (1999) and Fletcher and Baldry (2000). In this sense, Velsor, Taylor, and Leslie (1993) affirm that 360-degree feedback may be the ideal instrument to find the congruence between the leader's perception and members', bosses', or peers' behavioural evaluations. Tekleab et al., (2007) and other researchers suggest multi-source feedback tools help to improve Self-awareness and consequently increase efficacy in the relationship.

Just as countless authors endorse the importance of multisource feedback as a tool to support the development of leaders and the expansion of Self-awareness, others question the use of this tool and the positive results presented (Ghorpade, 2000). In a meta-analysis review conducted by Kluger and DeNisi (1996, p. 254) with 607 studies about feedback intervention, the performance of thirty percent of participants decreased. This does not indicate that the tool does not work but invites one to suggest a careful analysis of its use. One of the questions that can be investigated is about the exemption of the participants who filled out the questionnaire. Members of a team with different personalities, interests, and expectations will most likely have different points of view on the same leader. Also, motivational issues, sympathy, and antipathy for the assessed and even a personal crisis, and fear can distort the outcome (Caldwell, 2009; Snook, 2008; Dorado and Solarte, 2016).

This means that multisource cannot be evaluated as absolute truth. From this perspective, the way that the result is delivered is fundamental. A study conducted by Smither et al. (2003), shows that leaders who received multisource feedback and worked with an executive coach obtained better results in performance indicators than professionals who only received multisource feedback, confirming the relevance of the manner of delivery for successful use of this tool.

- **Coaching:** This instrument, in general, is one of the best ways to develop Self-awareness because the role of the Coach, among other possibilities, is to help the Coachee expand their mental model, observe situations under different contexts, and work on re-significances. In basic terms, executive coaching aims to prepare leaders for new challenges, improve skills, learn new competencies, and enhance career performance (Yeow and Martin, 2013, p. 626). Coaching is a process that can be subdivided into several steps, such as analysing the context, evaluating the leader's needs, their strengths, and weaknesses, and constructing a plan for the development and implementation of changes (Saporito, 1996). This reflexive process has been recognized as a way to improve the performance of leaders (Saporito, 1996), and this process naturally leads to an increase in Self-awareness.

- Typologies and traits of personality:

The inscription “Know Thyself” on Apollo’s shrine at Delphi may be symbolically one of the drivers of the development of Self-awareness and the search for understanding the reason for human differences and similarities (Lessa, 2003). Since the theory of the temperaments developed by Hippocrates, in 400 BC, in which the human being is classified into phlegmatic, sanguine, choleric, and melancholic types, temperaments have become the basis of studies for other researchers such as Allport, Pavlov, and Wundt (Zacharias, 1995) and Rudolf Steiner (1994).

Personality theories are intended to identify the individual characteristics by which people differ from each other, developing different personality taxonomies (Wilt and Revelle, 2002; Reber, 1985). In summary, these theories are focused on understanding the variation in how people think, feel and act (Goldberg, 1990). Among the researchers who have studied these theories, Allport and Odberg stand out (Goldberg, 1990). They studied a complete dictionary to choose the relevant terms that may help distinguish the behaviour and attitudes of individuals. Another important researcher, Raymond Catell (1946), collected 18,000 words to define personality traits, identifying 16 pairs of polar traits that he called originals. Based on studies and factorial analyses, these researchers developed their own ideas and taxonomies. According to some authors, personality traits were considered stable throughout life and seemed to be influenced by genetic inheritance (Davidoff, 2001). In addition to these scholars, Carl Gustav Jung (1991) deserves a particular highlight in personality theories, since some of the most used instruments in the world, such as MBTI and DISC, among several others, are based on his typology developed 100 years ago. Different from the research conducted by Allport and Catell, Jung’s work was carried out by observing his patients for more than ten years (Jung, 1991).

Among the most used theories nowadays are MBTI (Myers and Myers, 1985), DISC (Erickson, 2020), and CliftonStrengths (Rath, 2019) by Gallup Institute, already used by more than 30 million people, and the Big Five, which is the most widely used instrument in academic research.

Some of these instruments mentioned above were intended to understand human differences, but after 1945, they started to be used in the hiring of professionals in the corporate world.

Recently, some of these personality instruments have been adapted and used in team building and coaching sessions as a way of developing the quality of relationships of leaders and teams. The process of using personality theories has the following flow:

Personality Theories Example of Types and Traits Assessments	Assessment Feedback Method	Learning	Process transformation	Expected / Desired Result
MBTI DISC CliftonStrengths Big Five	- Based on Reports - Workshops - Coaching sessions	- Increased Self-awareness about strengths, innate talents, limitations - Awareness of other human types	- Recognition - Reflection - Self-regulation	Improved relationships between leaders and members

As described above, many activities using MBTI and DISC are presented in workshops, in which the theory and reports are shown. Some consultants also use reflection exercises with leaders and/or their teams. In other cases, it has been observed that coaching professionals also deliver the results of these assessments to their clients. Based on these procedures, leaders are expected to improve their relationships with their teams.

In terms of the effectiveness of applying personality theories, there are dozens of empirical research studies that state that typologies such as MBTI (Peterson and Hicks, 1995; Myers and Myers, 1995; McCarthy e Garavan, 1999) and traits such as Big Five (Goldberg, 1990; Sears and Hackett, 2011; Roush and Atwater 1992; Judge and Bono, 2000) expand Self-awareness and influence the relationships between leaders and team members. With knowledge of their type (personality), individuals are encouraged to consider when to use their innate preferences and when to use new, more effective behavioural repertoires (Brown and Reilly, 2008, p. 927).

When we look at the personality theories mentioned above (MBTI, DISC, Big Five or Jung), they all present, in common, extroversion and introversion as a trait or function of the personality.

In the personality theory, Jung (1991) describes that introverts tend to turn towards themselves most of the time and have their own characteristics that remain throughout life. On the other hand, extroverts are more stimulated by external objects. Duval and Wicklund (1973) present similar polarity in their Self-awareness theory. For Duval and Wicklund (1973), in the locus of causality, when a stimulus reminds the individual of his status, he turns to himself, to his own Self. Another situation that can stimulate attention to the individual is their image in the mirror, with the sound of their own voice on a tape recorder. On the other hand, when a person's attention is called, their focus is on that object and not on the Self. This attention to themselves or to an external object is essential for the determination of causality. This means that if a person places their attention on another person, or an object outside themselves, they attribute causality to the object outside themselves and vice versa. In the theoretical context that involves the main pillars of this project, that is, Self-awareness (Duval and Wicklund, 1972, 1973), and the human types (Jung, 1991), it is possible to establish a connection between the movement of individuals proposed both in the theory of personality and in the theory of Self-awareness itself. It is very likely that individuals who are more self-centred (introverts), or who focus causality on the Self and not on external factors, have different behaviours in accepting what they see in the mirror (Self-awareness) and their self-regulation process.

These elements (extroversion and introversion) have been empirically studied, associated with leadership theories, LMX, transformational and authentic, to investigate which traits would be more effective in the relationships between leaders and members (Appendix 1).

Regarding the theories presented, the Hallos & Triads method, at its core, is a typology developed with the goal of improving relationships between leaders and team members, as well as between individuals within organizations. Although it has a different taxonomy than the Big Five and MBTI, it has a theoretical model that is very similar to these theories of personality types and traits. The Hallos & Triads method was developed by observing individuals in the workplace, hundreds of coaching sessions, and dozens of leadership and team-building workshops. The similarities and differences between Hallos & Triads and other personality theories are described in detail in Appendix 1 (p. 280). For a comparative analysis in this

project, MBTI (type) and Big Five (traits) were used, because they are the personality instruments in academic research.

To provide an overview of the instruments used for the expansion of Self-awareness, a summary table of the main instruments, their description, procedures, and references are presented below.

Table 1. Instruments to develop Self-awareness

Instruments	What it is	Procedures	References
Life History	Reflecting on life experiences, such as crises, learning, changes, successes, and failures, is a way of awakening Self-awareness about who the individual is and the impact of their behaviour. Listening to another person's story.	Workshop, Team building, Mentoring and Coaching sessions.	Burkhard, 2006); Gardner et al., (2005); George, (2003); and Lievegoed, (2006)
Multi-source / feedback / 360-degree	In the view of several researchers 360-degree feedback may be the ideal instrument to promote Self-awareness, because the individual is seen through the eyes of other people. Note: Increased Self-awareness according to some authors increases the effectiveness of the relationship.	Assessment, Coaching, Feedback session, Team coaching, leadership programme.	Atwater and Waldman, 1998); (Goleman, 2014), (1999) and Fletcher and Baldry (2000). Velsor, Taylor, and Leslie (1993), Tekleab et al., (2007), Liden et al., (2006); Smither et al., 2003)
Coaching	It is a reflective process through which the Coach helps the Coachee to develop or improve new skills, learn, and improve career performance, among other possibilities. Self-awareness is the key element of Coaching to help Coachee see themselves more broadly and opens opportunities for new actions and behaviours.	Coaching session, Mentoring, Team coaching.	Bower, (2015); Merlevede and Bridoux, (2013). Whitmore, (2009); Saporito, (1996), Yeow e Martin, (2013 p. 626), Merlevede and Bridoux, (2013)
Personality Theories (types or traits) Big Five, MBTI, Temperaments	Personality theories seek to understand why human differences and similarities exist in thinking, feeling, and interacting. In general, they are presented to increase Self-awareness. MBTI, for example, "is a tool that provides information and insights necessary to deepen Self-awareness" (Bower, 2015 p. 10). Note: Increased Self-awareness according to some authors improves interpersonal relationships.	Assessment, Feedback session, Coaching, hiring professionals.	Bower, (2015 p. 10); Lessa (2003); Rudolf Steiner (1994); Myers and Myers (1985); Furnham (1996); Brown and Reilly (2008)
Hallos & Triads typology Note: more details in Appendix 1 p. 280	Hallos is an instrument similar in its theoretical model of Big Five and MBTI that proposes understanding the differences and similarities in the way individuals think, feel and act. On the other hand, the Hallos & Triads method was developed specifically to improve interpersonal relationships between leaders and	Assessment Hallos & Triads, 360 Hallos & Triads, Workshop, Feedback session, Team	Testimonies, Doctoral research.

	members by expanding Self-awareness about the similarities and differences in the five archetypal human types. A differential is that it works and suggests an active work in how leaders can relate to different types, offering real cases and exercises for assimilation.	building, Coaching & Mentoring, leadership programmes.	
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2.2.9. Theories used in the study

- Leader and team member construct in the Hallos method perspective

The leadership theme has been addressed in hundreds of articles and books for decades. It has also been addressed by several leadership theories, some of have brought remarkable results that confirm their taxonomies, including Transformational Leadership and Leader-member Exchange. Likewise, there are also dozens of definitions of what leadership is, which meet different perspectives, views, and theories. Yukl (2013) suggests that although there are many definitions, most involve an intentional influence of a leader to guide, structure activities, and facilitate relationships for a team or a company (Yukl, 2012). For this study, the term leader is defined as someone who influences other individuals, usually members of his/her groups, to achieve common goals. In this synthetic concept, it cannot be ignored that many leaders today have the role of influencer, without having professionals linked to them (Bass, 1985).

For this study, the term leader is defined as someone who influences other individuals, usually members of his/her groups, to achieve common goals. In this synthetic concept, it cannot be ignored that many leaders today have the role of influencer without having professionals hierarchically linked to them (Bass, 1985).

In a somewhat broader sense, although everyone can be a leader potentially and achieve extraordinary results, the Hallos method was conceived associated with principles according to which a leader is someone who has an interest in self-development, in expanding Self-awareness, and in valuing the relationship with other people. This indicates that although the Hallos method can influence all types of

leaders, as the practice has shown, these are apparently the types of people most impacted by the method.

New times suggest new words. In this project, the name “follower” will be called as a “team member,” “co-worker,” or only “member” except to Transformational Leadership description. Even though it is widely used, the name “follower” describes a relationship between member-leader that would be more appropriate to the past, or theories like Transformational Leadership where charismatic leaders are followed by individuals inspired by them. This does not serve to many professionals who respect their leaders but that want to have a relationship of partnership, complicity, and freedom, which occurs in current days. In a more horizontal view of leadership nowadays, this term can bring an additional distortion, as it places the leader in a superiority position concerning the co-worker. Even by respecting this view in other leadership theories, this usage also seems to represent an old model of paternalist and authoritarian management, that still exists in many companies, but that might no longer meet the needs of the present and future organizational world. In this old model, the leader, in general, is more than followed; he/she is obeyed by passiveness, adaptability, intelligence, or fear of the member (Caldwell, 2009; Snook, 2008; Lara, 2006).

The name “subordinate” also places the leader above the team member. Although this relationship probably continues to exist, for cultural reasons, due to the personality characteristics of many leaders (Snook, 2008; Caldwell, 2009) and by the acceptance of co-workers (Bohm, 1996), the proposal of some theories such as servant leadership (Greenleaf, 1997), and Authentic Leadership, in their essence, seem different from this model. It is worth repeating that every model and taxonomy proposed has its place and partially with what happens in the organizational world. On the other hand, relevant changes are happening in society and the corporate world that foster new practices (Hess, 2014; Ismail et al., 2018; Laloux, 2016). For the Hallos method, leader and member are two individuals with different roles, and one of them has more formal power (Snook, 2008, Caldwell, 2009) that can be used either in a coercive form or not.

Within the Hallos method view, the Relational Leader, a term used by the method, is a relation mediator, a facilitator, and a context developer. In this proposal, according to each co-worker's personality, his/her needs, skills, and innate talents, the leader and this professional can develop the ideal space in which then the individual can maximize his/her potentials to the benefit of the team, the company and himself/herself. In this case, the leader can also assure that this space of freedom and autonomy is built, as much as possible, in relative harmony with spaces of other participants of the same team.

- Project leadership theories

The main objective of this study is to verify if the Hallos method promotes improvement in the relationship between leaders and team members. For this purpose, several scales that could meet these objectives were studied. Although there are many theories of leadership (Winkler, 2010), there are some current ones on which are based a large number of recent studies. They are the Authentic Leadership (Gardner et al., 2005; George, 2009), Transformational Leadership (Bass, 1985; Bass and Avolio, 1990) and leader-member exchange (Graen and Uhl-Bien, 1995). Although these theories have their taxonomies and objectives, they have the same interest in relations between leaders and members. Moreover, amongst these variables of leadership, the Emotional Intelligence variable was also chosen for being a mediator between the cognitive system and the interaction between member-leader.

When looking at the scales chosen, perhaps one can make an abstraction and associate each one of them with human systems. Transformational Leadership uses the leader as a protagonist in relation of the team member. The leader-member exchange, on the other hand, uses the three dimensions of leadership, with a relationship focus. Thus, Transformational Leadership could be associated with the cognitive dimension, LMX, the dimension of human interaction (behavioural system), and Emotional Intelligence is related to the affective dimension. Authentic Leadership also enters this study from its intrinsic relationship with Self-awareness, which is the main interest of this study in conjunction with the leader-member relationship.

- Authentic Leadership (Self-awareness):

The concept of Authentic Leadership emerged as a response to corporate and ethical scandals caused by companies like Enron (Özbağ, 2016; George, 2009). Although like any theory, there are variations in the definition, there is a consensus (George, 2009; Gardner et al., 2005; Walumba et al., 2008) that in addition to the issues of ethics, character, and morals on which it is based, Self-awareness and self-regulation are the main components of Authentic Leadership and Self-awareness its more in-depth focus (Avolio and Gardner, 2005). Talking about Authentic Leadership is almost synonymous with Self-awareness. Avolio and Gardner (2005) suggest even more comprehensively that “Self-awareness underlies all positive forms of leadership” (p. 329).

Based on this foundation, authentic leaders live in an internal process of constant reflection so that their behaviour is consistent with their values (George, 2009) and can become better individuals. They recognise their limitations and vulnerabilities do not hide them and try to overcome them (Gardner et al., 2005; George, 2009). They ask themselves regularly about who they are genuinely in the process of self-development (Hoyle et al., 2019). The authentic leader is also transparent, sharing his /her thoughts with communicating. He/she accepts feedback and makes decisions consistent with his values (George, 2009; Gardner et al., 2005). In this way, it builds a lasting relationship of trust with its teams (Gardner et al., 2005). This authenticity construction presents ethical and moral standards (George, 2009; Gardner et al., 2005).

Thus, analysing Authentic Leadership, it is almost automatically to talk about Self-awareness and its consequence, a theme that was this section’s bases, and that has already been deeply analysed. Since Self-awareness is one of the keys to this project and the major scale used, the effects of the relationship between the Hallos method and Self-awareness can perhaps be correlated to Authentic Leadership. Beyond this relation, Gardner et al. (2005, p. 350) state that Authentic Leadership is the root of transformational Leadership. Despite this, both theories have significant differences, such as the fact that an authentic leader is not necessarily charismatic, an essential characteristic of the transformational leader (Avolio and Gardner, 2005).

However, some authors like Bass and Steidlmeier (1999) indicate a correlation between the two theories and that Authentic Leadership is related to Transformational Leadership. This study allows one to investigate as a hypothesis whether there is a correlation between both theories.

- Leader-Member-Exchange (LMX)

LMX is one of the most important leadership theories of current times, perhaps because it is the only one that studies this phenomenon from three distinct dimensions: the leader, the member, and the relationship, proposing that aside from their specific aspects, these domains must be considered in a combined way (Graen & Uhl-Bien, 1995, p. 222).

The taxonomy of LMX brings a new perspective to leadership theories that generally present only a directional bias from the leader to a follower. The systemic vision brought by LMX covers all aspects of the relationship between leaders and members and expands the possibility of studies and a deeper understanding of the theme.

When observing the three domains, different levels of analysis can be made. For instance, if the domain to be examined is that of the leader, it can investigate the impact of his/her actions on the dyadic relationship with different types of individuals on the team as a whole and even verify the reflect of his / her way of acting in transversal relationships with other areas. In this case, the leader is the starting point for observing the other two domains, which work interdependently and comprehensively. What is the influence that a CEO has on the way a company works, for example? It works for the three domains.

Graen and Uhl-Bien (1995, p. 223) suggest that for each domain, there are specific issues to be looked at, described below.

Leader

“What is the adequate mix of personal characteristics and behaviours of the leader to promote the desired results?” These could be, for example, leader perception, variables of personality, certain attitudes and of power and influence.”

Relationship

“What is the adequate mix of relationship characteristics to promote the necessary results?” Example: trust, respect, empathy, qualities that would exert influence in the dyadic relationships between leaders and followers”.

Member

“What is the adequate mix of characteristics and behaviours of the followers necessary to promote the necessary results?” (p. 223). This approach can also verify the perceptions, personality types, and even the level of leadership from members and the influence in his/her group and the boss.”

When observing the existence of these three domains, members also start to objectively have his/her role recognised not only as a follower. In this way, LMX proposes that leadership operates at the supervisor’s level and on the level of members and the relationship between them (Graen & Uhl-Bien, 1995). Thus, the leader’s development influences the members’ behaviour (Lee et al., 2015), and the members’ behaviour influences the leader’s attitudes. By this theory, leaders deal with their members differently (Dansereau, Graen, and Haga, 1975; Liden, Sparrowe, and Wayne, 1997; Ma and Qu, 2010). As the members meet his leader’s expectations, either in the way of thinking, affective connection, or the actions, there is a closer relationship, more considerable attention, sympathy, benefits, and development (Graen and Uhl-Bien, 1995) and pass to belong to a circle of interest of the leader (in-group). In a “virtuous” circle, the members return to their supervisors an even greater endeavour, as well as commitment and, over time, this promotes mutual respect, loyalty, and trust (Uhl-Bien, Graen, Scandura, 2000; Bernerth et al., 2008; Han et al. 2018) that sustains and further increases the quality of the leader-member relationship (Liden, Sparrowe, and Wayne, 1997).

Within this context, for LMX, effective leadership processes occur when leaders and members develop and maintain high-quality social exchange relationships (Graen and Uhl-Bien, 1995; Deluga and Perry, 1991), which is

characterised by trust, respect, and mutual obligations, essential elements that motivate both the leader and the member to expand their social contract beyond the formal role.

However, relationships do not always have this quality or are productive. The relation dyadic between the leader and each of the members generates a group closer to the leader (in-group) and another more distant or excluded (out-group), for several reasons such as trust, results, interest, and affinity between others (Scandura, 1999).

A relevant assumption for LMX is that the relations' results are positive when there is high quality in LMX (Anand et al., 2011; Martin et al., 2010). Besides, the quality of social exchanges between leaders and members directly affects performance and determines the results achieved (Martin et al., 2015). A meta-analytic review, Martin et al. (2015), confirms that "there is a positive relationship between LMX and task performance" (Martin et al., 2015, p. 5), just as "there is a negative relationship between LMX and counterproductive performance" (p. 6).

The relationship between the leader and the team members about performance is influenced by how they are treated, and they perceived as others are treated too (Liden et al., 2006). "If employees perceive differences exist in the quality of relationships between the leader and members that they may respond by withholding effort and performance (Liden et al., 2006, p.725).

Therefore, according to the way leaders treat professionals, they are likely to make different descriptions of the same leader. Professionals who are in the so-called "in-group," where there is a high level of trust, respect, and mutual obligations (Graen and Uhl-Bien, 1995) will characterise the leader differently from the group that has low confidence, that fulfils its role by obligation and that belongs to the "out-group." This situation may change when a leader is willing to propose a change in how they relate. About this, some studies have shown that when a leader is willing to offer changes in the relations to a member, that is, perhaps to take him off the "out-group" and propose that he be "in-group", the performance of member improves dramatically (Graen and Uhl-Bien, 1995, p. 228). This attitude of the leader makes his leadership more effective and fairer. For this, it would be useful for

the leader to develop Self-awareness, as a capacity that allows him to recognise his vulnerabilities (Avolio, 1999) and to know more about the other individual to be the protagonist of a high-quality LMX, in situations which it depends only on him/her.

Studies confirm that the differentiation of LMX is positively related to individual performance only for members of groups with low-quality LMX. On high LMX members, the degree of LMX differentiation appeared to have little effect. About groups, when they have interdependent tasks, there is a positive association between LMX differentiation and group performance and not significant for groups with low interdependence. The question of performance evaluation may not be so objective and impartial if it considers factors such as a supervisor's relationship with a member of high LMX, whom he/she likes. In that case, the evaluation of that member may be better than that of a lower LMX member, regardless of the high LMX member (Martin, Thomas & Epitropaki, 2010).

Since its conception 50 years ago, the fact is that LMX (Graen and Uhl-Bien, 1995) has been developing and affirming the importance of understanding the leadership processes in teams and both their internal dyadic relations and in their group itself. (Graen and Uhl-Bien, 1995, p. 236). Graen and Scandura (1987) also suggest that "the LMX independent dyads should be reviewed as independent dyadic relationship systems or a set of networks" and thus be expanded beyond the functional frontiers, professional fields, or even organisations because relationships are not limited to the leader and member, but also among co-workers and teammates (Graen and Uhl-Bien, 1995, p. 231). This perspective can be widely explored via LMX, part of which is the study's object of the Hallos method.

A relevant point to consider in dyadic relations between leaders and members is the question of personality. Some researchers like Lievens et al. (2006) state that personality determines individual behaviour. Thus, leaders' personality traits and those of their members are relevant factors influencing dyadic relations and the development of LMX (Sears and Hackett, 2011; Weng and Chang 2015). In studies carried out between personality and LMX, some personality traits were considered powerful predictors of LMX (Weng and Chang, 2015). The research's results show that agreeableness and conscientiousness are positively related to LMX, while

extraversion is not. According to Weng and Chang (2015), professionals with agreeableness and conscientiousness by their nature naturally show appropriate behaviour to build a positive relationship with their leaders.

On the other hand, the member with extraversion trait, which did not obtain a positive result, according to the authors, may be considered aggressive and arrogant by his manager. On the other hand, Sears, and Hackett (2011) present other studies, in which both extraversion and other personality traits were also shown to be significant predictors of LMX. It can be said that different personality traits affect the quality of LMX. It is likely that when there are similar personality traits between a leader and the member, there is a greater probability of the dyadic relationships reaching a high level of LMX, and probably different traits may present possible rejections and conflicts. This can justify why when the leader invests energy to achieve a quality relationship with the member in some situations, and the efforts are not always reciprocal (Uhl-Bien, Graen, Scandura, 2000; Bernerth et al., 2008; Han et al. 2018). The theme LMX and personality is addressed in Appendix (1), due to its importance for the Hallos method.

A relevant point with this study's interest is whether Self-awareness increases the relationship between leaders and members. Although Scandura and Lankau (1966) claims that Self-awareness increases LMX levels, no other research has been found on the topic. Despite there is less empirical work between Self-awareness and LMX, it is possible to assume that if there is a correlation between Transformational Leadership and LMX as some studies indicate (Basu and Green, 1996; Lee, 2008), it is possible to assume that the increase of Self-awareness also impacts dyadic relationships between leaders and members as with transformational and the Authentic Leadership.

The connection between LMX and Transformational Leadership is confirmed by Graen and Uhl-Bien (1995). They stated that LMX is transactional and transformational. It starts with a transactional social exchange and evolves into a transformational social exchange Graen & Uhl-Bien (1995). However, LMX is less interested in material exchanges such as transactional leadership but social exchanges such as approval, esteem, or consideration.

Although different and complementary, there are probably common points between the taxonomies of LMX and Transformational Leadership, such as trust, respect, and personality traits, such as agreeableness. These qualities can be present in LMX, Transformational Leadership, and also in Authentic Leadership.

- Transformational Leadership:

James McGregor Burns, biographer of Franklin D. Roosevelt and John F. Kennedy (Bass, 1985a), and Pulitzer Prize winner (Kouzes and Posner, 2007) was the first one to introduce the Transformational Leadership concept (Bass, 1985a; Avolio, Bass, and Jung, 1999; Bacha and Walker, 2013). Burns defines Transformational Leadership as a process where “leaders and their followers” support one another to develop the highest morality and motivation levels (Burns, 1978, p. 20). Bass (1985) notes that transformational leaders can inspire followers to change expectations, perceptions, and motivations to work cooperatively to achieve common goals. For Kouzes and Posner (2007), leadership becomes moral as it improves the level of human behaviour and ethical aspiration of the leader and the led, thus fostering a transforming effect in both. Even though Burns was the precursor of such theory, the Transformational Leadership was developed and disseminated by the researcher Bernard M. Bass (Bacha and Walker, 2013; Kouzes and Posner, 2007), that expanded Burns’ ideas and introduced relevant contributions through his studies, as well as other investigators’.

Bass and Yammarino (1991) state that transformational leaders share their vision inspire members to aim at their interests, motivate members to develop themselves, search for the best results (Carless, Wearing and Mann, 2000), and work for the well-being of the group (Bass and Avolio, 1990). Therefore, the Transformational Leadership focus is searching for leader efficacy to relate and be accepted by the members (Zhu and Akhtar, 2014). Thus, (Judge and Bono, (2000) and Lowe, Kroeck and Sivasubramaniam (1996), confirm through their studies that the relationship between Transformational Leadership and leader efficacy exists.

It is worth highlighting that, although this study interest is Transformational Leadership, Burns (1978) and Bass (1985) distinguished two leadership types.

Transactional leadership and Transformational Leadership. Transactional leadership is the one in which leaders and follower base their relations in exchanges. The leader encourages the subordinates, providing acknowledgement and positive feedback for a job well done (Bass, 1985) and offers a reward in exchange for the subordinates' effort and results (Burns, 1978). In transactional leadership, there is the exchange relation, and the Transformational Leadership intends to influence followers to aspire and keep more high levels of productivity of what they would reach if they operated through the transactional process (Bass, 2009). While a transactional leader manages staff, assets, and process (Goffee, 2006), transformational leaders influence their followers without using power. They use moral leadership. According to Bass (1990), today's leader does not depend anymore on legitimate or coercive power to persuade people to do what leaders want. Burns (1978) adds that such influence through inspiration makes members identify themselves with the leader's view and reach higher result levels.

Burns introduced transactional and Transformational Leadership as a continuum where each leadership type is in one end (Avolio, Bass, and Jung, 1999). Although its reach is higher in terms of productivity, Transformational Leadership is not a panacea. That means that in certain situations and contexts, transactional leadership can be more appropriate than Transformational Leadership (Bass, 1990). Judge and Bono (2000) verified that the leaders who had both leadership types had better performance than merely transformational ones. That indicates (Bass, 1985A) that influential leaders probably have transactional and transformational talents.

As a focus of this project, Transformational Leadership, Bass (1990a) defined four relevant dimensions for a transformational leader. The first was charisma and the second inspiration. However, after some studies, inspiration was included as part of charisma. The third was intellectual stimulation, and the last individualised consideration (Avolio, Waldman, and Yammarino, 1991). Some authors add another dimension: the idealised influence (Bacha and Walker, 2013), also described as leader coherence and integrity (Carless, Wearing, and Mann, 2000).

Bass (1985a) notes that charisma is essential to the Transformational Leadership process. Charismatic, transformational leaders transmit and emphasise an

inspiring view and a mission sense to followers (Bass, 1990a; Bacha and Walker, 2013). Charismatic leaders have great power and influence and motivate followers to look beyond themselves, expand their objectives and perform beyond the expectations desired in their formal roles (Qu, Janssen and Shi, 2015; Bass, 1990A p. 22). Charismatic ones have high expectations (Podsakoff et al., 1990), communicate their purpose with simplicity, foster pride, respect, and trust in the team. On a practical level, a view provides a common purpose that fosters employees to place collective needs before their own (Podsakoff et al., 1990), experience values and behaviours congruent with their leaders and the organisation (Bass, 1985). Bass (1985) and Burns (1978) emphasise mission relevance (Podsakoff et al., 1990). In a study performed with managers, they agreed that the capacity to create and share a vision is a leader's essential quality (Carless, Wearing, and Mann, 2000).

In particular relations, transformational leaders are attentive to each individual, guide, advise, and pay attention to differences and need among their led. The relation between leaders and followers is high when members are treated individually (Brown, Bryant, and Reilly, 2006). Bass (1990A, p. 23) notes that transformational leaders have the skill to relate to each type differently. Transformational ones can also act as mentors for those that need help to grow and develop. Not only the transformational leader leads followers to have a good performance but teaches them to manage themselves and also enables them to teach others to have a good performance (Zhu et al. 2011). The fact that he/she complies with individualised needs evidence to his/her followers that the transformational leader is concerned with their personal feelings and what impacts their needs (Podsakoff et al., 1990).

When they are intellectually stimulating, transformational leaders can motivate their employees to diagnose problems, look for alternatives for difficulties, explore new possibilities, and generate solutions (Bass, 1990). Not only this intellectual stimulation is an invitation to action, but also an invitation to a systemic look and a leap in follower conceptual vision (Bass, 1985A).

The idealised influence (Carless, Wearing, and Mann, 2000) refers to the fact that transformational leaders become admired, respected, and reliable models. These

leaders become a reference to their followers that are willing to identify with and imitate them (Bass, 1985A, p. 39). Followers perceive leaders as examples of what they preach (Carless, Wearing, and Mann, 2000). Thus, reliability and integrity have been identified in studies as essential aspects for an efficient transformational leader (Bacha and Walker, 2013).

Burns (1978) adds that, so that transformational leader is achieved, two characteristics are essential. The first one is that the leader transcends his/her interests for the team and or organisation's good. The second one is that the leader and the team transcend the basic hierarchy needs of Abraham Maslow (Maslow, 1943; 2018), as safety for example, to move towards the self-fulfilment need.

The Transformational Leadership relevance comes from its role in productivity increase and innovation (Elrehaila et al. 2018), and the transformational leaders influence the engagement positively and the performance of the individuals and the companies itself (Barrick et al., 2015). Studies on Transformational Leadership evidence that "being a leader means being a responsible person, that has ethics and values and cares for the company survival, as well as for its employee well-being" (Bacha and Walker, 2013, p. 679). In some studies, relevant data is that leader's maturity has a significant role in performance concerning the followers and the results achieved (Bacha and Walker, 2013).

Empirical research determined that various values are related to Transformational Leadership, including moral, Burns, (1978) and Gardner et al. (2005), ethic, Bass, (1988) and Zhu et al. (2011), authenticity (Bass and Steidlmeier, 1999), justice, (Bacha and Walker, 2013), and trust, that has a central role in Transformational Leadership (Bass, 1985). Concerning the latter, McAllister (1995) proposes that this trust is based on cognition and affection. Trust based on cognition is built according to attitudes and relation history, and it can be required so that trust based on affection develops itself. The trust-based on affection shows genuine interest, concern, and care towards one another (McAllister, 1995).

Other empirical research positively correlates Transformational Leadership to follower creativity (Qu, Janssen and Shi, 2015) and innovation (Bass and Riggio,

2006). Some researchers also suggest that transformational leader behaviour can build a trusted environment that fosters innovation (Elrehaila et al. 2018).

A point to be highlighted is the Self-awareness relevance in Transformational Leadership development, as a principle that, if a leader has high Self-awareness, there is probably a more accurate self-assessment (Tekleab et al., 2007, p. 1), and thus there will probably be more efficiency in the relations with the team. Another point associated with the Self-awareness that can also impact Transformational Leadership is the leader personality. The personality interferes with feedback perception and acceptance (Tekleab et al., 2007). Depending on the personality type, some leaders tend to consider feedback results as discrepancies when they do not meet their expectations (Brett and Atwater, 2001). Moreover, follower personalities also impact the leader's capacity to be transformational (Bass, 1985A, p 39). Therefore, Self-awareness and personality are factors that interfere with Transformational Leadership and leader efficacy.

One of the questions that some researchers survey is related to how to recognise a transformational leader. According to Burns (1978), Balthazard, Waldman, and Warren (2009), a very simple way is by asking a group of individuals about the name of the people they consider leaders. In Bass (1985) and Burns's texts, if someone is perceived as an inspiring or charismatic leader, for instance, he/she is considered transformational. On the other hand, if the same question is asked to other groups, as in workshops, many will mention Hitler, certainly a leader and charismatic. Nevertheless, Bass denies that Hitler or Jim Jones are transformational leaders (Bass and Riggio, 2006), due to the moral question. Hitler and other dictators would be pseudo-transformational. This is interesting because it shows that the same values related to ethics and morals as Authentic Leadership are also essential to Transformational Leadership. On this issue, Avolio and Gardner (2005) affirm that for a leader to be transformational, one must be an authentic leader if we consider the definitions of both Burns (1978) and Bass (1985). This is also confirmed by studies investigating authentic Transformational Leadership (Bass and Steidlmeier, 1999), demonstrating the correlation between the two theories.

The ethical and moral question suggests reflections. How many successful, respected, and acknowledged by society leaders were involved in corruption? Even though it is not the object of this study, maybe it is worth reflecting on leader influence, his/her success, and values as moral, to prevent dogmatisms and generalisations. Perhaps if we take rigorously into account the precepts proposed by Burns and Bass, rare leaders are transformational.

A final consideration of Transformational Leadership, considering its relevance in the current context, the number of existing studies, and positive studies that confirm its assumptions, is its unidirectional character. Although Burns (1978) and Bass (1985) highlight the “mutual support” between leaders and followers apparently, there is a directional bias. Transformational Leadership considers a charismatic leader as a protagonist of strategies, views, persuasion, and influence on another individual, his/her follower, that might even have some co-leading role, depending on whether the leader personality indicates such perspective. Even if a reciprocal and circular causality takes place, similar to flexible leadership theory (Yukl, 2008), the fact is that the Transformational Leadership suggests a simply vertical relation and that it might not comply with the current organisational world and society demands, as proposed by other theories like Leader-member Exchange. What happens to individuals that like to stand on their own feet, question, or reject the leader's view? Some of the company CEOs that participated in this research do not dictate their views. They build them jointly with their teams.

- Emotional Intelligence

The variable emotion is an essential element of the affective system, inserted in human attitudes and relations. Also, emotions are recognised as an essential element of processes related to efficacy leadership (George, 2000), Transformational Leadership (Barbuto and Burbach, 2006; Brown, Bryant, and Reilly, 2006), and LMX (Dasborough and Ashkanasy, 2002). This variable involves the mediation and influences cognitive aspects and an interpersonal relationship in the interdependence between them.

Fisk and Friesen (2011) note that emotions felt and exhibited have been studied as part of the leadership role. They have been predictive in assessing leader effectiveness (Kerr et al., 2006; Rosete and Ciarrochi, 2005) and team performance (Van Kleef et al., 2009).

The emotions can influence behaviour in positive and negative ways Fisk and Friesen, (2011), and those called good leaders can manage their emotions as well as influence the emotional states of their co-workers (Ashkanasy and Jordan, 2008; Gooty et al., 2010; Humphrey et al., 2008; McColl-Kennedy and Anderson, 2002), affecting emotions the individual and collective level (Ashkanasy and Jordan, 2008; George, 2000). One team member's emotion "infect" other members' emotions, positively or negatively impacting a company's relationships and projects (Ashkanasy and Daus, 2002).

Leaders, especially in the contemporary world, are invited to manage the emotions driven by everyday pressure (Gardner et al., 2005), due to lack of resources, pressures, as well as performance goals that they have to achieve (Avolio and Gardner, 2005; Humphrey, 2008). Generally, Côté et al. (2010) note that those who administer these emotions can be recognised as transformational leaders. Gross (1998) describes this control of emotions or emotional regulation as the process by "which individuals influence which emotions they have when they have them, and how they experience and express these emotions" (Gross, 1998, p. 275).

Generally, emotions are inserted and studied through Emotional Intelligence, whose concept was initially presented by Salovey and Mayer (Costa and Faria, 2014). Emotional Intelligence is defined as the "ability to advantageously deal with one's own emotions and those of others in problem-solving and decision making" Mayer and Salovey (1993, p. 434) as well the ability to process emotions and Emotional Information (Côte et al., 2010, p. 496).

Mayer and Solovey's description define one of the two formulations existing in Emotional Intelligence, which is the model of skills or abilities. On the other hand, there is the second formulation of Emotional Intelligence (for example, Costa and Faria, 2014; Bratton, Dodd, and Brown, 2011) called the mixed model, in which

behavioural traits are combined with social skills, advocated by Goleman (1995, 1998) and (Bar-On, 200).

The conditions chosen for this project fit into the skill model proposed by Mayer and Salovey because it is the most developed and accepted model to analyse the impact of Self-awareness on the Emotional Intelligence variable. Hogeveen, Salvi and Grafman, (2016, p. 695) and Côté (2010, p. 497) notes that these models propose that Emotional Intelligence has four capacities related to emotion. 1. Recognising emotions, for example, in facial expressions and the voice of individuals, as well as identifying one's own emotions. 2. Using emotions for cognitive activities, such as processing information and decision-making. 3. Understanding body language, the causes, and consequences of emotions in oneself and others. 4 Ability to manage and change emotions in oneself and others.

In practical terms, high levels of Self-awareness help leaders understand their feelings and emotions, as well as another people's (Gardner et al., 2005). Besides, as described, an increase in Emotional Intelligence can increase the quality of relationships between leaders and members, so this variable was chosen. One of the hypotheses of this study is to investigate whether Self-awareness growth via the Hallos method promotes growth in Emotional Intelligence and, consequently, improves dyadic relationships.

2.3. The dimension of relationship



Figure 6 – The triad of relationship

The relationship between individuals and groups, as well as the relationship between leaders and team members, has been the objective of social psychology and several theories of leadership as Servant Leadership (Greenleaf, 1997), Authentic Leadership (Gardner et al., 2005), Transformational Leadership (Bass, 1985; Bass and Avolio, 1990) and Leader-member Exchange (Graen and Uhl-Bien, 1995).

All human constructions were made through relationships responsible for promoting the construction of cultures, changes in the psychosocial systems, and society.

In this project, the relations' dimension represents one of the three pillars of the Hallos method, the beginning, and end, the direction the method sets out to achieve. This analysis is based primarily on the thinking of Martin Buber (1974) and David Bohm (1996), among other authors, because maybe they are two of the foremost thinkers of the relationship and dialogue topics in the 20th century.

2.3.1 The concept of relationships

Before analysing the relationship in its different perspectives, as some authors suggest, it may be essential to understand more this term.

The term relationship, addressed in dictionaries such as Cambridge, Oxford, or Collins, describes the concept of relationship as affective interactions and, only secondarily, a conversation between two or more people, in a relatively simplistic way. In the study on leadership, few researchers bring an objective definition of the concept, addressing the relationship topic more associated with cause-and-effect situations in leader-member interactions. In such studies, in general, the leader's effectiveness and the degree of satisfaction and performance of the teams are analysed (Judge and Bono, 2004; Judge et al., 2002; Martin et al., 2015). The analysis of the relationship between leader-member is mediated by the impact that specific characteristics and attitudes of the leader, such as extroversion, meeting needs, sense of justice, inclusion (in-group), and "friendship" are perceived by members and impact the quality of relations between both of them (Guarana and Barnes, 2017; Bacha and Walker, 2013; Martin et al., 2015, Linden, 2006).

As the project's construct, the relationship concept was defined with a leader-member interdependence relationship, where exchanges are influenced by the way of thinking, feeling, and acting of each of the protagonists. This relationship can be of low or high quality.

2.3.2 The phenomenon of the relationship as a potential in human development

“In the beginning it is the relationship” (Buber, 1974, p. 58)

Buber's view of relationships (1974, p.58) perhaps synthesises this topic's importance in human life in a more profound and philosophical sense. In another image so strong as Buber's described; Thomas et al. (2013, p. S63) highlight that good quality relationships... are the “air and water” for human development and well-being”. Indeed, the relationship is perhaps the most basic and primitive act (Buber, 1974) and underlies what defines us as human beings (Berscheid, 1999). It starts at birth, where a baby seeks dialogue with his parents and the world around him even before speaking.

Besides that, the “ideal” relationship is so basic and necessary, and it presents a significant challenge in bringing to this encounter between two individuals a threshold to be transposed, as individuals are confronted with real and potential experiences that challenge their sense of self (Briault, 2010, p.8). Buber notes that the relationship can only be conceived as bipolar, “as one as a “coincidentia oppositorum”, as a union of opposite feelings” (p. 91). This means that there are two subjects or two opposing forces that can meet through dialogue (Bohm, 1996). This dialogue is the means that sustains the relationship between these opposites, and that makes one individual turn to the other (Buber, 1974). Thus, the human being becomes “I” only through the relationship with the other. The word “I” would not exist if “Thou” did not exist. One and the other individual are, thus, separate, and interrelated poles. This interaction between two subjects, living and the future, becomes possible, and where all real life is found (Buber, 1974, p. 59). Relating is life, and human and biological life can only happen in the act of one being turning to another being to produce a life together.

What can be inferred from this relationship is that not it is in the “I” or the “Thou”, except potentially. The relationship lives as a reality in the discovery, presence, and space existing in “between” the “I” or “Thou” (Berscheid, 1999; Buber, 1974; Briault, 2010) created by the two subjects when exercising the dialogue. This space can be better explored because the relationship is generally observed only by individuals’ effect.

Ideally, in the relationships, an individual should be to look at another person as if it were the first time, with a look of curiosity, without carrying labels and preconceptions so that something constructive could emerge at each point in time (Bohm, 1996). It is evident that in this context, we are talking about open dialogue and not a hierarchical relationship or an authoritarian use of power (Snook, 2008; Caldwell, 2009). There should also be a space in the relationship with no obligation to say anything (Bohm, 1996). How many people have difficult to remain silent or pause the conversation? They feel forced to cover the spaces of silence. This can happen with leaders who do not give much space for the team members to talk. When members start talking, they interrupt them. Naturally, leaders communicate their values and standards through their actions (bacha and Walker 2013) or relationships. However, communication is often just a transmission of information from a leader, who acts as an authority, or authoritarianism (Collins and Jackson 2015), to members who act as relatively passive instruments of that authority (Bohm, 1996). When a leader brings his/her ideas ready to members, there is no full and exempt relationship, and he will only try to influence his/her team to accept his/her ideas (Zimmermann, 1988; Bohm, 1996). In that case, there will be no “between”.

The space “between” is not just a place for leaders and members to bring information and wait for answers. It is a space for dialogue when there is listen, built through questions, empathy, and acceptance of contrary thoughts (Bohm, 1996). Asking questions is an art, and this deserves a particular chapter. The question is the ideal way to build empty spaces and dialogue (Zimmermann, 1988; Bohm, 1996). Relating the view of Buber (1974), Bohm (1996) on the importance of this space and the question the poet Rainer Maria Rilke says:

“... try to love your own questions as if they were closed rooms. Gradually, without noticing it, maybe you will find yourself one day, in the distant future, living within the answer. Perhaps it will feel like a particularly pure and blissful way of life. “ (Rilke, 2018, p. 18).

Thus, the “between” needs space and in which the questions that live (Rilke, 2018; Bohm, 1996) could also be observed via the “cup” metaphor where the master puts so much tea that it overflows. The ideal is that the leader mainly, but also the member, should leave their “cups” half empty so that they can be open to absorb what the other has to say and offer. In this case, the “I” and “Thou” are ready for something to happen in the relationship’s dimension, which can be absorbed by each participant in the dialogue.

It also demonstrates that many leaders may not yet have “developed” the necessary Self-awareness to recognise that their natural way of acting sometimes is not the best way to relate to someone on their team. Looking at the relationship is perhaps one of the biggest challenges to be learned by leaders because giving space, dialogue and also empowering their team can make “people go beyond duty and are more influential and innovative in their work” (Spreitzer, 2008, p. 62) and can thus improve their performance. It depends primarily on the will of the leader but also on the team member.

The space "between": There is an exercise in the Hallos method in the workshop, which is requested to individuals in pairs, to make a dialogue in silence, using colours. One individual uses the colour yellow and the other the colour blue. As is known, the point in time one paints something with yellow and another person puts blue on top of that colour, or vice versa, the colour green appears. In this case, when two individuals give themselves up in a dialogue, they create a third colour, the green that returns to each of them in terms of growth and learning.

Note: Green represents nature, the social space where human beings live.

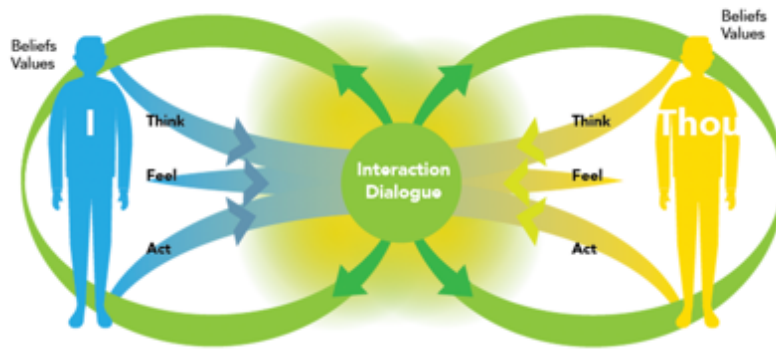


Figure 7 – Relationship: The space “between”

2.3.3. Sympathy and antipathy influence in the dyadic relationship

Sympathy and antipathy represent one of the most relevant Hallos method’s most relevant pillars concerning dimension and understanding the organisational environment diversity question. The term “sympathy” and its opposite “antipathy” are concepts used in the 16th and 17th century, and which origin goes back to ancient philosophy (Nejeschleba, 2006). Although the term can have various meanings, sympathy has been associated with attraction, antipathy, force, and repulsion (Nejeschleba, 2006).

Sympathy and antipathy are feelings (Briault, 2010), and they can arise concerning people, objects, or experiences, whether consciously or not. It is possible to sympathise with a cause, a specific colour, kind of clothes, or any object. We can also have an antipathy for dark walls or intense colours, pink flowers (Alexander, 1946), and for something that takes us back to something negative in the past. It should be highlighted that not everything one likes can be interpreted as sympathy, and not everything one does not like means antipathy.

From a human relations perspective, which is this project interest, sympathy and antipathy are two poles of relational energy (Briault, 2010, p. 22) and have a relevant role in social behaviour (Alexander, 1946). Currently, the sympathy concept is presented in two ways. One of them, to express your sadness to someone for a loss (Cambridge, 2020; Collins, 2020), a kind of solidarity, empathy, or compassion feeling. The second definition, used in different contexts, and also in this project,

states that sympathy is an attractive force that is associated to a connection between two people due to affinity questions (Merriam-Webster, 2020), agreement (Collins, 2020), in a positive feeling of fellowship and interaction (Alexander, 1946).

Antipathy, on the other hand, is a rejection force described as a feeling of intense dislike (Merriam-Webster, 2020), opposition, or anger (Cambridge, 2020).

Naturally, we like people with the same values, who think and act like us, and we do not like the ones that do not meet our expectations, do not do what we want, or do not have the same values (Seagal and Horne, 1998).

However, besides actual, and apparent questions, sympathy and antipathy are mostly unconscious and subtle. Sometimes, a professional we work with has all the attributes we expect in a person, and nevertheless, we have some aversion to him/her, and sometimes we can feel significant discomfort only due to his/her presence, with no precise or logical reason. On the other hand, we can have sympathy feelings for people who are different from us or do things we do not like, and again, we do not know why.

Moreover, how do we act with people with whom we have sympathy or antipathy? If a person with sympathy is late to an appointment, we will probably be worried and interested in him/her, not showing irritation. On the other hand, if a person with antipathy has a meeting scheduled with us, we will look at the watch a few minutes before and might get irritated, imagining he/she might be late. When he/she arrives, we will show such discomfort physiologically and will call his/her attention.

Perhaps the most impressive example is when it is required to hire a person to any organisation. When a person comes to an interview, the interviewer immediately has a feeling for him/her, often unconsciously, that will probably define the interview result. If the feeling is of antipathy, the interview will be more formal, and the interviewer will be less empathetic and perhaps more stringent and more demanding. Anyone would hardly hire a person who has antipathy even if he/she has nothing negative, has outstanding qualities, and is the best candidate. The hiring professional will find some excuse for him/herself and others but will not hire. During workshops

on the Hallos method, within its goal of expanding leaders' Self-awareness, this is a topic that is approached profoundly. In this work, participants are asked whether they would hire an outstanding professional that they feel antipathy. Leaders and other professionals generally smile and say no.

On the other hand, if a candidate comes to an interview and empathy for this person, that will probably influence his/her interview, and it will become a more informal talk between "friends". If the person has the minimum qualifications the company is looking for, the interview will try to remove from his/her mind any hindrance, and he/she will forward the conversation to hire this person. By the end of this interview, he/she will report to the workmate that he/she found an outstanding person.

Another simpler example existing in the corporate world that can expand such views occurs when they need to claim something for their leader. The group chooses and sends as a representative someone the leader feels sympathy for, and thus they have a higher probability of being successful. The leader is not aware of that; however, the team knows exactly for whom the leader feels more sympathy, who is indifferent, and with whom he/she has antipathy.

The Issue of sympathy and antipathy is something "natural," and every social context creates insiders and outsiders (Briault, 2010), just as every individual has his/her preferences, often unconscious. In this way, a leader has his/her relations divided between those people he has sympathy with, another group that he/she has antipathy, and finally, a group that is almost neutral or invisible to him/her. For each of these groups, the treatment is different. Perhaps this sympathy and antipathy mechanism can justify, at least partially, the reason through which leaders divide their teams into different groups, as described by Leader-member Exchange theory (Dansereau, Graen, and Haga, 1975; Graen and Uhl-Bien, 1995; Liden and Maslyn, 1998). The first group of individuals that belong to the relationship group, to which the leader reserves a more favourable treatment and gives more attention (in-group). The second group that is treated more formally, less inclusively, and often negatively (out-group) without leaders being fully aware that they are doing it.

In 1946 (Alexander, 1946) stated there were no studies on sympathy and antipathy, which occurs today. Thus, one may simply explain why such feelings happen in the relationships among people, not approaching deeper aspects of the human psyche. On a superlative level, there might be sympathy when a person recognises in the other the same qualities one sees in oneself, with a positive image, in apparently narcissistic behaviour. On a lower level, someone might feel sympathy for another person whenever he/she finds in this person a significant value or quality, like for instance, discipline, organisation, and punctuality. In this case, sympathy is related to a resonance between values, expectations, and results. There is also sympathy when one finds the other qualities that we do not have but wished to have (Alexander, 1946; Cramaruc, 2020). On a broader view, it is probably easier for an individual to develop sympathy for what is familiar to him/her, as individuals belonging to the same culture or social group (Alexander, 1946), for instance.

On the other hand, antipathy represents rejection to another person, whether due to cultural, racial, educational differences, in the way of thinking, feeling, acting, or way of behaving, which explains partially the question of why individuals reject diversity and prefer people like them (Seagal and Horne, 1998). When the antipathy is great, the individual becomes closed and cannot enter into a real relationship (Briault, 2010). All of this coincides at the collective level with the attitudes among peoples (Steiner, 2002).

It is also expected that” leaders also reject professionals that do not meet their expectations or do not do what they want. Additionally, there are reasons, sometimes more unconscious, including the fact that we do not like to see in others the defects we reject in ourselves (Alexander, 1946; Cramaruc, 2020). This projection-type can also generate antipathy for someone.

To expand this understanding, one might associate these two forces, sympathy, antipathy, and a personality feature, like pleasant and unpleasant. In this context, it is more natural that people who have qualities we appreciate attract us more than people that look “unpleasant”, as they are sometimes different. It is easier to work with pleasant people, within our mental model, than with people that challenge us and do differently. This differentiation is how each foster partner

selection (Cramaruc, 2020). Taking the same reasoning to leadership would partially explain why leaders prefer equal people to different people, explaining the diversity rejection in the work environment.

If sympathy and antipathy can bring distortions and significant problems to relationships between individuals and cause conflicts for the relations between peoples and cultures, when different people are rejected, they can also be useful even if unconscious. Without sympathy, we could not form relationships, and without dislike, we could not sustain our sense of identity (Briault, 2010, p. 18), which demonstrates that they are opposite and complementary forces. Sympathy feelings can help break possible barriers with other individuals that we meet, and it enables starting a relationship that can become deeper and extremely productive. On the other hand, in negative terms, too much sympathy can lead to loss of lucidity, rationality, and difficulty setting limits, as if we lose our self, and it becomes a mixture (Briault, 2010). On the other hand, the antipathy that rejects everything and everyone different in its negative pole can be positive in some situations that require an75second75onn, think with clarity, make objective observations, withdraw, and separate ourselves from the object of our thoughts.

Human relations are almost always subjected to sympathy and antipathy forces. As already described, the huge problem is that they are often unconscious and generate almost automatic reactions in individuals and society, as can be seen in the world's excessive current polarization. About that, Steiner foresaw in 1922 (Steiner, 2002) that the challenge of being human in our days would be overcoming sympathy and antipathy, and that these feelings would be the enemies of social relations.

If sympathy and antipathy are almost “automatic” feelings, which can potentially disturb a dyadic relationship, perhaps one solution would be to add a third element to this polarity: empathy – the ability to understand another person's feelings, thoughts, and experience (Oxford, 2020). In a relationship where there is only formalism, empathy could help an individual to search for something positive in the other person and build a healthy sympathy feeling. Empathy could also help an individual to move away from his/her antipathy feeling for another person, and it would give him/her chances to find reasons to develop an at least neutral relation,

perhaps positive. It is even possible to empathize with people we dislike, and that ability is essential for effective and inspiring leadership. (Briault, 2010, p. 117).

Although empathy is valuable, an essential key to leave automatism is Self-awareness mentioned in these studies in numberless opportunities. Self-awareness can make an individual realize his/her behaviours and triggers and traps that make him/her fall into automatism of attraction and rejection generated by sympathy and antipathy.

This knowledge introduced in workshops on the Hallos method, through reflecting experiences, has helped that leaders and other attendants realize how much they accept and reject other individuals. Thus, they can if they are willing, improve their relations. Especially in leaders' case, this is an invitation to expand their mental model, include more people in their circle of relationship, thus improving their efficacy and team performance.

One of the exact points in this analysis is that if companies aim to build a relationship where diversity is accepted and included, they especially need to remove antipathy barriers (Alexander, 1946), develop empathy, and let positive and conscious sympathy flow.

2.3.4. The three dimensions of a relationship

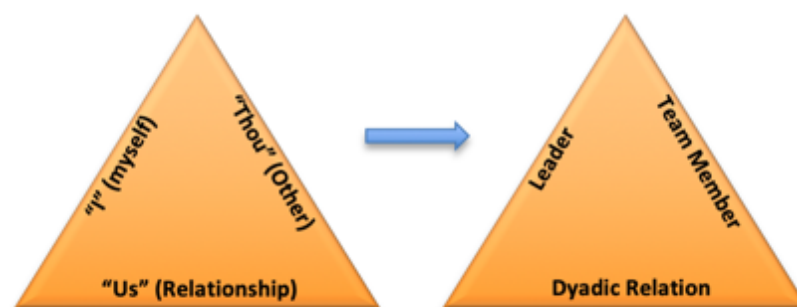


Figure 8 – The triad of relationship

Since its inception, the Hallos method incorporated in its taxonomy the triad formed by the Leader, team members, and the relationship, as individual dimensions with their own "identities" and at the same time interdependent. The study of the

Leader-member Exchange theory from 2016 brought a greater breadth to this triad. The reflections and questions raised by Graen and Uhl-Bien, (1995, pp. 222-223) about what they call leadership domains reaffirmed the importance of these three dimensions. The study by Graen and Uhl-Bien (1995) was a reference and inspiration for expanding existing issues for each dimension of dyadic leadership relationships. Some of these issues are presented below.

In the leader's dimension, we have questions such as:

How does my type help and prejudice my leadership role? What is the impact of my behaviour on each other types (team members)? How to deal with the styles of each professional on my team? How to deal with the group? How does each style contribute and negatively affect the team? What is the best composition of types that makes the team engaged and high performance?

In the dimension of the members, we ask questions such as:

How is my relationship with each team member? In what I am different, and how can I help and complement my team? How do I impact others, and how do they impact me? How is my relationship with my leader? How do I influence my colleagues and my leader? How do I lead? Where am I?

In the dimension of the relationship, the proposed questions are:

Am I really open to each other? How much am I delivering my best Self? How to overcome the trap of sympathy and antipathy in relationships? What does this person say about me? What is the best question? Am I really listening? How to develop empathy and establish trust? How to make the relationship a real encounter? How can the relationship between people of each style help or hinder dyadic ties?

These issues have been presented and refined in some leadership workshops as part of the reflection process of expanding Self-awareness.

An experiment was carried out with these questions in an exercise made with 26 leaders, middle and Senior management from company “A” to participate in a feedback section. In this session, the participants would receive the result of an engagement questionnaire filled out by members. They all knew each other’s types (colours). To give feedback, they had 15 minutes to prepare using the questions described above as a reflection. One week after the end of this session, a survey was conducted on the perception of those who received feedback and those who gave feedback. On a Likert scale, 95% of those who gave feedback said their performance was significantly better than any previous one. 90% of those who received feedback also stated that the way they received feedback was significantly better than any other feedback received before.

2.4. The dimension of the diversity of types

2.4.1. The importance of diversity

Diversity has been one of the most discussed topics in recent years. The forces of sympathy and antipathy described in individual relationships also occur at the collective level, in the issue of globalism x nationalism (Steiner, 2002) and in the rejection of immigration and people from different cultures, that is, who think and have other habits. In the work environment, diversity has been studied associated with under-represented groups’ identity (Downey et al., 2015), social discrimination, and the importance of accepting and including cultural, gender, and ethnic differences (Fields, 2009). However, some studies have shown that it is not enough to hire different people and wait for them to talk to each other. For diversity to have positive results, it is necessary to develop a programme for inclusion and cultural change (Downey et al., 2015). Inclusion may be accompanied by more contacts, dialogues, building trust, and engagement.

Implementing diversity practices can result in positive results for organizations (Ilmakunnas and Ilmakunnas, 2011; Thomas and Ely, 1996) when they work (Guillaume et al., 2013). In a survey conducted in 2012 with 1,550 workers from companies in different sectors, to verify the impact of an improvement

programme on innovation, the collaboration between teams, and customer service, the results showed that, in the perception of members the diversity with inclusion improves collaboration by 42% and innovation by 83% (Ballesta, 2014, Delloite, 2013, Downey et al., 2015).

Besides this perspective, diversity offers another scope for analysis. People prefer to work with those with whom they have an affinity, who seem similar to them (Guillaume et al., 2013; Seagal and Horne, 2008). Similarities can facilitate the rapprochement between individuals, forming teams and alliances (Ilmakunnas and Ilmakunnas, 2011), while diversity potentially brings a considerable challenge and possibly more significant conflicts to leaders and professionals in general (Guillaume et al., 2013; Seagal and Horne, 2008).

Although managers generally accept that diversity of thought and collective intelligence can enhance their teams' performance, most do not know how to make it happen (Dillon and Bourke, 2016) or sometimes reject it. The reality is that little is known about "which diversity management practices are most effective in promoting positive results" (Guillaume et al., 2013, p. 123).

Moreover, it is not any set of individuals that will meet a group's needs or an organization's results (Page, 2007). Educational diversity, as an example, can have adverse effects (Ilmakunnas and Ilmakunnas, 2011) depending on the needs of a specific area. This implies that it is not any set of diversity that contributes to the outcome.

To reaffirm the importance of cognitive diversity, Scott Page (2007) concluded through his experiments that diversity overcomes homogeneity in solving complex issues. According to him, a group of individuals with diversity, when faced with complex problems (Page 2011), obtains better results than a group of homogeneous individuals, although they may be more talented individually. Similarly, the study by Hong and Page (2004, p. 16385) demonstrated that "a team of agents selected at random outperforms a team composed of the agents with the best performance."

Thus, in the present context, it is the leaders who need to adapt. Understanding the new context and embracing diversity to improve the effectiveness and scale of the results.

Although diversity brings discomfort and requires social skills for relationships, it is a learning and innovation source (Downey et al., 2015). The Hallos method suggests that this knowledge can enhance individuals' Self-awareness and enable improvement in interpersonal relationships and bring a new look at the importance of complementary talents (Page, 2011). It also helps to understand the best set of professionals, appropriate for each area or event.

2.4.2. Foundation of Hallos & Triads Method:

2.4.2.1. The pillars of the Hallos & Triads method

The Hallos & Triads method (p. 29 figure 2) comprises three pillars. Diversity of types (personality), Self-awareness and Relationship.

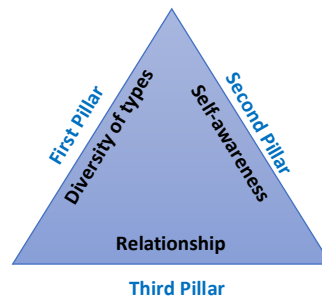


Figure 2 – Hallos & Triads pillars

The first pillar is a typology (personality theory) described as “diversity of types” that represents the essence of the Hallos & Triads method or Hallos program. After completing an assessment, this knowledge is conveyed to individuals through individual reports or workshops.

This pillar aims to introduce the human types (Hallos & Triads) so that individuals can recognise their innate talents, strengths, and limitations. It is expected

that this knowledge expands the Self-awareness (second pillar) of leaders, so they perceive the existence of a discrepancy between their way of thinking, feeling, and acting and the reality they live in, both positive and negative, in terms of behaviours practised in the work environment. Within the theoretical models of Self-awareness and self-regulation presented by Duval and Wicklund (1972) and Silvia and Duval (2001), which also support the Hallos & Triads method, it is expected that individuals will be interested in reducing or eliminating discrepancies and modifying their behaviours if they judge that this is relevant to their careers or at the level of Self.

The internal pressure for change in the case of using a Hallos typology is totally different in relation to which the individual perceives the discrepancy through a 360-feedback situation, when sometimes also receiving pressure from their organisations to change their perspective or behaviour. Like other typologies, the Hallos & Triads method only brings an “invitation” to change. Thus, situations in which individuals avoid self-regulation due to the difficulty of the effort, or the size of the discrepancy, as presented in the model by Silvia and Duval (2001) and figure 5 (p. 43), are less visible due to the approach of the presentation.

It is evident that an individual with “the acquired” knowledge can also avoid internal change by presenting temporary or superficial changes. In the case of the Self-awareness/self-regulation pillar of the Hallos method, individuals are led to verify, which makes sense in terms of real day-to-day examples and situations presented. First, innate talents and their positive strengths are emphasised, as a rescue of their essence, although the excesses that impact relationships are also presented. This causes individuals to be invited to calibrate behaviours and attitudes and sometimes to incorporate non-innate behaviours, which may be more appropriate to deal with different types of people Whitmore, J (2009) and thus increase their repertoire in order to make it more competent in relationships (third pillar) with different types of people. In hypothetical terms, this form of presentation, even in written reports, reduces resistance and facilitates the self-regulation process, an understanding of the regulation process as something natural, continuous and “without end” (Carver and Scheier, 2014) in all individuals.

A relevant point in this process, which was incorporated in the delivery of the results of human types, is that individuals are suggested to follow some steps in self-regulation after having contact with the Hallos & Triads method inspired by those developed by Brown, Miller, and Lawendowski (Yeow and Martin, 2013), of 7 steps: 1. Individuals receive relevant information about themselves, 2. They are invited to reflect on what makes sense and what does not, regarding relationship goals, 3. They are invited to think about the triggers that generate situations that bring discomfort, 4. They think the ideas presented in their reports can help them, 5. Plan how and when to test a new behaviour, 6. Schedule a real new opportunity to test the new learning, and 7. Evaluate with someone (a colleague, mentor, or coach) the results of their experience and what needs to be adjusted.

2.4.2.2. The Hallos & Triads, Social and Personality Psychology

As a theoretical model the Hallos & Triads method falls within personality theories and includes elements of Social Psychology.

Social Psychology studies the relationship between individuals, which is one of the pillars of the Hallos method. In contrast, personality theories are interested in the differences and similarities between individuals in their way of thinking, feeling, and acting, the other central pillar for Hallos.

These same elements, cognitive (thinking), affective (feeling), behaviour (acting), basis of the personality and social psychology theories, configure the human archetypes (Moraes, 2005), which are also the basis on which the Hallos & Triads method is constituted.

Social Psychology is the scientific study (Rodrigues, Assmar and Jablonski, 2014) of how people think, influence, and interact socially (Jhangiani and Tarry 2014; Rodrigues, Assmar, and Jablonski, 2014). It is interested in how everyone perceives himself and others (Self-awareness), what he believes, and his attitudes (Jhangiani and

Tarry 2014). From the different personal characteristics such as personality traits, feelings, emotions, and motivations, the individual influences his/her social environment, as well as being deeply influenced by the social context in which he lives and by the people with whom he interacts daily (Jhangiani and Tarry 2014). Starting from the individual, Social Psychology has as essential elements affect (feelings), behaviour (interactions), and cognition (thought), also called ABCs or ABCDs when adding desire (will) (Costa and McCrae, 1995; Goldberg, 1990). It is via these systems or capabilities that the individual can successfully relate to other individuals. These are also the archetypal channels through which individuals communicate, relate, and build the biopsychosocial relationship with life. Although each of these three systems has particular functions, they interdependently work.

As described above, personality psychology has the same essential elements as social psychology. It is interested in understanding the differences and similarities in individuals' thinking, feeling, and acting (Goldberg, 1992) and why people are different among themselves in these three basic elements (Allport, 1937; Goldberg, 1992; Wilt and Revelle, 2012). In layman's terms, behaviour refers to what we do, the affection we feel, and the cognition of what we think (Wilt and Revelle, 2002). Typologies like those of Jung (1991), represented by MBTI (Myers and Myers, 1985) and that of traits represented by Big Five (Furnham, 1996; Brown and Reilly, 2008) have presented dozens of empirical studies that seek to understand human differences and to associate them to Self-awareness, to relationships between leaders and members, as well as the leader's effectiveness.

It is in this theoretical framework that the Hallos & Triads (Hallos method) is interested in.



Figure 9 – The triad of types

In its typology, the Hallos & Triads method is based on the principle that every human being is related to the world through three primary functions: thinking, feeling, and acting. According to each of them' predominance, the individual presents his/her type, a personal way of seeing, learning, communicating, acting, and reacting to life experiences. These three bio psychic principles are described by Steiner (Burkhard, 2006), Moraes, (2005), (Briault, 2010) and Childs, (2004) from their association with the three parts that stand out when we look at the human body, that is, the head, trunk, and limbs, described as follows:

- The neurosensory system “comprises the head and neurological functions” (Moraes, 2005). It is responsible for sensory perceptions and the thinking process.
- The rhythmic system “comprises the chest, breathing, and cardiac rhythm” (Moraes, 2005, p. 104). It is responsible for the process of feelings and emotions; and
- The metabolic-motor system “comprises the abdomen and the limbs” (Moraes, 2005, p. 104). It is responsible for the individual's will and action in the world (Burkhard, 2006).

Although every human being thinks, feels, and acts, everyone has an innate predisposition to act predominantly from one of them. Some people prefer thinking (cognitive). They are excellent in activities that require logic, the organization of ideas, planning, and mental activities. People with a preference for feeling (affective) are more comfortable in activities involving social relationships, people, feelings, and emotions. Finally, other people like to achieve (doing) and prefer activities that propel them to action, to challenges and goals. These behaviours are natural preferences associated with the human archetype and not necessarily a personality trait in the proposed perspective. As the systems are interdependent, there are no pure types. They all have qualities of the other systems.

Certainly, everyone knows brilliant people with exceptional intellect, excellent teachers in the transmission of knowledge, and who have enormous difficulties in dealing with people or even have difficulties with simple things, such as changing a lamp. There are people in the corporate world who cannot do anything before thinking a little and love to hold meetings, while others with little information want to take action and hate to “waste time” with meetings. Some people are driven by logic and control their emotions whenever possible, while others in whom emotions dominate thoughts are controlled by what they want (Krech and Crutchfiels, 1978). These simple observations demonstrate that people have different preferences in using the three archetypal systems that are part of their human biological structure in a biopsychosocial construction (Graves, 2005).

These differences are part of what is called by the Hallos method as a diversity of human types. These differences in individuals can affect the relationship in organizations (Myers and Myers, 1985). One of the works carried out with a group of leaders who participated in this study discovered that the team divided themselves into thinking beings and operating beings as they called themselves. These groups of leaders rejected each other and lived in conflict with each other, damaging the relationship between their teams and the organization itself.

The term archetype that also will be used several times in the project, relates to Arché + Typu, from the Greek, primordial type, (Moraes, 2005, p. 185) or original pattern from which everything is copied (Cambridge, 2020). Plotino and Proclo said that the archetypes correspond to primordial models of action in organic, animist, and spiritual (Moraes, 2005, p. 185). Thus, the archetypes configure the basic structure of the human being, what everyone has as a pattern, that is, the systems, cognitive (thinking), affective (feeling), and behaviour (acting/interacting), which in their interrelations promote the existence of human types.

In its typology, the Hallos & Triads method proposes that it is possible to recognize these different archetypal types. However, their boundaries are not absolute, as human beings live a dynamic process in their relationship with life, according to their needs, desires, and the context in which they are located. Thus, the Hallos method is presented in its entirety as a theory that proposes a hypothesis that this knowledge

about the diversity of archetypal human types and its experimentation leads to expanding individual Self-awareness. This expansion potentially motivates a process of self-regulation and change in individual behaviour. Note that the name used is Hallos method, simply Hallos, and in other situations, Hallos typology. This is because initially, Hallos a typology about human archetypes. However, in recent years, especially in its workshops, practices, and knowledge have been incorporated that improved the process of expanding Self-awareness and interpersonal relationships. For the last two years, for example, in the leadership workshops, knowledge of LMX has been brought, especially the issue of in-group and out-group, as a reinforcement of the issues of leaders' sympathy and dislike, one of the topics presented.

What has been noticed since the beginning is that the individual who acquires this knowledge can develop more flexibility and adaptability and improve their ability to interact with other human types. In the specific case of the relationship between leaders and members, this knowledge is expected to help leaders increase their perception of themselves and each team member, enabling new skills development. This increase in perception should allow them to understand the differences and the most efficient way to act with the diversity of types, making them capable of building a more positive, motivational, and productive relationship with their team members.

Far from being absolute truth, the Hallos method, which has been in development since the beginning, seeks the truth, proposed by the post-positivist approach (Phillips and Burbules, 2000). Recognizing that this truth will always be approximated, never absolute, because, among other factors, the Hallos method has, among other premises, the clarity that what is offered represents only a part or perspective of what represents the human being.

Another assumption of the Hallos method is that it will never be complete. First of all, because the human being is too complex, it cannot put individuals in "small boxes" as if they were the same. Besides, the methodology has demonstrated, over the years, that it is a continuous path of discoveries and learning. The participants themselves have been contributed to the development of the Hallos method.

As the individual types do not object to this research, only the Hallos method (typology) as a whole, the description of the Hallos typology, was placed in Appendix 1, included the details of dynamics of functioning, and the comparison conceptual with other studies as MBTI and Big 5.

2.4.3. Conclusion of literature review

The literature review presented all the elements that meet the project's objectives and the research questions raised. At the same time, it also brought essential contributions to the Hallos & Triads method. The review process was very enriching because it possibilities the direction and the path to new discoveries. This caused some themes to be more in-depth than others, and some repeated in various perspectives for their scope and importance.

A highlight of the literature review is the elements that make up the project and the Hallos & Triads method: Self-awareness/self-regulation, the diversity of types (personality) and the relationship between leaders and members, represented by the variables Transformational Leadership and LMX.

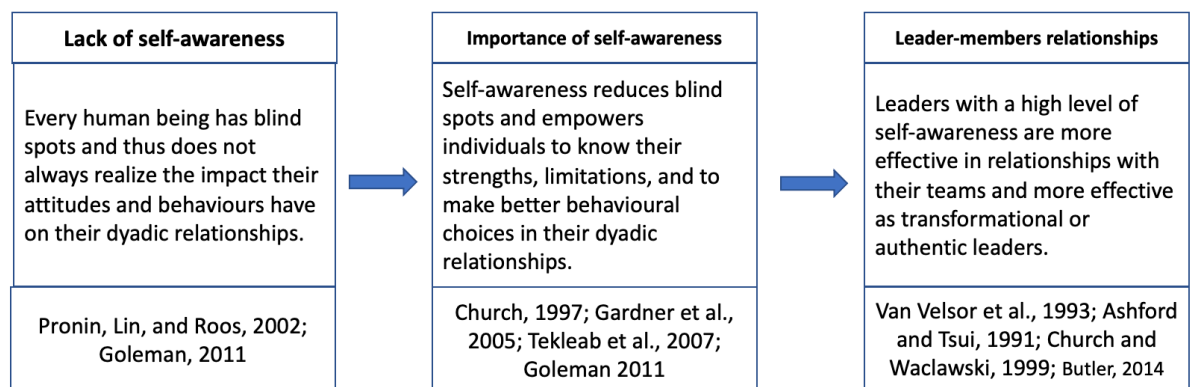
Due to the importance of these pillars, we present a synthesis of the theoretical models and empirical research that support this project.

As the first pillar, Self-awareness is a process through which individuals assess some internal aspects of themselves (Gardner et al., 2005) and expand self-perception about their behaviours, strengths, weaknesses, values, and impact on others (Goleman, 2011). This quality is essential for human and professional development because personality psychology, represented by Jung (1991) and Freud (Garcia-Roza, 1987), states, as already described, that the human being has a conscious and an unconscious part, also called blind spots (Pronin, Lin, and Roos, 2002). This means that a leader is not always aware of their strengths, limitations, or the impact that their behaviour has on relationships, as well as not always realizing that they have included or excluded part of their team from their circle of interest. Self-awareness is the ability that shows individuals, in certain circumstances, the

existing distortions between what is thought and what is done and that encourages the individual to reduce these discrepancies (blind spots), in the process of transformation through the gradual incorporation of the shadow (rejected or unrecognized parts) and development of the Self (Jung, 1991), or to change unwanted behaviours.

Gardner et al. (2005) propose, in their theoretical model on Authentic Leadership, that introspection and self-reflection are essential parts of Self-awareness, activated from the result of positive and negative experiences, in a continuous process of feedback to gain “more clarity”, and agreement regarding their values, emotions, motivations and goals” (p. 347).

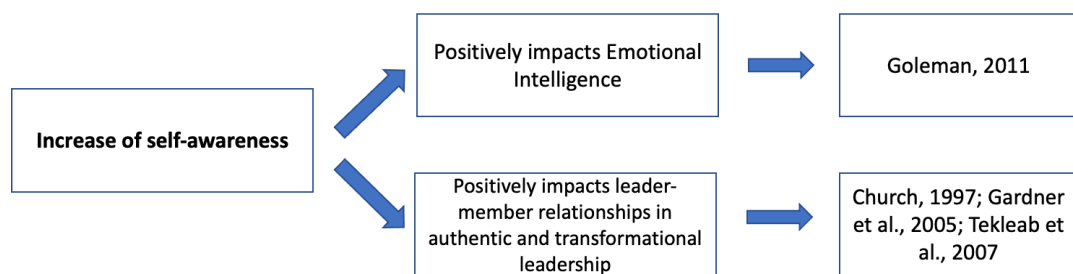
Table 2. Importance of Self-awareness



Theoretical evidence on the positive importance of Self-awareness is in the social psychology literature (Hoyle et al., 2019) and in the research work of Silvia and Duval (2001), Duval and Wicklund (1972), and Carver and Scheier (2000) among other researchers. The theoretical postulations proposed by Gardner et. al (2005) on Self-awareness, self-regulation and effectiveness in the degree of development of the authentic leader, propose that through this process of internal self-regulation a leader “starts to reflect on values, identity, emotions, their goals and knowledge (p. 349) by constantly monitoring their real and ideal Self.

In the variable Emotional Intelligence also studied in the project, the theoretical model developed by Mayer and Salovey (1993) studied by several other researchers, such as Côté (2010) and Goleman (2011), presents Self-awareness as a basic component for the development of Emotional Intelligence, which is also confirmed by several surveys. Table 3 presents the synthesis of these ideas.

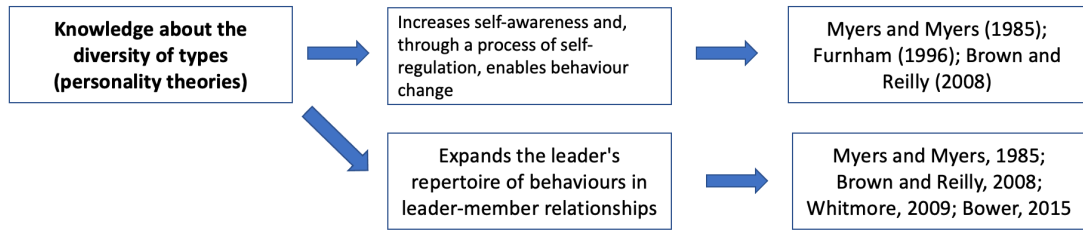
Table 3. Impact of Self-awareness in leadership theories and Emotional Intelligence



The theoretical models about personality since Jung in 1921 (Jung, 1991) by Allport and Odberg in 1936, the MBTI (Myers and Myers, 1995) and the Big Five developed by Ernest Tupes and Raymond Cristal in 1961, and improved by other theorists and researchers, have been used in the last decades for the development of leaders, whether in coaching sessions or leadership programs, with the aim of improving leader-member relationships.

The conceptual assumption is that the association between knowledge about personality and the ability to focus attention on oneself, as if looking in a mirror frequently and analysing what one sees, allows the increase of individuals' Self-awareness (Ashely and Reiter-Palmo, 2012). Perception and self-regulation allow the leader to choose the behaviours most appropriate to their dyadic relationships with different types of members.

Table 4. Effect of personality types in Self-awareness and relationships



All these theoretical models and empirical research explored in the literature review have a common point of interest an improvement in dyadic relationships between leaders and members of their teams. In this sense, the new knowledge acquired, and the theories were chosen to represent the dimension of relationships presented new paths to be followed by the Hallos & Triads method and a new approach in leader-member dyadic relationships in training, feedback, and coaching sessions.

Chapter 3: Methodology

The objective of this chapter is to introduce the research process performed, from conceptual reasons to methodology choice, research planning to approach, and methods used. The chapter covers five sections. Section 3.1 describes philosophical concepts and ontological and epistemological elements, that represent the possibilities of choice of a scientific investigation. Section 3.2 describes the choice of study approach and justifications. Section 3.3 describes Research Design and studies performed.

3.1. Methodological approach

All scientific research is based on philosophical assumptions that guide us to choose the most appropriate research methodology for investigation (Creswell, 2014) this choice must be careful, as cultural, and social patterns lead to the existence of different worldviews and different views on how to collect the knowledge we search (Grix, 2002, 2019). These different worldviews can be called paradigms, a term introduced by Thomas Kuhn in his book *The Structure of Scientific Revolutions*, released in 1962. In the book, the paradigm is set as a set of knowledge, beliefs, and laws that becomes an example, or model, to be shared and followed by the member of a scientific community (Kuhn, 2012), and that also dictates the actions to be undertaken in research. Research paradigms define to the researcher what he/she is dealing with and what is within and outside legitimate research limits (Guba and Lincoln, 1994). Thus, for the researcher, a paradigm sets forth parameters and scientific research limits, and thus, his/her investigative practice must be developed strictly according to the paradigm (Crotty, 1998, p. 35), which represents the reality one is acting. If research paradigms reflect our beliefs about the world we live in, and, more importantly, about the world we perceive, “it is not difficult to understand how different academic traditions incorporated in essentially different cultural contexts can have diverging worldviews and different assumptions that support his/her private approaches to the social investigation (Grix, 2002, p. 177). Different social sciences scholars, including Crotty, 1998; Burbules, 2000; Blaikie and Priest, 2019; Grix, 2002; Guba, 2009, and Creswell, 2014), point out the existence of

different paradigm sets. Blaikie and Priest, (2019), for instance, define as classic paradigms Positivism, Critical Rationalism, Classic Hermeneutics and the Interpretivism (p. 106) and presents as contemporary paradigms Critical Theory, Ethnomethodology, Critical Realism, Contemporary Hermeneutics, Structuration Theory, and Feminism, rejecting in his review Positivism and Critical Realism. Crotty (1998) suggest that investigation paradigms are Positivism and Post-Positivism, Constructionism, Interpretivism, Critical inquiry, Feminism, and Post-Modernism. Guba and Lincoln (1990) acknowledged the existence of Positivism, Post-Positivism, Critical theory, and Constructivism. Others, like (2014), also add Pragmatism and Participatory to existing paradigms. Among such name diversity and paradigm ideas presented, the ones most referred to by several scholars are Positivism and its successor, Post-Positivism, the Constructivism, Critical Realism, and Pragmatism.

In order to develop an investigative logic, every researcher mentioned emphasizes the relevance of paradigm choice in a scientific investigation. However, if paradigmatic possibility reach, on the one hand perhaps represents contemporary scientific thought diversity and provides different perspectives, on the other hand, it may also generate doubts and controversies. This apparent heterodoxy could be one of the reasons why, in the past, “normal” science, as says Kuhn (2012), attempted to reject the novelties, as they were possibly subversive to their fundamental commitments (Crotty, 1998, p. 35). However, as it can be noticed, science, after Positivism, presents different views to try to cover different perspectives of what is accepted by science. When observing any of the post-positivist paradigms, none of them can be considered an entire unit, or be rated as better than any other when viewed from the outside – especially in the social sciences, in which the researcher’s values and cultural context play a role extremely relevant (Burbules, 2000, p.1).

Through time, the term paradigm introduced by Kuhn attracted several uses, and it became a popular concept (Blaikie and Priest, 2019, p.11) and distorted concerning its original concept, and thus, generating several controversies (Guba, 1990; Kuhn, 2012; Blaikie and Priest, 2019). Despite the multiplicity of uses, in sciences, a paradigm can only be accepted if it incorporates necessarily ontological, epistemological assumptions, and a methodology considering a scientific research

practice (Guba, 1990; Blaikie and Priest, 2019). This means that, in order to understand the research process as a whole and can produce a study with content that makes sense and is not something disconnected, it is essential to know which paradigm is being used and if the assumptions of this study they conform to ontological, epistemological (Guba, 1990) and methodology issues. In this way, the research paradigm is a comprehensive system of interrelated practice and thinking that defines the nature of research across the three dimensions abovementioned.

Ontology, as the first element is, literally, science or philosophy of being (Hay, 2002, p. 61). An individual ontological position specifies social reality nature (Terre Blanche & Durrheim, 1999, p. 6) and world policy (Hay, 2002, p. 61) that can be investigated. Ontology refers to being, to what is, to what exists (Hay, 2002, p. 61), how this reality looks like, which units comprise them, and how they interact one with the others (Blaikie, 2009). The ontology answers the question about what can be known out there. (Guba, 1990). In summary, ontological assumptions are worried about what we believe to be the existing social reality (Blaikie, 2009, p. 92). Two ontological examples (Grix, 2002) are Objectivism, which states that social phenomena and their meanings have an existence regardless of social players, and Constructivism, which says that social phenomena and their meanings are continuously performed by social players. That implies that social events and categories are not produced only using social interaction, but they are under constant review state (Bryman, 2001, pp. 16-18). The choice of one of these ontological perspectives will impact the way an investigator will perform his/her researches.

If the ontological position asks what there is outside to be known, the epistemological dimension is related to knowledge theory, the assumptions about the nature of this knowledge, and how it is possible to access it (Grix, 2002). It is the dimension (Hay, 2002, p. 62) concerning possible ways of achieving knowledge on social reality (Grix, 2002). Epistemology leads, thus, with knowledge nature, what can be investigated, and what is not possible to investigate (Hay, 2002). This position also intends to answer what is the relationship nature between the knower (the inquirer) and the known (knowable) (Hay, 2002). In summary, epistemology brings the question on how what is assumed to exist can be known (Blaikie, 2009, p. 92). It is concentrated in the knowledge collection process, and it is concerned with

developing new models or better theories than competing models and theories (Grix, 2002, p. 177). For the investigator, epistemology is also related to how we can defend legitimately the conclusions we take of our analyses, and to what point this knowledge can be generalized or not, besides the context of our observations (Hay, 2002). An example of different epistemological positions can be seen in the contrast between the positivist, post-positivist, and constructivist paradigms. In positivism, truth is absolute and dogmatic (Crotty, 1998, p. 29) and rejects all theories that are not derived from experience (Blaikie and Priest, 2019). In post-positivism, an “evolution” of positivism, the goal is searching for an approximation of the truth, as there is an acknowledgment that this truth cannot be found absolutely (Burbules, 2000). In Constructivism, there is not a truth, but there are different interpretations of it.

If, in Positivism and Post-Positivism, it is considered that the knower and the knowledge are separated, in Constructivism they are only one, as knowledge is built inside and outside the interaction between human beings and their world and developed and transmitted within an inherently social context (Crotty, 1998, p. 42).

According to Hay (2002, p. 263), there is a relevant relation between ontology and epistemology dimensions. He argues that ontology precedes epistemology, as we cannot even start to think about acquiring knowledge of the world until we decide, at first, what there is to know.

Grix (2019, p. 61) states that when the investigator defines what he/she thinks that can be investigated in his/her social reality, his/her ontological position leads him/her consequently to epistemological position, in which he/she can assess how to proceed, or which theory will be used to access this knowledge there is in his/her social reality. From these two positions, the investigator is ready to analyse the methodology position that will be used to check his/her hypotheses and/or acquire this knowledge. Thus, the ontological position has a relevant impact on epistemology and shows that ontology precedes epistemology logically. This targeting proposed by Hay (2002) does not require that a dimension generates another one, but that there is a logical and hierarchical alignment among them to develop serious scientific research.

From this view, Grix (2019) states that ontological and epistemological questions guide methodology choice as a third research dimension, how it is represented in figure 10 (Grix, 2019, p. 62) below.

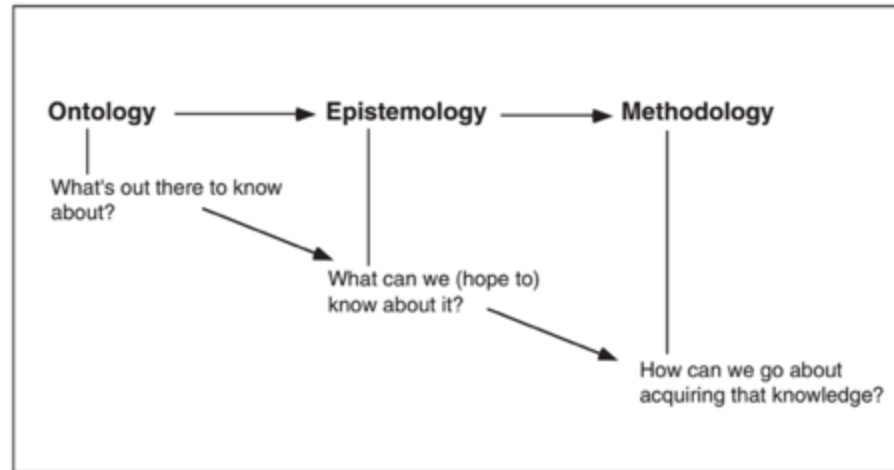


Figure 10 – Ontology, epistemology, and methodology (Grix, 2019)

The methodology is, according to Hay (2002), ‘the means through which we can reflect on what are the most appropriate methods to acquire knowledge of what there is’ (Hay, 2002, p. 63). It refers to strategy choice, which, aligned to ontological and epistemological questions, will guide the research design and technique choice that can service the investigation objectives (Blaikie and Priest, 2019).

Besides the influence and alignment with ontological and epistemological questions, the methodological questions, i.e., the research approach depends on the phenomenon nature that will be studied and its context, the questions raised, and the objectives proposed by the researcher to the study (Creswell, 2014; Venkatesh, 2013). The research approach can be quantitative, qualitative, or mixed method, which uses both previous approaches.

In general terms, the quantitative focus is sequential and confirmatory, and it requires that each stage precedes the next, and stages cannot be skipped (Sampieri, 2013). Thus, the quantitative focus starts from the existence of an idea that can be transformed into objectives and questions that will be used in the investigation. From these questions, a literature review is performed, and theoretical assumptions can be

developed; from them, questions are formulated, that, on the other hand, are transformed in assumptions to be studied, concerning variable definition and choice that will be used. As variables are set, a test plan is developed; the results are measured and analysed in general through statistical methods, and then conclusions are established. (Sampieri, 2013, p. 30).

In summary, the quantitative approach is also characterized, according to Grix (2019), by three basic stages: definition of variables associated with a concept or hypotheses that one wishes to investigate, application of these variables; and result assessment. Quantitative techniques include, for example, finding patterns, analysing the relationships between the variables studied, testing the hypothesis, and making predictions based on the results Grix (2019).

In this way, it can abstract itself from a particular study to test causal hypotheses that can be replicated by other researchers (King, Keohane, and Verba, 1994, p. 4). In this approach type, the researcher is separated from the study object (Neuman, 2000, p. 17), i.e., the investigator researches an external reality to him/her (Sampieri, 2013, p. 31). In summary, the quantitative approach is deductive, reductionist, and used to test theories or hypotheses, attitude pre- and post-test assessments, and to corroborate or refute hypotheses (Creswell, 2009, p. 41). Finally, the quantitative analysis must be interpreted according to the initial hypotheses and the theory used (Sampieri, 2013).

Just for conceptual complementation, since this approach will not be used, the qualitative, in contrast to quantitative one, can cover different methods. However, none of them is based on numeric measures (King, Keohane, and Verba, 1994, p. 4). It studies, for instance, the participant context or environment being used by researcher to establishes the meaning of a phenomenon from of the participants (Creswell, 2009, p. 42), The researcher can start, for instance, with some selected questions in a circular interpretation and improvement process of the questions (Sampieri, 2013, p. 33) by the end of the project.

So that one has a complete view of the project, Grix (2002, 2019) proposes that the scientific research, besides the three main elements present, has another two significant elements: the methods used by the methodology and the assets used in the project. This model complements the one presented originally by Hay (2002). Such distinction is relevant, because the methodology proposes the most appropriate way of performing the investigation, while the method is related to instruments that will be used from the methodology chosen.

Finally, the Grix model implies that, as from this logical sequence, the investigator is more capable of organizing strategies and planning on how he/she will achieve the data required for his/her investigation.

The figure below, based on the Hay model (2002), Grix (2019, p. 62), includes in the same table all elements that are part of the scientific research.

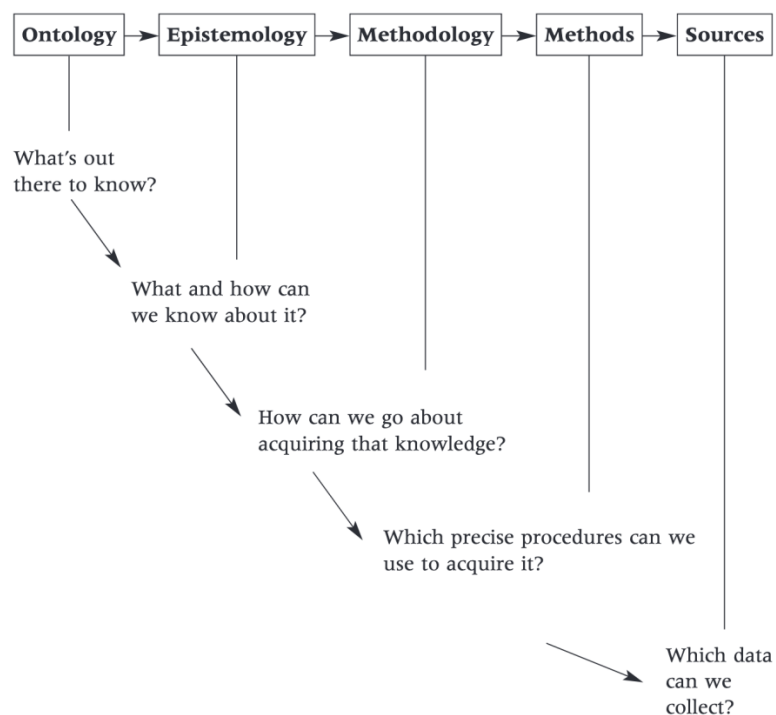


Figure 11 – Elements of scientific research

Despite the relevance of the logical sequence presented, Grix (2002, 2019) describes that scientific research does not have to follow this structure necessarily. Crotty (1998, pp. 12-14) states that an investigator can start his/her project from any of the components presented. The researcher can, hypothetically, start by the method and then return to ontology and epistemology until checking if the research components are compatible among themselves. This statement is significant, as it restates the relevance that, regardless of where the investigator starts his/her research project – whether by epistemological, ontological question, or any other one -, he/she observes and respects his/her logical research alignment related to the components introduced. Thus, that will prevent building something disconnected, and a study that makes sense can be built, within the parameters accepted as scientific research.

This conceptual presentation became important for the project because it allowed not only the understanding of the elements necessary for scientific research but also the alignment between taxonomy and ontological vision where the Hallos method itself is inserted.

3.2. Research approach

From the conceptual presentation and the careful analysis of the existing philosophical assumptions on which scientific research is based, it is possible to state that the project under study has a natural adherence to the post-positivist paradigm. First, because, from the perspective of Methodology, it is an investigation that aims to test the validation of a theory (Creswell, 2014), the Hallos method, which aims to promote (as a hypothesis) the expansion of individuals' Self-awareness and investigate the effect of this influence on the relationships between leaders and their team members. The project also aims to examine how the Hallos method and Self-awareness as independent variables influence the improvement of relations between leaders and their members, based on leader-member exchange, Transformational Leadership, and Emotional Intelligence. These objectives indicate the choice of the quantitative approach (Creswell, 2014) that allows analyses, such as, for example, the impact of the intervention promoted by the Hallos method on variables studied and the verification of the correlation between variables as a mobilizer of

relationships improvement. Another essential analysis that can be made is how much a variable, such as Self-awareness, can explain the increase in quality in dyadic relationships.

In the ontological sense, as one of the elements that support the development of scientific research, the Hallos method observes the world as an objective reality, in which the human being communicates and relates to life through archetypal systems, that is, cognitive (to think), affective (to feel) and action (to interact). According to these systems' use and preferences, individuals can be grouped into human types, each of which presents its own dynamics, according to its needs, desires, and the context with which it relates. The term "type" used in this project is a general disposition observed in individuals, characterizing them concerning interests, preferences, and skills (Jung, 1991, p. 551).

In the epistemological sense, although the Hallos method has always been improved its assessments over the years and seeks to be assertive in its taxonomy, there is a clear recognition that this development has no end. This occurs, why the truth cannot be found in an absolute way (Burbules, 2000) since human beings in all their multiplicity cannot be classified in a standard and static type. For this reason, as already described, one of the main statements of the Hallos method made explicit in its texts and workshops is "You are more than that" explicit so that individuals can understand that what is presented, although important, represents only a part of what the human being represents.

From de above, the project meets the essential requirements proposed for conducting scientific research, that is, the ontological, epistemological, and methodology dimensions. This also confirms the adherence of the project to the post-positivist paradigm.

3.3. Research Design

The research design represents the details of the planning and implementation of actions required to develop the research to be performed. It is expressed in the definition of objectives, in the choice of instruments and samples.

The design general objective as already described is to study the impact of the expansion of Self-awareness and the improvement of relations between leaders and members promoted by the Hallos method.

For that purpose, were planned two studies.

Study I: The first study self-report, purpose is investigating, in the self-assessment of professionals that had contact with the Hallos method, if they acknowledge an increase in Self-awareness and the impact of such change in their interpersonal relations.

Study II: The second study, member-report, aims to investigate, the changes in the relationships between leaders and their team members through some scales associated with leadership.

For this design, a framework was developed with the investigation design planning of each of the studies designed represented by Figure 12.

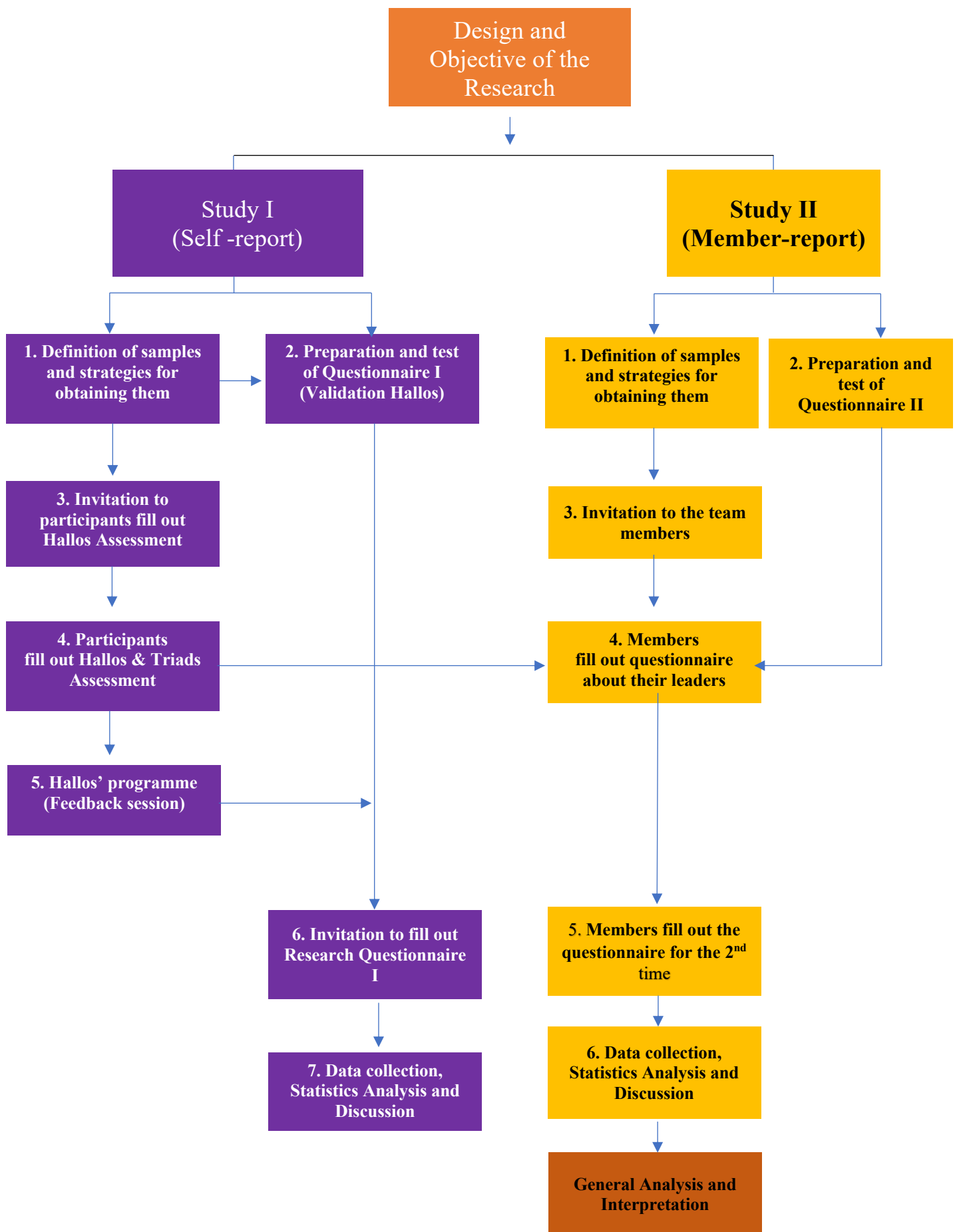


Figure 12 – Research design

To facilitate understanding of the presentation, the two studies will be detailed separately.

3.4. Study I – Self-report

The Study I, refer to the self-assessment of individuals who learned about the Hallos method in workshops. This section is organized into four parts. Section 3.4.1. is related to the objective of Study I. Section 3.4.2. describes the sample selection process. Section 3.4.3. describe the items 3, 4 and 5 of the figure 12 about the Assessment Hallos and workshop session. Section 3.4.4. describes the hypotheses developed associated with the research questions and 3.4.5. presentation of Method of Study I.

3.4.1. Objectives

The objective of Study 1 is to investigate the impact of the Hallos method on the expansion of Self-awareness and also the improvement of dyadic relationships.

3.4.2. Sample definition and collection

For the first study, it was initially planned to use convenience samples of leaders that attend workshops on the Hallos method. In order to increase participant numbers, the study included leaders of companies interested in forming teams and developing leaders using the Hallos method. To expand this sample even more and prevent distortion risk (Greene, Caracelli and Graham, 1989), it was planned to include not only leaders but also some team members, as well as other professionals with no leadership position, that attend Hallos' method workshops. That enabled obtaining samples from different groups, organizational cultures, and even some countries. Finally, to expand the investigation scope, individuals that attended Hallos workshops for more than six months were invited, even some with more than four years, to check Self-awareness expansion effects through time.

Overall sample totals 750 participants, mostly leaders, but also non-leaders, including members of teams of 17 different companies, primarily Brazilian multinationals, but also from Spain and Chile. This total of 750 participants represents total evaluations performed by the individuals that attended the Hallos method workshop, and which were subdivided into three samples.

Sample 1 – Comprised of 428 individuals, leaders, and non-leaders that answered the evaluation questionnaire only once, immediately after participating in the Hallos workshop or at most within fifteen days afterward.

Sample 2 – Comprised by 302 leaders and non-leaders that answered the evaluation questionnaire a single time, at least 6 months after knowing Hallos method. The 302 individuals were grouped according to the year in which they completed the assessment questionnaire. From 6 months to 2 years, from 2 to 4 years and over 4 years.

Sample 3 – Comprised of 36 professionals that filled in the evaluation questionnaire twice. The first time, at most fifteen days after attending Hallos method workshop. The second time, they filled in the evaluation questionnaire at least six months after attending the workshops.

3.4.3. Hallos' training programme

The Hallos training programme begins with an invitation for project participants to complete the Hallos & Triads Assessment (Figure 12, item 3), a questionnaire with 11 questions, and five sentences each, representing the typology of human archetypes proposed by Hallos & Triads (Appendix 2). With the result of the Assessment, individuals participate in the Hallos programme (Figure 12, item 5).

The Hallos' training programme was initially set up to present the Hallos & Triads Assessment result through a reflective process. Instead of just submitting a text resulting from the completion of the questionnaire, the decision was to show it in a period that varied from 4 to 5 hours of training, even though some was 2- to 3-hour.

Hallos' training plan for a current 5-hour programme

1. Introduction: We live in the age of relationships, and paradoxically, we are also in the age of artificial intelligence,
2. Check-In: Expectations and concerns in relationships,
3. Human Relations: Historical and current context – The challenges of the present,
4. Leadership in the past (autocratic) and in the present (adaptability, protagonism, collaboration, and social skills),
5. Human Polarities: Everything is polarities: Example: Relationships x Results,
6. Sympathy and Antipathy as forms of automatism in relationships,
7. Blind spots,
8. Exercise: What are my blind spots in other people's views,
9. Self-awareness and its importance,
10. Importance of diversity of human types (think, feel and act),
11. Reflection on what kind of diversity I accept and reject,
12. Hallos & Triads typology (Diversity): Understanding the qualities of each human type and the strength of complementarity and collaborative spirit,
13. Group exercise on what types bother me and why,
14. Exercises about the negative impact my type may have on the company, with colleagues and subordinates,
15. How to look at the relationship from 3 perspectives. Leader (my type), member (type of the other) and the relationship (dialogue of types).
16. How to deal with each human type,
16. The identity of human polarity,
17. The triad formed by innate talents,
18. What to honour in each type,
19. Closing

Note:

0. The current agenda helps to deepen knowledge of types (Hallos & Triads). However, the most significant interest of participants and impact continue to be the understanding of human types, reflecting on the results and the

description in the report itself in detail, on strengths, weaknesses of leaders (or other professionals), and how to deal with different types of personalities to improve the quality of relationships.

2. The typical workshop plan before the doctoral study was from 2.5 to 3 hours. There were no exercises, just an initial 30-minute exposition on Self-awareness (and blind spots), the diversity of human types, and the relationships of sympathy and antipathy. We used most of the time to talk about human types details. In addition to analysing the result with the participants, was proposed exercise about the discomfort that each type causes.

Some details regarding the training programme

Number of participants: The number of participants depends on the companies. It has ranged between 10 and 17 participants in general.

Training content:

In the typical “training” as presented in the plan, the following are shown:

Description of human types: These types were discovered through direct observation work for over ten years.

- We present, self-portraits, photos, videos, typical thoughts described by individuals themselves over the years are presented.
- At the end of the presentation, a graphic report is submitted, and clarification of doubts is carried out.
- Participants are invited to reflect on their difficulties with each type, based on real situations, and to evaluate situations in which their type helped to solve difficulties and situations in which their type brought problems.

Examples of other reflective exercises in the 5-hour workshops:

- Blind Spots:

... What do you imagine your blind spots are? ... What would the people who know you best say about what you do and that you don't realize you do? How can you reduce your blind spots?

- Diversity (think, feel and act):

- In what situations do we exclude diversity?
- In what situations do I exclude?
- What am I willing to do to change that?

Facilitators (trainer): The data presented for Study II were collected by the author himself, who was the facilitator of the workshops too. There are currently more than 100 people certified in the Hallos method in the world. There are 25 people actively working in the US, Spain, France, Chile, India, Africa, and Japan in Assessment Hallos & Triads feedback workshops. There are other certified people and companies also working in team building, leader development, coaching and hiring professionals.

Moreover, there are still cases where an individual completes the Assessment, immediately receives their report, and then participates in a Coaching session. The feedback received indicates that the report alone is enough for the professional to recognize their strengths, difficulties, and new ways of relating. These reports demonstrate that the results are independent of a facilitator and that even if there is some bias of their participation, it does not impact the results. Still, there is a preference for the reflective path of individual discovery in "training".

Hallos & Triads and Self-awareness: If Self-awareness, as this project described, is a reflective process that can be developed just by living the experiences of life and its consequences, even by reading a book, or through 360 feedback session (table 1, p. 46), the programme Hallos by bringing self-portraits, histories, real examples of positives and negatives behaviours that resonate with an individual, probably can also increase each individual's perception of the impact their behaviour has on

people in the workplace. The exchange of experiences about situations of success and failure in relationships and the understanding of new ways of acting help leaders to develop higher-quality relationships with members, which would meet one of LMX's premises, for example. This is corroborated by authors such as (Roush and Atwater (1992); Judge and Bono (2000); Judge et al. 2002; Sears and Hackett (2011), who associate personality traits with the quality in relationships and a leader's efficacy.

Finally, several authors and empirical research affirm that MBTI and the Big Five can increase Self-awareness (Goldberg, 1990; Sears and Hackett, 2011; Roush and Atwater 1992; Judge and Bono, 2000). For the similarity between the Hallos method and these instruments, it is possible to suggest that the Hallos method can probably do the same too.

Most of the research cited on such instruments as Big Five and MBTI compares leaders' effectiveness to certain personality traits. However, among the existing studies on these instruments, few present an intervention programme and its results after training.

3.4.4. Study I – Hypotheses:

According to researchers such as Gardner et al. (2005) and Tekleab et al. (2007), Self-awareness allows leaders, as well as any individual, to see themselves more broadly and opens up opportunities for a reflective process of self-regulation and behavioural changes (Duval and Wicklund, 1972; Carver and Scheier, 1998) that lead them to become more effective in leadership.

Considering the various theoretical models that promote Self-awareness, described in table 1 (p. 46), personality typologies allow individuals to recognize their tendencies, internal interferences, and biases, so that they can consciously choose their responses instead of reacting unconsciously (Whitmore, 2009), expanding their Self-awareness in-depth (Bower, 2015; p. 10) and consequently improving their relationships with members (Tekleab et al., 2007), two essential points of this project.

Among the various personality instruments that have theoretical models very similar to the Hallos method, the MBTI (Peterson and Hicks, 1995; Myers and Myers, 1995; McCarthy and Garavan, 1999) and Big Five (Goldberg, 1990; Sears and Hackett, 2011; Roush and Atwater 1992; Judge and Bono, 2000) stand out for the existence of several empirical studies that relate the importance of these instruments in the expansion of Self-awareness and also in interpersonal relationships.

The three main hypotheses proposed for Study I are related to these two points that were raised: Self-awareness and relationship.

The hypothesis was developed as follows:

Hypothesis 1: There is an increase in individual Self-awareness from Hallos' method learning

In order to analyse this hypothesis, it was requested to the participants that attended Hallos' workshop to fill in an evaluation questionnaire (Appendix 2, question 11), in which there was a question in Likert scale (1 to 5) about Self-awareness level 'before' and 'after' knowing Hallos' method. For the term Self-awareness to be understood, next to the question was written the concept of Self-awareness. For this hypothesis, evaluations were also planned on the following sub-groups: gender, generation, country, leadership level, and leaders and non-leaders.

The 108 second hypothesis is related to the second research question that the Hallos method can promote improvements in interpersonal relationships in the self-assessment of leaders.

This hypothesis was described as follows:

Hypothesis 2: Hallos' method learning fosters interpersonal relations improvement.

For this hypothesis, two analyses were planned:

The first analysis has to aim to investigate if the individuals that learned on the Hallos method could predict if this knowledge would improve their interpersonal relations. For this study, it was requested that participants, in the evaluation questionnaire (Appendix 2, question 13), attributed a 1 to 5 grade on improvement perspective in their relations from Hallos' method knowledge acquired in workshops. This analysis relates to the sum of all samples collected with a total of 750 individuals.

The second analysis refers to effective relation improvement evaluation, assessed by the project participants that filled in the evaluation questionnaire at least six months after knowing the Hallos method (sample 2). An evaluation questionnaire (Appendix 2, question 14), it was requested to participants to provide a 1 to 5 grade concerning relation improvement of the period they knew the Hallos method, until the time of the evaluation questionnaire filling in.

The third hypothesis, and which corresponds to the third research question, whether Self-awareness remains over time in the self-assessment of leaders. This analysis was planned from a comparison of samples 1 and 2, sample 2 analysis, and also separately of sample 3.

This hypothesis was described as follows:

Hypothesis 3: Self-awareness expansion remains over time

In this hypothesis, three analyses were performed:

The first analyses, making a comparison between sample 1, in which there was an evaluation questionnaire filling in soon after attending Hallos' workshop, and sample 2, in which the filling in was performed at least six months after knowing the method.

In **the second analyses**, was analysed only sample 2 and the subdivision by groups was analysed. From 6 months to 2 years, from 2 to 4 years and over four years.

For **the third analyses**, sample 3 was used, with 36 individuals that filled in the evaluation questionnaire twice in different point in times.

Table 5. Synthesis of the main hypotheses of Study I

Research Question	Hypothesis	References of similar instruments (typologies)
Hallos' method promotes the expansion of Self-awareness in individuals who learn about the method.	H1 – There is an increase in individual Self-awareness from Hallos' method learning	Peterson and Hicks (1995); Bower (2015); Goldberg (1990); Sears and Hackett, (2011); Roush and Atwater (1992); Judge and Bono (2000)
Hallos' method can improve interpersonal relationships in the participants' self-assessment.	H2 – The Hallos method fosters interpersonal relations improvement	Myers and Myers (1995); Phipps and Prieto (2011); Judge et al. (2002); Judge and Bono (2000)
Self-awareness remains over time in the participants' self-assessment.	H3 – Self-awareness expansion remains over time	Myers and Myers (1995)

It was elaborated more on two hypotheses (4 and 5) only to explore the participant's perception of the importance of diversity.

The fourth hypothesis of Study I, and which corresponds to the fourth research question, refers to whether the diversity of human types proposed by the Hallos method positively influences the perception of leaders about the general importance of diversity in the work environment. It was requested in the evaluation questionnaire (Appendix 2, question 12) if the participant acknowledges and values differences among individuals (diversity) in daily practice. The participant should

choose a 1 to 5 scale score on his/her perception before and after knowing the Hallos method.

This hypothesis was formulated as follows:

Hypothesis 4: Participants recognize the importance of diversity in the work environment and this perception is maintained over time

For this hypothesis, evaluations were also planned on the following sub-groups: gender, generation, country, leadership level, and leaders and non-leaders.

The fifth hypothesis of Study I which corresponds to the fifth research question refers to one of the assumptions of the Hallos method that is that the change in Self-awareness can improve the perception of individuals in relation to the importance of the diversity of human types, in their daily work. For this reason, an investigation planned is whether there is a correlation between Self-awareness and the importance of diversity and if changes in Self-awareness can also promote changes in the importance of diversity. For that, it was used the total sample (750 participants).

The hypothesis to be tested was elaborated as follows:

Hypothesis 5: Self-awareness has an impact on the perception of the importance of diversity in the workplace

3.4.5. Methods of Study I

This section has been divided into four parts. 3.4.5.1 description of study participants 3.4.5.2. description of the instrument, 3.4.5.3. procedures for collecting data, 3.4.5.4. description of the analysis procedures and 3.4.5.5 summaries of the results.

3.4.5.1. Participants:

The research relied on 750 participants, who answered the questionnaire soon after attending the workshop (n = 428, sample 1), and others who answered the questionnaire at least 6 months after being submitted to Hallos' method (n = 322, sample 2). There is also a third sample, comprised of 36 participants, that answered the questionnaire twice (immediately after the intervention and at least six months after the intervention). In this sample, it was analysed the longitudinal method effect.

Total sample (n = 750) was comprised by 401 men (53.5%) and 349 women (46.5%), with ages ranging from 21 to 76 years of age (M = 39.34 years of age; SD = 9.29). The greatest share of the sample was comprised of Brazilians (75.4%), with graduation (37.9%) or post-graduation (36.9%) level. Table 6 presents more detailed information.

Table 6. Sampling characteristic descriptive statistic

Variables	Mean	SD
Age	39.34	9.29
Sex	Frequency	%
Male	401	53.5
Female	349	46.5
Generation	Frequency	%
Baby Boomers	45	6.8
Generation X	261	39.5
Generation Y	338	51.2
Generation Z	16	2.4
Country	Frequency	%
Brazil	563	75.4
Chile	107	14.3
Spain	70	9.4
Other	7	0.9
Educational level	Frequency	%
Elementary / Middle School	2,0	2.1
High School	12,5	13.0
Undergraduate	36,4	37.9

MBA / postgraduate	35,5	36.9
Master	8,4	8.7
Doctoral / PhD	1,3	1.4
Job position	Frequency	%
CEO / President	11	1.5
Vice-president	7	0.9
Director	93	12.4
Manager SR	105	14.0
Manager PI	86	11.5
Manager Jr.	91	12.1
Coordinator	169	22.5
Non-Leader	188	25.1
Leadership status	Frequency	%
Leader	562	47.9
Non-Leader	188	25.1
Area of work	Frequency	%
Industrial	36	5.7
Other	281	44.1
Research and Development	38	6.0
Sales	136	21.4
Supply Chain	102	16.0
Trade marketing	44	6.9
Not informed	113	15.1

Note: SD = Standard Deviation

3.4.5.2 Instruments

For the development of the project, an evaluation questionnaire (Appendix 2) was elaborated based on the steps suggested by Churchill (1976). The survey was constructed concerning the research question, and the hypotheses planned so that it could meet the needs of the investigation.

The evaluation questionnaire was divided into three parts:

1st part – Invitation and confidentiality guarantee

- An introductory text was explaining the purpose of the research and the question of confidentiality.
- Authorization for the use of participant's data.
- Name, email

2nd part – Socio-demographic variables

- The following variables were chosen for socio-demographic study (Date of birth, gender, education, area/division, leadership Level)

3rd part – Information to be analysed

In this part, questions were elaborated to investigate the impact of the Hallos method on Self-awareness and relationships and how the importance of diversity could be assessed. The questions were developed as follows:

- o- What is the level of Self-awareness of the participant "before" and "after" knowing Hallos method. The item was described in the evaluation questionnaire (Appendix 2, question 11) as follows: - How would you rate your level of Self-awareness? Participants should choose on a scale of 1 to 5, where 1 represents "none" and 5 "very high," a score for the "before" learning the Hallos method and then also on a scale of 1 to 5 a new score for the "after" knowing the method.

- b- How much the knowledge of the Hallos method can impact interpersonal relationships. This question was presented as follows: To what extent do you think the understanding of Hallos can help you to improve the quality of your relationships between you and other people? (Appendix 2, question 13). In this

case, the choice was also from 1 to 5, where 1 represented “nothing” and 5 “significantly”.

c- What is the importance of diversity daily, “before” and “after” knowing the Hallos method. How much do you recognize and value the differences between individuals (diversity) and their importance in your daily practice? (Appendix 2, question 12). Participants should choose on a scale of 1 to 5, where 1 represents “none” and 5 “very high,” a score for the “before” learning the Hallos method and then also on a scale of 1 to 5 a new score for the “after” knowing the method.

In addition to these questions, after the evaluation questionnaire was tested and implemented in 2017, a few more questions for the final research stage were added in 2019. These questions refer to the verification of the real impact of the Hallos method on the relationship, for individuals who knew the Hallos method more than six months ago. There were three additional questions.

c- The first question associated with how much the Hallos method had positively impacted his interpersonal relationships on a Likert scale from 1 to 5, where 1 represented “nothing,” and 5 “many changes”. The question was described as follows: - How much this knowledge has brought positive improvement in your communication and relationship with other peoples. (Appendix 2, item 14)

d- The second question aimed to verify whether the changes occurred only in professional life or also in personal relationships. The question was asked as follows: In what areas of your life has this knowledge (Hallos) brought about some kind of change? The options were: None, professional, personal, or both. The purpose of this question was to verify whether the method as well as Self-awareness impacts individuals regardless of whether it is in the professional, social, or family context.

e- The third question referred to the year the questionnaire was completed. The following options were offered: I don't remember, 2016, 2017, 2018, 2019

Note: In this study, the participants completed all the “before” and “after” questions of the evaluation questionnaire (Appendix, 3) at the same time. In studies on self-report (Howard et al., 1979; Howard and Dailey, 1979) have shown that there is a more significant bias when a person completes a survey before learning the concept and again after knowing the idea. When the individual becomes familiar with the concepts, their understanding changes and according to these studies the bias in filling out is less. For this reason, the authors ((Howard et al., 1979; Howard and Dailey, 1979) recommend that the respondent assess their perception or state prior to the intervention at the same time that they answer the post-test.

3.4.5.3 Procedures for data collection

The data were collected, after workshops on the Hallos method in several ways. The evaluation questionnaires in some cases were delivered on paper at the end of workshops and received immediately or days later. A large part of the questionnaires was sent using Qualtrics software. As many individuals claimed not to have received the evaluation questionnaire email sent by Qualtrics or claimed not to have been able to access the software, the evaluation questionnaires were sent in Word via a mailing of Hallos workshop participants, directly via email.

The questionnaires filled out on paper, after workshops or received by e-mail, had their data typed in excel. The questionnaires received via Qualtrics were also transformed into Excel spreadsheets. All collected data were processed by R statistical software and transferred to SPSS for analysis of statistical data.

3.4.5.4. Procedures of data analysis

This study used non-parametric analyses to test the research hypotheses. This was considered because it is a questionnaire that uses the Likert scale and, therefore, ordinal measures and also considering that the data variability in the assessment of changes in Self-awareness levels was small (ranging only from 1 to 5). The Wilcoxon rank sum tests were used to assess whether there was a difference in the expansion of Self-awareness concerning gender and leadership status (leaders vs. non-leaders). For

variables with more than two categories (e.g., generation, country, education level, and position), the Kruskal-Wallis test was used. In the case of Kruskal-Wallis test statistical relevance, Wilcoxon rank sum tests were performed to each pair, to identify which groups stood out among themselves (Field, 2013). Finally, to assess Hallos' method longitudinal effect (sample 3), the signed rank Wilcoxon test was used, an adequate version to compare related groups (Field, 2013).

3.5. Study II – Member-report

This chapter is divided into four parts. Part 3.5.1. provides an overview of the study and its objectives. Part 3.5.2 describes the hypotheses developed associated with the research questions. Section 3.5.3 presents the sample selection and definition process. 3.5.4 presents the methods used in Study II.

3.5.1. Overview and objective

Study II was designed to investigate the impact of the Hallos method on expanding Self-awareness and on the relationships between leaders and their team members. Unlike Study I, which was developed based on the participants' self-assessment, Study II directed its investigation towards the assessment of members about their leaders. This type of assessment is important because it is the members who experience the positive or negative impact of the leaders' attitudes (Zenger and Folkman, 2013). Some authors, for example, Harris and Schaerbeek (1988), Mabe and West (1982) also claim that leaders can overestimate or underestimate their own performance, with a tendency to overestimate their evaluations. Thus, even though self-assessment has its importance, the second study expands this view, as it allows bringing the perspective of the member dimension and this provides more depth to the study. In addition, it meets the assumptions of both the Hallos method and the Leader-member exchange theory, for example, of including in any leadership study, not only the perspective of the leader but also of the member and the relationship itself.

In Study II, to assess the improvement in the relationship between leaders and members, variables related to some of the main theories of leadership were chosen and which are interested in the relationship between leaders and members. The variables are Leader-member Exchange, Authentic Leadership (associated with Self-awareness), and Transformational Leadership. In addition to these, the Emotional Intelligence variable was also chosen due to the interest of a wider scope and the interest of this theme in the Hallos method.

3.5.2. Definition of the samples

The seventeen companies and leaders who participated in Study I was invited to this second study. The project was explained in detail, especially the importance of spontaneous acceptance by leaders, because the team members would evaluate them. It would be possible at most to produce a global view of the company's results, but not the individual results by confidentiality.

Of the organizations contacted, ten companies confirmed their interest in participating in the project. Three of the companies that agreed to participate in the project are large multinational companies. The fourth company, created in Brazil, belongs to a North American group, and the fifth company is Brazilian; the smallest of them has its work linked to large multinational companies.

The leaders of these five companies participated in the Hallos method at different times. In company "C," a small group of leaders did not know the Hallos method and participated in the project as a control group.

Below is a summary of the companies.

Company "A" – It is a French multinational organization in the pharmaceutical field with more than 100,000 members with operations in more than 100 countries. In 2018, it had revenues of more than € 30 billion. The project was carried out with the leaders of the Supply Chain area in Brazil, and the team members completed the multi-source questionnaire three times (November/December 2016, April/May 2017, December 2017) about their leaders over one year.

Company “B” – Company “B” – It is a Brazilian company, which operates in the marketing of ingredients for the primary multinational food industries.

Company “C” – It is a Brazilian international company with 69,000 members, with sales in 2018 of US\$ 4 billion and customers in more than 130 countries. This company provided three samples.

1. Longitudinal Study: A group of leaders who participated in the Hallos method programme (sample 4). The questionnaire for this experimental group was filled out twice. The first was in October 2018 (pre-intervention), and the second was in September 2019 (post-intervention), three months after the Hallos training programme.

2. There is a second group from the same company, which evaluated its leaders on the pre-intervention and post-intervention time points, only once (Sample 1)

3. A third group of leaders did not participate in the Hallos programme and are called the control group (sample 2).

This particular company had, for one year, many conflicts, changes of teams and departments, turn-around and the departure of many leaders, including the President.

Company “D” – It is a company in the health area, with international prominence and that belongs to an American financial group. It is the second company in the world in the number of clinical consultations in Oncology. It is still considered a Start-up, and during the process in June 2019, it hired and replaced many leaders and members. This company provided samples for two studies. Sub-study II-1, in which participants evaluated their leaders in the pre-intervention and post-intervention time points on the Hallos programme simultaneously (sample 1). The other is a group of professionals who participated in the longitudinal Sub-study II-4 (sample 4), in which they filled out the questionnaire about their leaders twice, at different times, pre- and post-intervention of the Hallos programme with a difference of four months.

Company “E” – This company belongs to the Brazilian multinational, one of the largest beef processors in the world. The New Business Division has several companies, from soaps, diesel oil, and collagen. Only the main business heads of that organization participated in the Hallos programme.

The participants from the aforementioned companies were grouped into samples according to their participation in the project, associated with each of the sub-studies that were carried out.

Samples:

Sample 1 – This sample refers to Sub-study I. A total of 153 leaders were evaluated by 470 team members from Companies “B,” “C,” “D,” and “E.”

These team members worked with the same leader for at least six months. They assessed their leaders in July 2018, before the intervention, and in September 2018, three months after the intervention, using the same questionnaire.

Due to the very rapid changes in the studied organizations, this was the way that was found to obtain a homogeneous assessment of the members’ perception of their leaders. Although it is a limitation of this specific study, it offers a more homogeneous perception of the evaluators. This type of approach is defended by the empirical studies of Howard et al. (1979), Howard and Dailey (1979), who claim that an assessment on a change of perception before and after, done at the same time, has a smaller bias than the time-separated assessments.

Sample 2 – This sample refers to Sub-study II-2, the control group. Sixty-four leaders from Company “C” did not participate in the Hallos training programme until the end of this project. The 104 members of this group answered the questionnaire on their leaders in the same period in which the experimental group members (Company “C” – Sample 1) completed the questionnaire on their leaders in September 2018. The evaluation of the members was carried out on their leaders’ behaviour in July 2018 and September 2018, the same procedure as that of Sub-study II-1, Sample 1. This sample is intended for comparison between the experimental group and the control group.

Sample 3 – This sample refers to longitudinal Sub-study II-3. There are 32 leaders and 73 team members from Company “A” who completed the multi-source questionnaire at three different points in time. The first time (T1, n=73) in November/December 2016, a second time (T2, n= 58) in April/May 2017 and a third time (T3, n=56) in December 2018. When considering the parity between time points T1 x T2, there are 26 members and in T1 x T2 x T3, there are 19 members.

Sample 4 – This sample refers to longitudinal Sub-study II-4. One hundred nine team members completed the questionnaire about their leaders (n=60) at two different time points. The first time, pre-intervention and the second time, by the same leaders, in September 2018 (post-intervention) in most cases, three to four months after the Hallos programme. Participants belong to Companies, “A”, “C,” and “D.

3.5.3. Hypotheses of Study II:

Several empirical research studies have shown that different personality traits and types (thinking, feeling and acting) influence the quality of LMX exchanges (Pathki et al., 2021; Suresh and Sethuraman, 2013; Dulebohn et al. 2012; Sears and Hackett, 2011; Liden et al., 1997) on the effectiveness of Transformational Leadership (Tekleab et al., 2007; Myers and Myers, 1995; Hicks, 1995), on Authentic Leadership (Gardner et al., 2005), as well as on Emotional Intelligence (Higgs, 2001; Leary, Reilly, and Brown, 2008), the variables chosen for this project.

As some researchers point out, the knowledge of these personality theories can, through a reflexive process, increase the Self-awareness of individuals (Myers and Myers, 1995; Bower, 2015; Wilt and Revelle, 2012; Peterson and Hicks, 1995).

Specifically, among the theories, which have theoretical models similar to that of the Hallos method, Big Five and MBTI have been the ones that have presented the most studies that confirm that certain personality traits or types affect each of the variables used in the project.

Studies on LMX, for example, correlate the leader's attitude towards members (in-group and out-group) and the members themselves with the personality traits presented by Big Five (Pathki et al., 2021; Dulebohn et. al., 2012) and presented by MBTI (Suresh and Sethuraman, 2013).

Other studies of the MBTI instrument (Roush and Atwater, 1992; Brown and Reilly, 2008; Hautala, 2005) and Big Five (Phipps and Prieto, 2011; Judge et al., 2002; Judge and Bono, 2000) correlate personality traits to the level of effectiveness of Transformational Leadership.

Another correlation proposed by this study is to verify the Hallos programme's impact on Self-awareness and the other variables studied. Several studies suggest that there is a correlation between Self-awareness and Transformational Leadership (Tekleab et al., 2007), Self-awareness and Authentic Leadership (Gardner et al., 2005), Transformational Leadership and Authentic Leadership (Avolio and Gardner, 2005; Bass and Steidlmeier, 1999), LMX and Transformational Leadership (Basu and Green, 1996; Lee, 2008), as well as between Emotional Intelligence and LMX (Dasborough and Ashkanasy, 2002; Fisk and Friesen, 2012). Just for the correlation between Self-awareness and LMX alone, no empirical research was found. However, for all the range of studies presented, perhaps it is possible to infer that this correlation is important to this study, as LMX is the theory that better represents the relationships between leaders and members.

Two hypotheses were developed to investigate the two questions raised and meet Study II's objectives.

The first hypothesis elaborated for Study II is related to the sixth research question about the impact of the Hallos method in increasing Self-awareness and improving the relationship between leaders and their team members. The effect of the Hallos programme on the relationships between leaders and members is measured by using the variables Leader-member exchange, Transformational Leadership, and Emotional Intelligence that have several empirical studies on the quality of relationships and the effectiveness of leadership.

To test this hypothesis, team members evaluated the leaders who participated in the programme on the Hallos method. The hypothesis was formulated as follows:

H6: There will be a significant increase in team-member rated about Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX after learning the Hallos programme, and this growth is maintained over time.

To perform this analysis, participants were asked to complete the member-source questionnaire to assess whether there were changes in the behaviour of the leaders, “before” and “after” those leaders know and learn about the Hallos method in a time variation of approximately three to four months.

The second hypothesis of Study II, associated with the seventh research question, is about how much Self-awareness is related with other variables studied; Leader-member exchange, Transformational Leadership, and also Emotional Intelligence.

This hypothesis was elaborated as follows:

Hypothesis 7: There is a relationship between Self-awareness and other variables; Leader-member Exchange, Transformational Leadership, and Emotional Intelligence.

Table 7. Synthesis of the main hypotheses of Study II

Research Question	Hypothesis	References of similar studies
The Hallos method after its intervention promotes increased in Self-awareness, leader-members exchange, Transformational Leadership, and Emotional Intelligence.	H6: There will be a significant increase in team-member rated about Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX after learning the Hallos programme, and this growth is maintained over time.	Pathki et al. (2021); Suresh and Sethuraman, (2013); Dulebohn et. al. (2012); Sears and Hackett (2011); Liden et al. (1997), Tekleab et al. (2007; Myers and Myers (1995); Hicks (1995); Gardner et al. (2005); Higgs (2001; Leary, Reilly, and Brown, (2008).
There is a correlation between Self-awareness and Leader-member	H7: There is a correlation between Self-awareness and other variables;	Gardner et al. (2005); Avolio and Gardner (2005); Bass and

exchange, Transformational Leadership, and Emotional Intelligence in the assessment of members.	Leader-member Exchange, Transformational Leadership, and Emotional Intelligence.	Steidlmeier (1999); Basu and Green (1996); Lee (2008); Dasborough and Ashkanasy (2002); Fisk and Friesen, 2012)
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An additional analysis that can be carried out on Self-awareness is whether leaders underestimate or overestimate their self-report concerning the evaluation of members as shown by several studies such as Hautala (2006); Moshavi et al. (2003), Rouse and Atwater, (1992).

Thus, the hypothesis was elaborated as follows:

Hypothesis 8: The growth of the Self-awareness variable is greater in the self-assessment of leaders than of members of their teams.

3.5.4. Methods of Study II

This section has been divided into four parts. 3.5.4.1. Description of study participants, 3.5.4.2. Instruments, 3.5.4.3. Procedures for data collection, and 3.5.4.4. Description of the analysis procedures

3.5.4.1. Description of study participants

Study II is divided into four sub-studies, according to the samples used. Sub-study II – 1 is related to the study of sample 1. Sub-study II – 2 is related to the comparison between the experimental sample and the control sample. Sub-study II – 3 is related to the longitudinal study of sample 2, company “A.” Sub-study II – 4 is related to a longitudinal study carried out with a sample that includes 3 different companies (B, C and D), whose leaders were evaluated by the same members twice, in a period of three to four months before and after intervention.

Sub-study II – 1 (sample 1)

Participants:

This survey was attended by 470 individuals, members of teams of 153 leaders, from four organizations. The participating companies were: “B” – (n = 54), “C” – (n = 220), “D” – (n = 150), e “E” – (n = 46). Among the members, 270 (57.4%) were male, and 200 (42.6) were female. The sample was composed in large part by members of generation X (n = 298, 63.4%) and with higher education (n = 303, 64.5%). There was, on average, 3.07 (SD= 2.16) team members for every leader. The frequencies and percentages of sociodemographic variables can be seen in Table 8

Table 8. Frequency of sociodemographic categories of Study II -1

Company	Frequency	%
B	54	11.5
C	220	46.8
D	150	31.9
E	46	9.8
Total	470	100.0
Respondent' s gender	Frequency	%
Men	270	57.4
Women	200	42.6
Total	470	100.0
Respondent and leader's gender	Frequency	%
Both men	226	48.1
Male worker and Female leader	44	9.4
Female worker and Male Leader	122	26.0
Both Women	78	16.6
Total	470	100.0
Generation	Frequency	%

Baby Boomer	16	3.4
Generation X	298	63.4
Generation Y	102	21.7
Missing	54	11.5
Total	470	100.0
Education	Frequency	%
Elementary	1	.2
Middle School	11	2.3
High School	111	23.6
Undergraduate	303	64.5
MBA	24	5.1
Master	6	1.3
Missing	14	3.0
Total	470	100.0
Leadership	Frequency	%
Supervisor	15	3.2
Junior Manager	1	0.2
Middle Manager	7	1.5
Senior Manager	177	37.7
Director	191	40.6
Vice President	47	10.0
CEO	22	4.7
Missing	10	2.1
Total	470	100.0

Sub-study II – 2 – Experimental group x Control group

Participants:

The member in this study belong to company “C” and have a total of 324 participants. In this company, the effect of the Hallos method was tested by comparing an experimental group (n = 220, 67.9%), who participated in the Hallos workshop, and a control group (n = 104, 32.1%), who did not participate in the workshop. The effects

of sociodemographic variables on the impact of Hallos were also tested. The mean number of team members per leader was 4.49 (SD= 2.07) in the experimental group and 1.55 (SD= 0.99) in the control group. The frequencies of the gender, generation and education categories can be seen in Table 9.

Table 9. Frequency and percentages of sociodemographic variables of Study II – 2

Gender	Experimental	Control	Total sample
Men	169 (76.8%)	49 (47.1%)	218 (67.3%)
Women	51 (23.2%)	55 (52.9%)	106 (32.7%)
Total	220 (100%)	104 (100%)	324 (100%)
Generation	Experimental	Control	Total sample
Baby Boomer	7 (3,2%)	2 (1,9%)	9 (2,8%)
Generation X	184 (83,6%)	56 (53,8%)	240 (74,1)
Generation Y	29 (13,2%)	46 (44,2%)	75 (23,1%)
Total	220 (100%)	104 (100%)	324 (100%)
Educational level	Experimental	Control	Total sample
Middle School	1 (0,5%)	1 (1,0%)	2 (0,6%)
High School	40 (18,2%)	41 (39,4%)	81 (25,0%)
Undergraduate	165 (75,0%)	57 (54,8%)	222 (68,5%)
MBA	11 (5,0%)	2 (1,9%)	13 (4,0%)
Master	3 (1,4%)	3 (2,9%)	6 (1,9%)
Total	220 (100%)	104 (100%)	324 (100%)

Sub-study II – 3 – Company “A”

Participants:

Company “A” was evaluated at three different times, and each of them presented a different number of participants who completed the member-report questionnaire. Before the Hallos method (T1), 73 members answered the research questionnaire. In the second step (T2), after four months of the first assessment, data

were collected from 58 participants. In the evaluation carried out one year (T3), after the Hallos method workshop, 56 participants answered the questionnaire.

Therefore, two studies were planned.

o. Comparison between T1 (pre-intervention) and T3 (1-year post-intervention). The objective is to observe if the results are maintained over time. For this research, was chosen the same members who completed the member-report questionnaire in T1 and T3 were also chosen. In this pairing, were obtained, 26 members, and 15 leaders.

b. Comparison between T1, T2, and T3. To carry out the analyses of this research, it was necessary to pair the data of the members who participated in the three-evaluation point in times. In this pairing, 19 members were reached who evaluated 11 managers. For this study, also made socio-demographic analyses.

The group of evaluators in the final sample was composed of 12 women and seven men (63.2% and 36.8%, respectively), with 10 (52.6%) participants evaluating senior management members and nine (47.4 %) evaluated non-seniors. Among the leaders evaluated, six were male and five female (54.5% and 45.5%, respectively). Five of the evaluated leaders belonged to senior management, and six belong to middle management. The leaders were also classified according to their age group. Six leaders were up to 40 years old, and five were over 40 years old.

Table 10. Frequency and percentage for demographics variables of Sub-study II – 3 (T1 X T 2 X T3)

Respondent's gender	N	%
Men	12	63.16
Women	7	36.84
Total	19	100.00
Leaders' gender	N	%
Men	6	54.55
Women	5	45.45
Total	11	100.00

Leader's age group	N	%
Up to 40 years	6	54.55
Over 40 years	5	45.45
Total	11	100.00
Leader's management level	N	%
Middle	6	54.55
Senior	5	45.45
Total	11	100.00

Sub-study II – 4 – Longitudinal study with companies “A”, “C” and “D”

Participants

This survey had 109 participants who, in turn, assessed 60 leaders. Each participant assessed one or more leaders. Among participants, men represented 61.5% of the distribution (n = 67) and women represented 38.5% (n = 42). Regarding leaders, the proportion of men was higher than that of women (63%, n = 38), and the average age was 39.14 years (SD = 6.99). Most of the participants worked at Company A (43.1%) and Company D (40.4%), while 16% of those people worked at Company C (n = 18). The results are summarized in the following table.

Table 11. Frequency and percentage for demographics variables of Sub-study II – 4

Characteristics	Values	
	N	%
Assessors' Sample (n = 109)		
Assessors	109	-
Leaders	60	-
Assessors' Company		
Company A	47	43.1%
Company C	18	16.5%
Company D	44	40.4%

Leaders' Company		
Company A	18	30%
Company C	13	21.6%
Company D	29	48.3%
Assessor's gender		
Male	59	54.1%
Female	50	45.9%
Leader's gender		
Male	38	63.3%
Female	22	36.7%
Leader's Seniority		
Senior Leader	22	37%
Middle/Supervisor	38	63%
Leader's generation		
Baby Boomers – 54 to 73 years	2	3%
Generation X – 34 to 53 years	32	53%
Generation Y – 19 to 33 years	26	44%
Leader's age (Average (SD))	39.14	6.99

Sub-study II – 5 Self-report x member-report about Self-awareness

The present study used two different samples. Sample 1 was composed of 55 leaders who answered a questionnaire about their own Self-awareness. The second sample consisted of 191 members who assessed the Self-awareness of the same 55 leaders of sample 1. That is, sample 1 was used for self-report evaluation of leaders,

and sample 2 was used for the members-report about leaders' participants of sample1.

Table 12. Frequency of demographic variables of Study II – 5

	Leader's responses			Member's responses	
	N	%		N	%
Gender					
Male	44	80.0		159	83.2
Female	11	20.0		32	16.8
Total	55	100.0		191	100.0
Generation					
Baby Boomers	7	12.7		9	4.7
Generation X	23	41.8		129	67.5
Generation Y	15	27.3		44	23.0
Missing	10	18.2		9	4.7
Total	55	100.0		191	100.0

3.5.4.2 Instruments

For Study II, a member-report questionnaire (Appendix 3) was structured into three parts was developed:

1st. Invitation and explanation on the objective of the project and information on confidentiality, within the existing ethical recommendations.

2nd. Demographical variables: Date of birth (transformed in generations), Gender, Education, Area/Division, Leadership Level. To analyse the age variable, it was thought to group individuals by generations. As there are some variations in these classifications and as the individuals participating in this study are Brazilian, a basic classification used in marketing areas in Brazil was adopted and which is very close to the American classification.

Brazilian classification of generations:

Baby Boomers – 1945 – 1964

Generation X – 1965 – 1984

Generation Y – 1985 – 1999

Generation Z – 2000 – Current

3rd. Twenty-six questions:

For the central part of the research, four different scales were used with 26 questions in total that refer to Self-awareness, Transformational Leadership, Emotional Intelligence, and Leader-member exchange. The criterion for the choice of the items was to use in each theory, existing scales, already previously used in other research. All 26 selected items use the original Likert scale (1 to 5) where “1” represents “none,” “rarely,” or similar, and “5”, represents “very high,” fully or similar.

The complete questionnaire is presented in Appendix 3.

- **Self-awareness:** To assess Self-awareness, the sub-scale from The Authentic Leadership Questionnaire (ALQ) was used, which has been conceded by Professor Bruce Avolio (Avolio, Wernsing and Gardner, 2018; Walumbwa et al., 2008). The scale consists of 4 items, answered on a Likert scale that varies from 1 (Never/Rarely) to 5 (Very Often/Fully). In the present study, the reliability of this scale was tested and proved to be adequate ($\alpha = .78$). These questions are presented in the Appendix 3. One example is: “He / She seeks feedback to improve interactions with others”.

- **Leader-member Exchange:** To measure LMX, the scale by Graen (1995) was used. The scale consists of 7 items, answered on a Likert scale from 1 to 5. The description of this scale varied from “1” the worst evaluation, to “5” the best. Some examples of the description of 1 are (rarely, not at all, none) and of 5 (very often, fully, very high). In the present study, the reliability of this scale was tested and proved to be adequate ($\alpha = .85$). One example of a question is: “Do you usually know how satisfied your leader is with what you do?”

– **Transformational Leadership:** To assess Transformational Leadership, the subscale was used with seven items that were named as Global Transformational Leadership (GTL) scale and which were designed to represent a global leadership measurement for Transformational Leadership was used (Carless, Wearing and Mann, 2000, p. 393). The scale consists of 7 items, answered on a Likert scale that varies from 1 (Never/Rarely) to 5 (Very Often/Fully). In the present study, the reliability of the scale was tested and proved to be adequate ($\alpha = .89$). One example of a question is “Communicates a clear and positive vision of the future”.

- **Emotional Intelligence:** Emotional Intelligence: To assess Emotional Intelligence, the items OEA (Others’ emotion appraisal) and ROE (Regulation of emotion) by Wong and Law (2002, p. 270), were used. The scale consists of 8 items, answered on a Likert scale that varies from “1” (Never/Rarely) to “5” (Very Often/Fully). In the present study, the reliability of the scale was considered high ($\alpha = .92$). One example of a question is 01. Communicates a clear and positive vision of the future. One example of a question is: “Has a good understanding of the emotions of people around him/her”. Note: The Emotional Intelligence scale was using the first person, “I,” and was transformed for “He/She.”

3.5.4.3. Procedures for data collection

Initially, the member-report questionnaire was sent to the registered participants of the project through the Qualtrics software, in the planned periods. This procedure was always implemented after agreed with the companies and their leaders, who should previously inform their teams. To fill out the questionnaire, it was guidelines on freedom of participation, confidentiality, and also how to complete the questionnaire were sent. The member-report questionnaire was sent a total of three times to individuals who had not yet completed it. The surveys were received via Qualtrics in the periods already described in detail in the section on samples (4.5.4.1 Definition of the samples) and were transferred to SPSS for analysis of statistical data.

3.5.4.4. Description of the analysis procedures

Study II – 1: Companies “A,” “B,” “C,” “D”

The effect of the Hallos method was tested with the repeated measures t-test, comparing the “before” and “after” intervention time points. Then, correlation analyses were performed to measure the association of Self-awareness with other variables. Pearson’s correlation was used to correlate Self-awareness with the variables Transformational Leadership, Emotional Intelligence, and LMX.

Study II – 2: Experimental x control group

Each study variable was characterized by the mean and standard deviation at the two assessment times (pre-intervention and post-intervention). To measure the effectiveness of the Hallos method, analysis of variance (ANOVA) was used for mixed designs. This analysis examines two different types of effects: the main effect and the interaction between effects. The main effect measures the direct impact of a single independent variable on the outcome (for example, the main effect of the gender variable tests the difference between men and women). The interaction effect tests whether two or more independent variables, when together, explain additional differences between groups.

Study II – 3: Company “A”

The levels of Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX were characterized through the mean and standard deviation at each time point of assessment. To investigate the significance of longitudinal effects and demographic variables, analysis of variance (ANOVAs) was used for mixed designs (that is, comparisons between subjects and intra-subjects). As a longitudinal effect, the difference between the pre-intervention, post-intervention, and follow-up assessments (one year after Hallos) was tested. As a measure of effect size for comparisons, the partial square eta index was used (partial η^2).

Sub-study II – 4: Companies “A”, “C” and “D”

First, the database was analysed by graphics and tables to identify possible errors or inconsistencies. There were no missing or anomalous data. The categorical variables (e.g., gender and company) were presented by their absolute frequencies and percentages. Continuous variables (e.g., age and the scales) were summarized by means (M) and standard deviations (SD). The descriptive data of the sample were presented by tables and graphs.

To test the inferential hypothesis of the Hallos programme effect in company leaders, measured in two moments, on the variables such as Self-awareness, Transformational, Emotional Intelligence and LMX, t-test models for dependent samples were used, pairing the two assessment times.

Correlation techniques were used to check the strength of association between LMX, Transformational, Emotional Intelligence, and Self-awareness. The correlation between these variables was analysed before and after the intervention. Regression models were used to check the relationship between the variation of Transformational Leadership, Emotional Intelligence and LMX as a function of the self-Awareness variable.

Additionally, a hierarchical model was adjusted to the data and considered the participant's random effect and the fixed effect of intra-subject across time. This model applied the Satterthwaite correction, as recommended in the literature (Bates et al., 2015).

To check the direct and indirect effect of programme aspects, a simple mediation model was created based on the recommendation from Hayes (2018). In this model, we investigated the effect of Self-awareness levels (X) before the intervention on these same levels after the intervention (M) and then these effects on LMX (Y) after the intervention. The following diagram presents this concept.

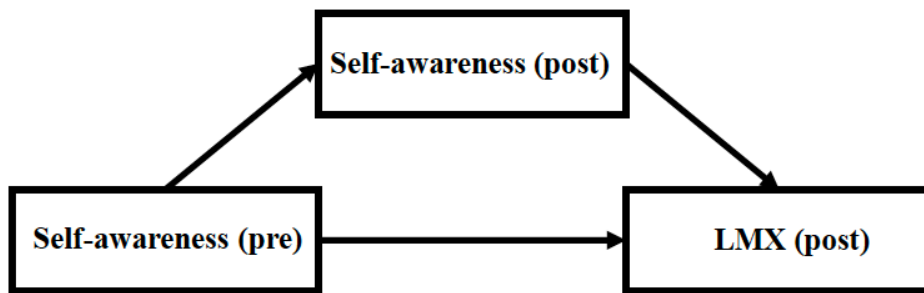
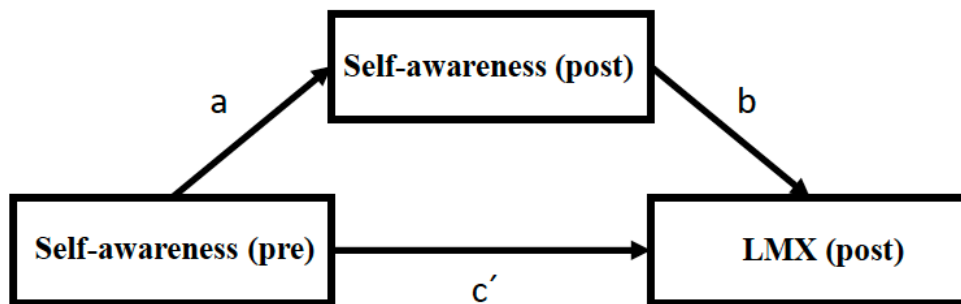


Figure 13 – Theoretical Model of the Proposed Mediation

Which is provided analytically in:



$$Y_i = b_0 + b_1M + c'X \quad \text{Equa. (1)}$$

$$M = a_0 + a_1X \quad \text{Equa. (2)}$$

With indirect effect

$$a_1b_1 \quad \text{Equa. (3)}$$

The significance level was previously set at 0.05 and all statistical analyses were performed in R 4.11 (R Core Team., 2019) in the tidyverse programming environment (Wickham, 2016), with lme4 (Bates et al., 2015) and lavaan (Rosseel, 2012) packages.

Finally, a MANOVA (Multivariate analysis of variance) was carried out to test the Hallos program effect hypothesis at two different times. This type of statistical test aims to verify the effect of a series of independent variables on results obtained by dependent variables. In this research, the independent variables are measured before the intervention, while the dependent variables are measured after the intervention.

One issue that characterizes this type of analysis is the presence of several outcome variables, which are included in the model and tested for covariance with each independent variable. The rationale for using MANOVA is due to the fact that the outcome variables in this research are correlated in some way. MANOVA results take into account the correlations of the dependent variables, correcting the P values.

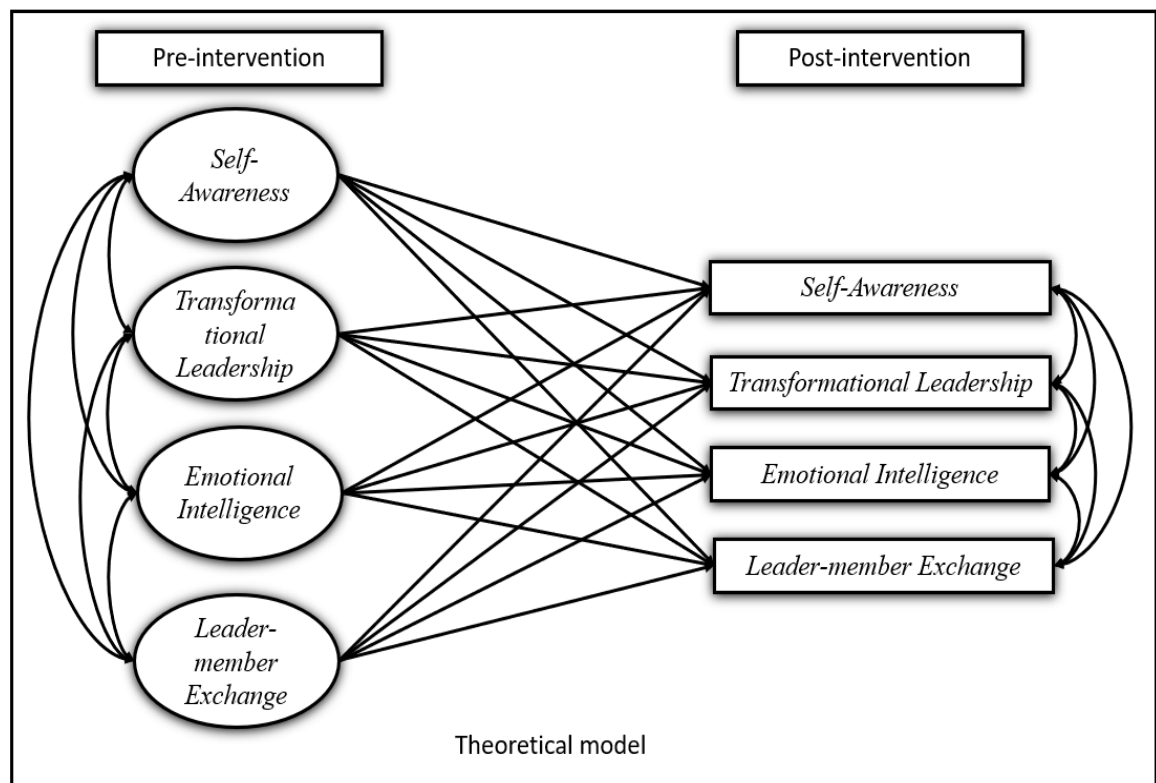


Figure 14. MANOVA Model

Study II – 5: Self-report x member report

To analyse the data from sample 1, non-parametric analyses were used. This procedure was adopted because it is the most suitable for the analysis of ordinal data, which was the level of measurement used to measure Self-awareness in sample 1. The test of Wilcoxon's assigned stations was used to evaluate the longitudinal change of

the complete sample. In sample 2, Self-awareness was measured at the scalar level, allowing the use of parametric tests. The repeated measure *t*-test was used to assess the longitudinal difference in the complete sample. For each statistical test used, the effect size was reported with Cohen's "*d*" (1988), which allows comparing the differences found with different statistical tests. Cohen's "*d*" can be interpreted from the following guidelines: "*d*" <0.5 shows a small effect; "*d*" between 0.5 and 0.8 shows median effects, and "*d*" above 0.8 shows a great effect.

Chapter 4: Results

Chapter 4 presents the results of studies I (self-report) and II assessment by members. The chapter has two sections: 4.1. Study – I, self-report, in which five of the tested hypotheses are inserted and which with 750 individuals from 17 different companies. 4.2. Study II will also present five sub-studies referring to different samples or analysis procedures. Sub-study II – 1 represents the largest group of evaluated leaders (n = 220) in the same conditions, from four different companies. Study II – 2 refers to a comparison between an experimental group and a control group of company “C.” Sub-study II – 3 stands out for being the only group of members that evaluated its leaders three times in a year. Sub-study II – 4 refers to a longitudinal study with 60 leaders evaluated by 109 members twice, the first time before the intervention of the Hallos programme and the second 3 to 4 months after the intervention. Finally, Study II – 5 makes a comparative analysis between the results of the variation in Self-awareness after the intervention between Study I self-report and Study II member-report.

The socio-demographic studies of Study I were placed on Appendix, 5 and Study II were placed on Appendix, 6

4.1. Study I – Self-report

4.1.1 Summary of results

The objective of Study I, is to investigate the impact of the Hallos method on the expansion of Self-awareness, and also the improvement of relationships.

The results will be submitted structured by hypothesis. Initially, were prepared the tables, 13 and 14, to provide a summary of the results of the hypotheses surveyed. Every study confirms the hypotheses surveyed.

Table 13. Summary of results of hypotheses H1, H3 and H4 (Study I)

Hypotheses	Sample 1			Sample 1 (partially) x Sample 2		
	Before Intervention	After Intervention	% Growth	Immediately Evaluation	Evaluation between 2 years and 4 years	% Growth
H1 – Increase of Self-awareness and H3 – Self-awareness increase keeps of time	3.14	4.17	32.8	3.05	4.18	37.0
H4 – Increase of the importance of diversity, and maintenance over time.	3.18	4.23	33	3.09	4.23	36.9

Table 13 shows that after the intervention with the Hallos method, there was a 32.8% increase in Self-awareness (H1) for the individuals in sample 1. Hypothesis H3 also showed that this growth is sustained through time, with 37% of the percentage rate. In Hypothesis 4, which assumption is participant perception improvement on work environment diversity relevance, there was a 33% increase. In the analysis, if this perception was maintained over time, the increase was 36.9%.

Table 14. Summary of results of hypotheses 2 (Study I)

H2 – Improvement of relationship	Total Sample 2	% Growth	2 years to 4 years	% Growth
Nothing + Few	13	4.3	5	4.1
Moderately	61	20.2	26	21.5
Much + significantly	228	75.5	90	74.4
Total	302	100,0	121	100,0

Table 14 is related to Hypothesis 2. It shows that the 302 participants that filled in the evaluation questionnaires six months after acquiring learning about the Hallos method acknowledge that there was a significant improvement in their relations. In sample 2 average, 75.5% of the individuals said that relation improvement was significant, and only 4.3% stated it was few or nothing. In the

observation among the participants that filled in the evaluation questionnaire between 2 and 4 years, after knowing the Hallos method, 74.4% assessed as high or very significant the relation improvement, which confirms H2.

4.1.2 Study of Hypothesis of Study I

Hypothesis 1: There is an increase in individual Self-awareness from Hallos' method learning.

Hallos' method efficacy concerning Self-awareness was analysed at first in all 750 participants. The bar graph (Figure 15) shows the response pattern before and after participation in the Hallos workshop Hallos. It can be observed that, before the workshop, most participants considered having a moderate Self-awareness, while after the workshop, the majority considered having high Self-awareness levels (see Table 15).

Table 15. Self-perceived change in Self-awareness levels

Levels of Self-awareness	Before Intervention		After Intervention	
	Frequency	%	Frequency	%
None	21	2.8	0	0
Low	119	15.9	0	0
Moderate	361	48.1	65	8.7
High	230	30.7	491	65.5
Very high	19	2.5	194	25.9

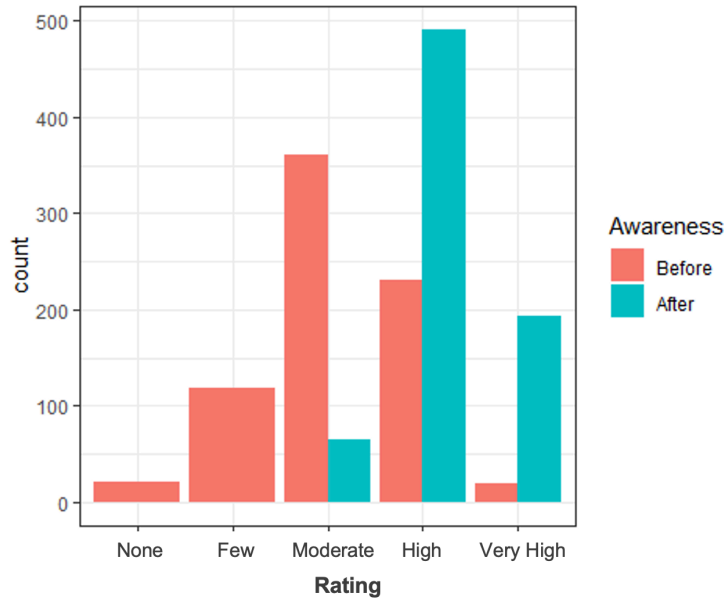


Figure 15 – Self-perceived change in Self-awareness levels

As cells were divided in None or Low (1 and 2), moderate (3) and High and Very High (4 and 5), we have the following scenario provided in Table 16:

Table 16. Self-perceived change in Self-awareness levels with category grouping

Levels of Self-awareness	Before Intervention		After Intervention	
	Frequency	%	Frequency	%
None or low	140	18.7	0	0
Moderate	361	48.1	65	8.7
High or very high	249	33.2	685	91.3

It is possible to realize that in the post-test, no participant realized Self-awareness change level was None or Low, while 91.3% of the participants realized their changes were High or Very High. This is confirmed H1 that the Hallos method promotes the expansion of Self-awareness.

Table 17 and Figure 16 provides category crossing before and after the intervention. As can be seen, the largest share of change took place among the ones that considered themselves Moderate and then changed to High (n = 288). And the

largest share of stability (i.e., participants that did not report change) were the ones that considered themselves High and remained High (n = 126).

Table 17. Self-awareness level change (pre- and post-intervention)

Self-awareness (pre-test)		Self-awareness (post-test)		
		Moderate	High	Very High
	None	6	10	5
	Low	34	67	18
	Moderate	25	288	48
	High	0	126	104
	Very high	0	0	19

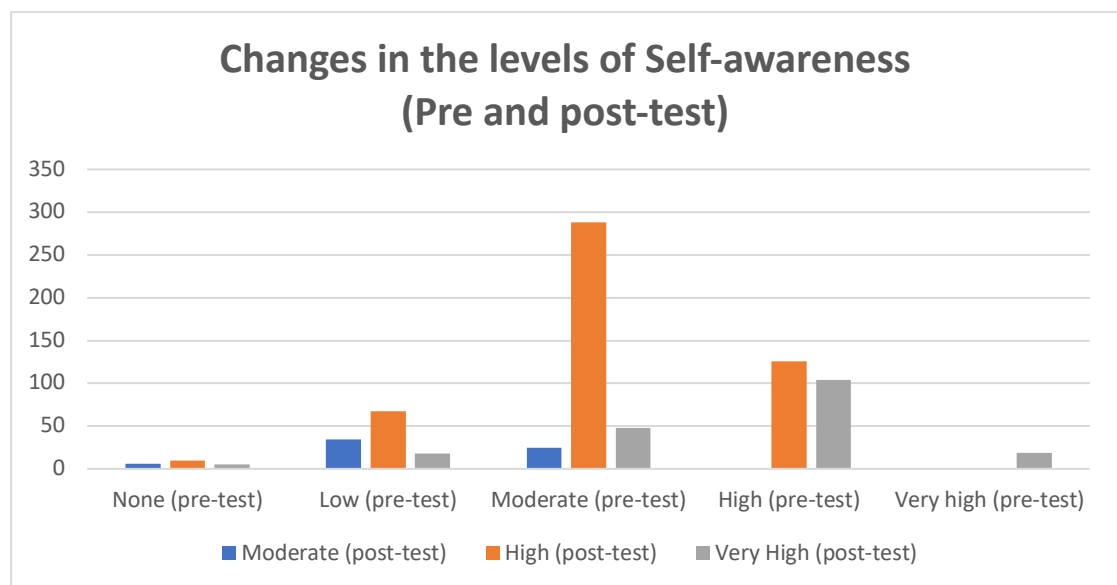


Figure 16 – Self-awareness level change (pre and post-test/intervention)

In terms of score changes, it was possible to realize a mean increase around 32.8% post-test (M = 4.17; SD = 0.81), when compared to pre-test (M = 3.14, SD = 0.56) (see Table 18 and Figure 17).

Table 18. Descriptive statistics of differences between assessments before and after the workshop (intervention).

Variables	Before Intervention		After Intervention		After Int. – Before Intervention		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Self-awareness	3.14	0.81	4.17	0.56	1.03	0.77	32.8%

SD: Standard Deviation Int: Intervention

The difference between perception before and after Hallos’ method knowledge was statistically significant ($W = 168490, p < 0.01$), showing that the participants realize a Self-awareness increase after being submitted to Hallos’ method, which supports H1.

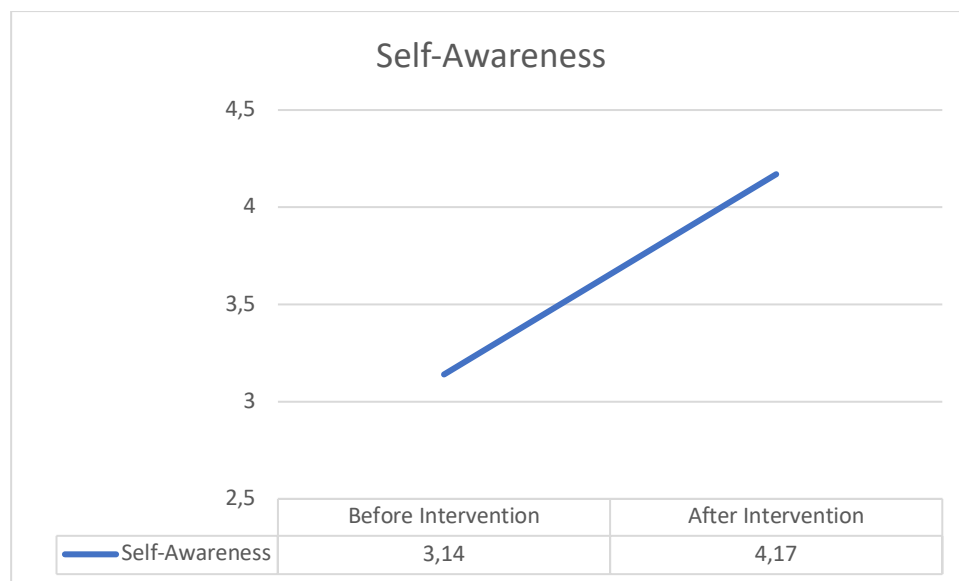


Figure 17 – Self-awareness perceived score level increase

- Differences between Leaders and Non-Leaders

There is a premise of theories such as Leader-member-exchange (Martin, 2015; Graen, 1995) and Transformational Leadership (Tekleab et al., 2007) that leadership studies should cover the perspective of the members, not just the leaders. This analysis

is important because, in the case of this study if there is a significant difference between the assessments of leaders and non-leaders, it could impact the results of the analyses. The descriptive statistics for this study are provided in Table 19.

Table 19. Descriptive statistics of differences between assessments before and after the intervention (workshop) separated by leader and non-leader.

Leader	Before Intervention		After Intervention		After Int. – Before Intervention		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Non-Leader	3.05	0.87	4.15	0.58	1.11	0.77	36.1%
Leader	3.17	0.79	4.18	0.56	1.00	0.77	31.9%

For Self-awareness, leaders and non-leaders presented statistically significant changes (Leaders, $T=91806$; Non-Leaders, $T=11628$, $p < 0.001$). The Kruskal-Wallis test points out the difference between groups are not statistically significant ($H(7) = 11.87$ $p = 0.11$).

Hypothesis 2 – Hallos method learning fosters interpersonal relations improvement.

This hypothesis was divided into two analyses. The first one is related to participant expectation that Hallos methods could promote improvement in interpersonal relationships ($n = 750$), and if this perspective is sustained through time. The second study with participants that filled in the evaluation questionnaire more than six months after knowing Hallos method analyses if Hallos method fostered interpersonal relation improvement (sample 2 $n=302$) through time.

1st analyses – Hallos method can foster relation improvement:

At first, it was tested if Hallos method learning could improve their interpersonal relations in the sample 750 participant perception. The participants answered to this question in a five-point Likert scale (1= “Not” to 5=

“Significantly”). Most participants considered their relations could improve though Hallos’ knowledge (Table 20).

Table 20. Possibility of improving of the quality of the relations for the total sample and sub-groups.

Improvement	Total Sample	Immediately	6 months to 2 years	2 years to 4 years	> 4 years
Not	1	0	0	1	0
Little	5	1	2	2	0
Moderately	52	14	18	16	4
Much	394	233	91	57	13
Significantly	298	181	53	48	16
Total	750	429	164	124	33

Note: The table above represents the period between the moment the participant participated in the Hallos workshop and the moment he completed the evaluation questionnaire. According to the year of completion of the evaluation questionnaire, they were grouped into immediately (maximum 2 weeks after attending the workshop), 6 months to 2 years, 2 years to 4 years, and more than 4 years.

The table below was elaborated, starting from Table 21, to group the answers in 3 levels. Little = 1st Not + Little, Moderately = Moderately and Significantly = Much + significantly.

Table 21. Possibility of improving the quality of relationships

Improvement	Total Sample	%	Immediately	%	6 months to 2 years	%	2 years to 4 years	%	> 4 years	%
Little	6	0.8	1	0.2	2	11.1	3	18.8	0	0.0
Moderately	52	6.9	14	3.3	18	12.5	16	15.2	4	12.1
Significantly	692	92.3	414	96.5	144	87.8	105	84.7	29	87.9
Total	750	100	429	100	164	100	124	100	33	100

This table shows that 92.3% of the participants, in the total sample, believe that learning the Hallos method will significantly improve their relationships, and

less than 1% assume that the improvement in relations will be small. The table also shows, for example, that 87.8% of the participants who completed the assessment questionnaire from 6 months to 2 years also believe that relationships will significantly improve. The table thus shows in the perception of participants that the expectation of improvement in relations remains with time, after knowing the Hallos method (Figure 18).

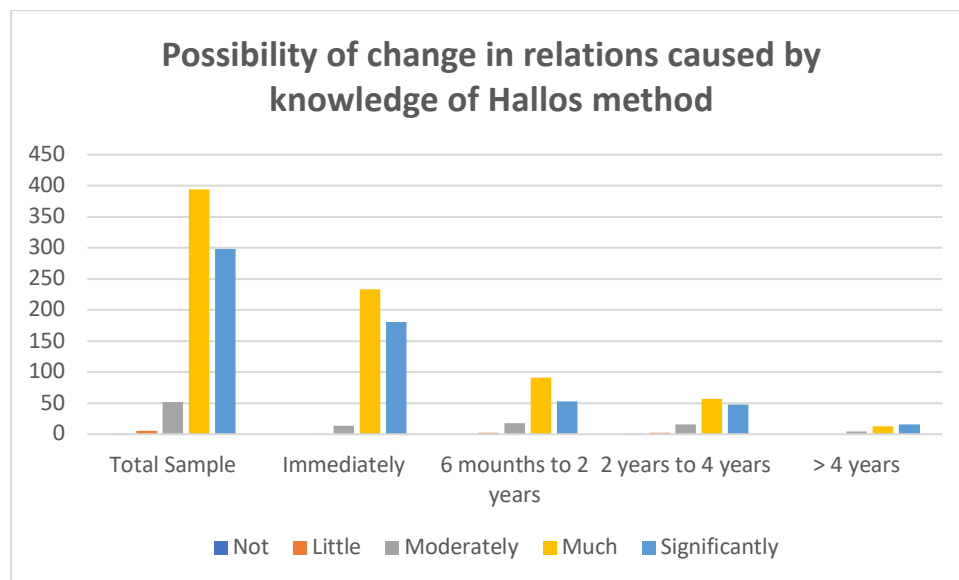


Figure 18 – Possibility of changes in relations caused by Hallos’ knowledge

Table 22 and Figure 19 provide descriptive statistics of each research response point in time. Kruskal-Wallis test was used to test if relation improvement perspective varied according to the point in time (immediately, 6 months to 2 years, 2 years to 4 years, more than 4 years) the participant answered the questionnaire. The results showed that there were statistically significant differences between response moments ($H(3) = 11.26 p = 0.01$).

Table 22. Descriptive statistics of relation improvement perspective

Group	N	Mean	SD	Mean Ranks
Immediately	429	4.38	0.56	393.62
6 months to 2 years	164	4.19	0.67	339.77
2 to 4 years	124	4.20	0.79	354.55
> 4 years	33	4.36	0.70	396.23

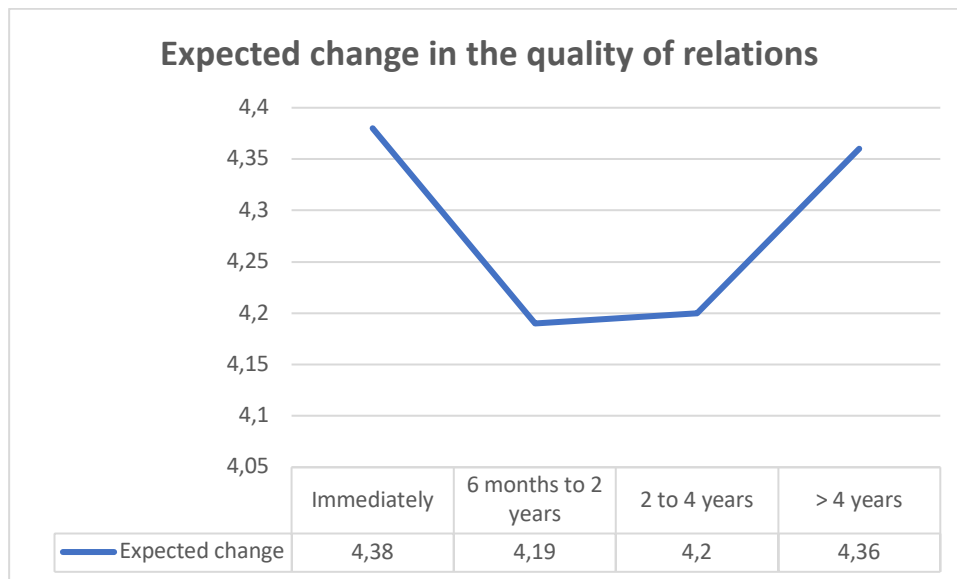


Figure 19 – Change expected in relation quality after knowing Hallos method

Post hoc analyses were performed to investigate further paired differences between groups. Wilcoxon post sum test was used with a significance level corrected through the Bonferroni procedure. Bonferroni correction pointed out that only p-values under .008 could be considered as statistically significant (Table 23).

Post hoc tests showed only one statistically significant difference: from immediate responses and responses registered from six months to two years after the workshop ($W = 43582.00$ $p = 0.002$, see Table 23). Participants that answered the questionnaire from six months to two years ($M = 4.19$ $SD = 0.67$, mean rank = 339.77) showed improvement perspective lower than the participants that answered soon after the workshop ($M = 4.38$ $SD = 0.56$, mean rank = 393.62).

Table 23. Group comparison *post hoc* analyses

	Immediately	6 months to 2 years	2 to 4 years	> 4 years
6 months to 2 years	$W = 43582$ $p = .002$	1		
2 to 4 years	$W = 31622$ $p = .050$	$W = 23354$ $p = .588$	1	
> 4 years	$W = 99234$ $p = .903$	$W = 15846$ $p = .147$	$W = 9580.5$ $p = .312$	1

2nd analyses – The Hallos method promotes improvement in interpersonal relationships, and these are maintained over time.

For this study, sample 2 (n =302) was used, related to individuals that filled in the evaluation questionnaire for at least 6 months after knowing the Hallos method. The evaluation was performed on a 5-point Likert scale.

Table 24 shows the distribution of the scores chosen by the participants and the percentages of this choice in sample 2.

Table 24. Observed frequencies of Improvement of the quality of the relations for the total of sample 2

	Observed Frequency	Percentage
Improvement		
Nothing	2	0.7%
Little	11	3.6%
Moderately	61	20.2%
Much	89	29.5%
Significantly	139	46.0%
Total	302	100%

The answers described in table 24, were structured in three groups, described as 1. Little, adding the scores nothing and little, 2. Moderately and 3. Significantly, adding the scores 4, and 5, (much and significantly) whose results are shown in Table 25 below.

Table 25. Improvement of the quality of the relations in groups

improvement of relationship	Total Sample	Percentage
Little	13	4,3
Moderately	61	20,2
Significantly	228	75,5
Total	302	100,0

Chi-square test pointed out that there is a significant difference between category frequencies ($\chi^2(4) = 212.70, p < 0.01$). As can be seen in table 25, 75.5% of participants understand that the Hallos method fostered significant improvements in their relations. Only 20.2% reported a moderate change, and 4.3% said it was little. It confirms hypothesis H2 that the Hallos method fosters interpersonal relation improvements.

Table 26 provides the distribution of responses given by the participants that are part of sample 2, according to the period they filled in, including missing data. According to the year each evaluation questionnaire was filled in, response groups were developed, in which evaluation questionnaires were filled in: six months to two years, 2 years to 4 years, and more than 4 years.

Table 26. Improvement on the quality of the relations for the total sample and subgroups.

Improvement	Total Sample 2	6 months to 2 years	2 years to 4 years	> 4 years
Nothing	2	2	0	0
Little	11	4	5	2
Moderately	61	32	26	3
Much	89	34	44	11
Significantly	139	78	46	15
Missing	19	14	3	2
Total	322	164	124	33

Table 27 provides a response distribution without missing data and structured in three groups, as was done with the previous ones. The results show a relation quality improvement perceived by the participants, ranging from 74.4% to 83.9% high or significant, what confirms not only that Hallos method influences relation improvement, but also how this improvement is sustained through time.

Table 27. Improvement on the quality of the relations for the sample 2 (without missing) and subgroups analyses

Improvement Relations	Total Sample 2	% Growth	6 months to 2 years	% Growth	2 years to 4 years	% Growth	> 4 years	% Growth
Little	13	4.3	6	4.0	5	4.1	2	6.5
Moderately	61	20.2	32	21.3	26	21.5	3	9.7
Significantly	228	75.5	112	74.7	90	74.4	26	83.9
Total	302	100,0	150	100,0	121	100,0	31	100,0

Table 28 provides the mean and standard deviation in change perception. Kruskal-Wallis test to compare several independent groups did not point out significant differences among groups ($H(2) = 2.98, p = 0.23$). That is, relation improvements kept stable through time (Figure 20).

Table 28. Descriptive statistics of relation improvement to participants that answered the evaluation questionnaire after six months.

Group	N	Mean	SD
6 months to 2 years	164	4.21	0.96
2 to 4 years	124	4.08	0.87
> 4 years	33	4.26	0.89

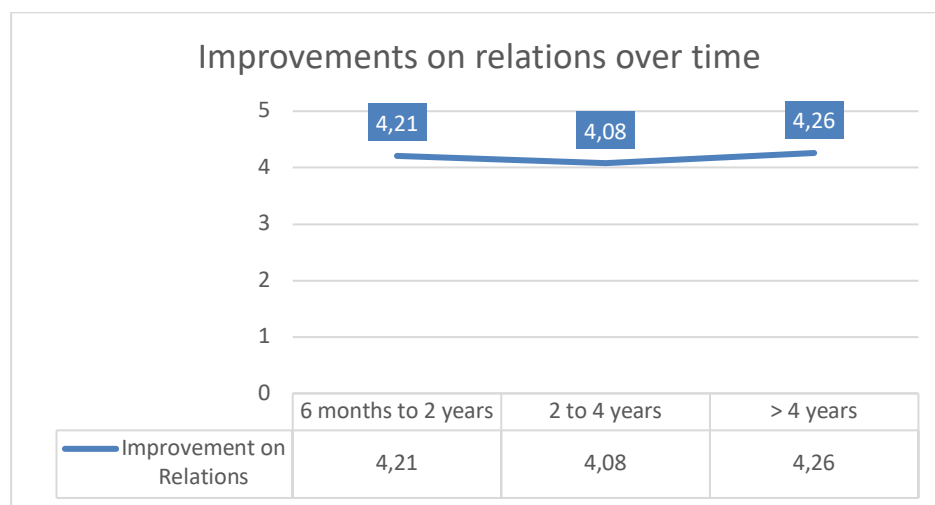


Figure 20 – Descriptive statistics of relation improvement to participants that answered the evaluation questionnaire after six months

- The expansion of Self-awareness fosters improvement in relations (sample 1 to leaders and non-leaders).

This hypothesis was tested only with participants that answered the questionnaire within fifteen days after attending the workshop (sample 1, n= 428). The participants were asked how Hallos' method knowledge could help them to improve their relation quality. Responses ranged from (1 = Nothing to 5 = Significantly). As can be seen, there was a high improvement perception between leaders and non-leaders (Table 29).

Table 29. Descriptive statistics on relation improvement

Group	N	Mean	SD
Sample 1	428	4.38	0.56
Non-Leader	110	4.26	0.65
Leader	318	4.33	0.64

It could be observed their responses were extremely similar. There were no significant differences between groups ($W = 68034$ $p = 0.86$), thus improvement perception was statistically equivalent to leaders and non-leaders.

- Hallos method fosters improvement in relations (sample 2 to leaders and non-leaders).

In order to test the hypothesis that Hallos method, indeed, improved relations to leaders and non-leaders, only questionnaires of participants that answered the survey at least six months after attending the workshop were used (sample 2, n= 302). The question asked to these participants was whether they noticed an improvement in their relations after participating in Hallos' method. Participant responses are summarized in Table 30. Both groups presented a high change perception. Wilcoxon post sum test showed there were no significant differences between leaders and non-leaders ($W = 34275,5$ $p = 0.35$).

Table 30. Descriptive statistics on whether Hallos method actually improved relations

Group	N	Mean	SD
Sample 2	322	4.17	0.92
Non-Leader	244	4.21	1.02
Leader	78	4.15	0.89

- The area in which there was relation improvement

It was asked to participants in which life area there was relation improvement. This study aimed to verify the scope of the Hallos method, since there was an assumption that changes in Self-awareness can generate behavioural changes, both in professional and personal life. The response options were ‘Personal,’ ‘Professional,’ or ‘Both.’ Only participants that answered the questionnaire at least six months after attending Hallos workshop (sample 2, n= 302) answering this question.

Chi-square test pointed out a statistically significant difference between the response number of each alternative ($\chi^2 (2) = 184.83, p < 0.01$). Table 31 provides that 65.5% said there was personal and professional relation improvement. Approximately one-quarter of the participants (28.3%) reported only professional relation improvements. It demonstrates that the improvement perception in both areas (personal and professional) was more significant than the individuals who realized that there was a change only in personal or professional life (Figure 21).

Table 31. Response frequency on relations improved with Hallos method

	Frequency	%
Professional	91	28.3%
Personal	15	4.7%
Both	211	65.5%
Missing	5	1.6%
Total	322	100.0%

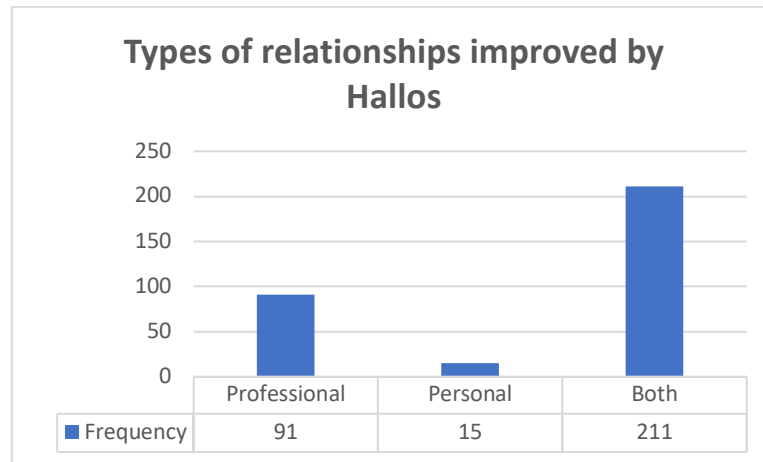


Figure 21 – Types of relations improved by Hallos

Hypothesis 3 – Self-awareness expansion remains over time

In order to analyse this hypothesis, three studies were developed. **The first analyses** compare sample 1 (n = 428), which refers individuals who completed the evaluation questionnaire shortly after knowing the Hallos method with sample 2 (n = 302), that is, the group of those who completed the evaluation questionnaire at least six months after knowing the Hallos method. **The second analyses** investigate the evolution of Self-awareness in the three groups (6 months to 2 years, 2 years to 4 years, and more than 4 years) of time in sample 2, and **the third analyses** refers to individuals (n = 36) who completed the assessment questionnaire twice.

The first analyses of H3 was investigating the evolution of the Self-awareness levels of the participants that answered the evaluation questionnaire soon after the workshop (sample 1) in comparison to the individuals that answered the evaluation questionnaire at least six months later (sample 2). (See Table 32).

Table 32. Descriptive statistics on Self-awareness change

Sample	Before Intervention		After Intervention		After Int. – Before Int.		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Sample 1	3.23	0.78	4.21	0.55	0.98	0.73	30.3
Sample 2	3.03	0.84	4.12	0.57	1.09	0.82	35.9

This result points out that change in Self-awareness is statistically more significant in individuals that answered the questionnaire after a few months when compared to those who responded soon after the intervention. However, the Wilcoxon test shows that the difference between both samples is not statistically significant ($W = 156265.5$ $p = 0.09$).

The second analyses purpose was investigating how Self-awareness progress was sustained through time in sample 2 that was comprised by people that answered from 6 to 24 months after the workshop ($n = 164$), participants that answered from 24 to 48 months after the workshop ($n = 124$), and participants that answered more than 48 months later ($n = 33$). Table 33 provide the scores achieved. Kruskal-Wallis test, once more, showed there were no statistically significant differences in change scores among any of the groups, indicating that the positive effect is sustained through time. Figure 22 provides score progress in every research moment (immediately, six months to 2 years, two years to 4 years, more than four years).

Table 33. Descriptive statistics of Self-awareness change perception to samples 1 and 2 participants.

Time of response	Before Intervention		After Intervention		After Int. – Before Int.		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Immediately (Sample 1)	3.23	0.78	4.21	0.55	0.98	0.73	30%
6 months to 2 years	3.03	0.87	4.09	0.53	1.06	0.79	35%
2 to 4 years	3.05	0.77	4.18	0.61	1.13	0.83	37%
> 4 years	2.94	0.88	4.03	0.59	1.09	0.96	37%

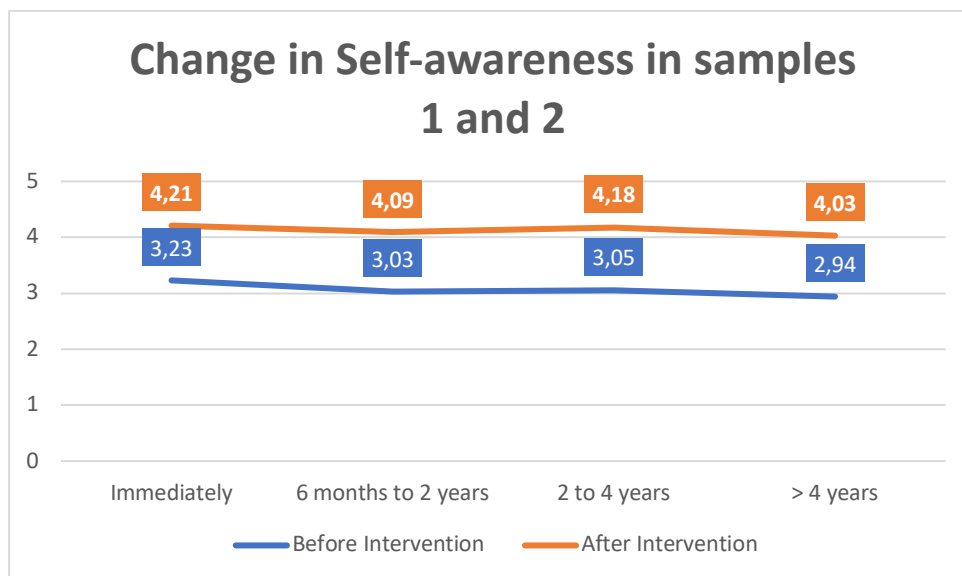


Figure 22 – Descriptive statistics of Self-awareness change perception to samples 1 and 2 participants.

The third analyses use sample 3, which refers to the 36 participants who completed the assessment questionnaire twice, the first just after learning about the Hallos method and the second more than six months after participating in the Hallos workshop. It can be seen (Table 34) that Self-awareness means at the point in time later (6 months) was higher than the immediate assessment.

Table 34. Descriptive statistics on change self-assessment (immediate response vs. late response)

Variable	Immediate Response		Late Response		After Int. – Before Int.		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Self-awareness	3.03	0.94	4.08	0.65	1.05	1.12	35

Self-awareness longitudinal difference was assessed with the Wilcoxon signal post-test, which pointed out the difference is not statistically relevant to Self-awareness ($T = 54$, $p = 0.07$). That is, Self-awareness change perception remained the same in both assessment point in times. The means differed by 1.05, however, possibly due to small sampling size ($n = 36$), the difference was not statistically significant.

These three studies show there is Self-awareness growth in individual perception that filled in the evaluation questionnaire soon after the workshop about the Hallos method, and the ones that fill in the evaluation questionnaire at least six months after knowing the method. That confirms H3, that Self-awareness is sustained through time. Actually, it grew.

Hypothesis 4 – Participants recognize the importance of diversity in the work environment and this perception is maintained over time

This study refers to research on the impact of the Hallos method on the perception of the importance of (general) diversity in the work environment.

Hallos method effect on diversity relevance to the following sub-groups was also investigated: gender, generations, country, leadership level, leaders, and non-leaders (Appendix 4)

Diversity relevance assessment was analysed first concerning all 750 participants. A mostly moderate perception could be seen again before the workshop to high importance after the workshop (Table 35 and Figure 23).

Table 35. Diversity self-perceived change

Diversity	Before the Intervention		After the Intervention	
	Frequency	%	Frequency	%
None	21	2.8	1	0.1
Low	143	19.1	2	0.3
Moderate	303	40.4	64	8.5
High	243	32.4	441	58.8
Very High	40	5.3	242	32.3

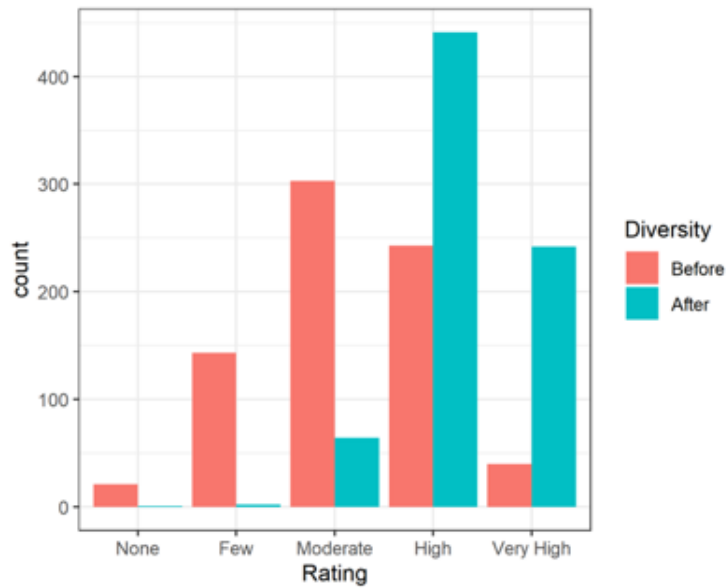


Figure 23 – Self-perceived change in diversity levels

A grouping of the cells “None” or “Low” and “High” and “Very High” was done. This is shown in Table 36. It is possible to realize that in the post-test, that 91.1% of the participants perceived their changes as “High or Very High,” and only 0.4% of participants perceived their change levels concerning diversity relevance as “None or Low.

Table 36. Self-perceived change in diversity relevance levels with category grouping.

Diversity Levels	Before the Intervention		After the Intervention	
	Frequency	%	Frequency	%
Low	164	21.9	3	0.4
Moderate	303	40.4	64	8.5
High	283	37.7	683	91.1

Table 37 and Figure 24 provide category crossing before and after the intervention. As can be seen, the largest share of movement was performed among those who considered themselves as Moderate and changed to “High” (n = 288). And the greatest share of stability (i.e., participants that did not report change) were the ones that considered themselves High and remained High (n = 126).

Table 37. Diversity relevance level movement (pre and post-test)

Diversity (pre-test)	Diversity (post-test)				
	None	Low	Moderate	High	Very High
None	1	0	7	11	2
Low	0	2	39	84	18
Moderate	0	0	18	211	74
High	0	0	0	135	108
Very High	0	0	0	0	40

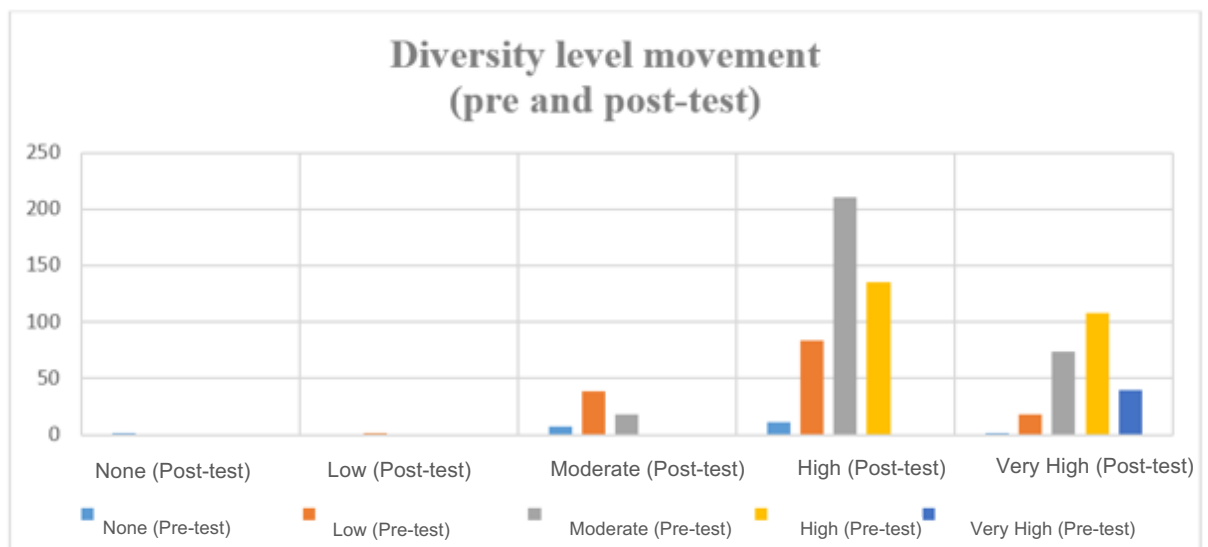


Figure 24 – Diversity level movement (pre and post-test)

In terms of score change, it was possible to realize there was a mean increase of approximately 33.0% in post-test ($M = 4.23$; $SD = 0.61$), when compared to pre-test ($M = 3.18$, $SD = 0.81$) (see Table 38).

Table 38. Descriptive statistics of differences between assessments before and after workshop.

Variables	Before Intervention		After Intervention		After Assessment – Before Assessment		Approximate growth percentage
	Mean	SD	Mean	SD	Mean	SD	
Diversity	3.18	0.90	4.23	0.61	1.04	0.81	33.0%

SD: Standard deviation

The difference between perception before and after the workshop was statistically significant to diversity (Wilcoxon's Z test = 21.19, $p < 0.01$), showing that the participants recognize an increase in perception about the importance of diversity after being submitted to Hallos method. This confirms H4 about the influence of the Hallos method on the perception of diversity.

- Differences between Leaders and Non-Leaders

In the investigation, it was intended to investigate if there was a difference in perceived change levels about diversity relevance between who was a leader and who was not. Descriptive statistics are provided in Table 39.

Table 39. Descriptive statistics of differences between assessments before and after workshop separated by being a leader or not.

Leader	Before Assessment		After Assessment		After Assessment – Before Assessment		Approximate change percentage
	Mean	SD	Mean	SD	Mean Difference	SD	
Non-Leader	3.20	0.93	4.17	0.62	0.97	0.77	30.0%
Leader	3.18	0.89	4.25	0.61	1.07	0.83	34.0%

Concerning diversity, leaders and non-leaders presented statistically significant changes (Leaders, $Z = -18.37$; Non-Leaders, $Z = -10.57$, $p < 0.001$). Wilcoxon W test pointed out that group change is not statistically significant ($Z = -1.234$, $p = 0.22$).

- Diversity relevance perception is sustained through time

The perceived relevance of diversity was compared in people that answered the questionnaire soon after the workshop (sample 1) and people that answered, at least, six months later (sample 2). (see Table 40).

Table 40. Descriptive statistics on diversity change

Variable	Group	Mean	SD
Diversity	Sample 1	1.01	0.78
	Sample 2	1.09	0.84

Note: Sample 1, n= 428; Sample 2, n= 322. Mean and standard-deviation based on the difference scores between before and after the intervention.

The results point to diversity relevance perception is mathematically higher in individuals that answered the questionnaire after some months (sample 2), when compared to those who responded soon after the intervention (sample 1). However, the Wilcoxon test showed that the difference between both samples is not statistically significant ($W = 156884.5$ $p = 0.16$).

It is worth noting that the 750 participants are divided into two large groups. Sample 1, composed of n= 428, who answered the questionnaire immediately after knowing Hallos method. The sample 2 (n = 322) It is worth noting that sample 2 was comprised of people that answered from 6 to 24 months after the workshop (n = 164), participants that answer from 24 to 48 months after the workshop (n = 124), and participants that answered after 48 months (n = 32). Table 41 and Figure 25 provide the scores achieved. Kruskal-Wallis test, once more showed there are no statistically significant differences in change scores among none of the groups, showing that the positive effect perceived is sustained through time.

Table 41. Descriptive statistics of diversity change perception to samples 1 and 2 participants.

Leader	Before Assessment		After Assessment		After Assessment – Before Assessment		Approximate change percentage
	Mean	SD	Mean	SD	Mean Difference	SD	
Immediately	3.24	0.86	4.25	0.58	1.01	78	31%
6 months to 2 years	3.14	1.00	4.15	0.69	1.01	83	32%
2 to 4 years	3.09	0.87	4.23	0.66	1.15	83	37%
> 4 years	3.00	0.92	4.31	0.54	1.31	97	44%

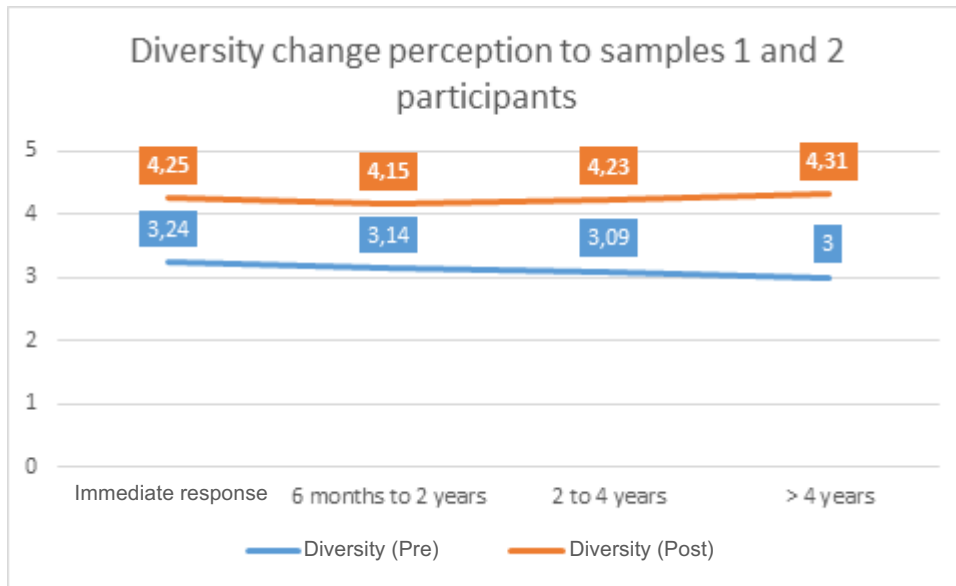


Figure 25 – Descriptive statistics of diversity change perception to samples 1 and 2 participants.

This result confirms H4 and the perception of the importance of diversity remains over time, after knowing the Hallos method.

- Comparison of individuals that fill out the evaluation questionnaire twice about diversity (Sample 3)

A longitudinal comparison was performed in sample 3. The sample is comprised by 36 participants assessed in two different point in times (immediate response and late response, from six months to + 4 years after the intervention). It can be seen (Table 42) that change mean in later time was slightly higher than the immediate assessment.

Table 42. Descriptive statistics on change self-assessment (immediate response vs. late response)

Variable	Immediate response		Late response (from 6 months)	
	Mean	SD	Mean	SD
Diversity	1.19	0.89	1.44	0.94

Diversity longitudinal difference was assessed with Wilcoxon signal post-test, that pointed out that the difference is not statistically significant to diversity ($T = 74$, $p = 0.21$). That is, change perception remained the same in two assessment point in times.

This study, like all others, confirms H4 that the Hallos method promotes an improvement in the perception of the importance of diversity in the work environment.

Hypothesis 5: Self-awareness has an impact on the perception of the importance of diversity in the workplace

To analyse whether changes in Self-awareness promote changes in perception about the importance of diversity in the workplace, the difference between the levels of Self-awareness and Diversity reported before and after the Hallos workshop (Table 43) was analysed. Linear regression was used to measure the impact of the change in Self-awareness on the change observed in Diversity.

Table 43. Descriptive statistics of the perception of change in Self-awareness and Diversity.

Variable	Before Intervention		After Intervention		After Int. – Before Int.		Growth percentage
	Mean	SD	Mean	SD	Mean Diff	SD	
Self-awareness	3.14	0.81	4.17	0.56	1.03	0.77	32.08%
Diversity	3.18	0.90	4.23	0.62	1.04	0.81	32.70%

Regression analysis resulted in a statistically significant model ($F(1, 748) = 279.38$, $p < 0.01$) and pointed out that Self-awareness explained 27.2% of variance observed in the change of diversity. That is, 27.2% of diversity change can be attributed to Self-awareness change. As the regression coefficient is observed (column B, table 44), it can be seen that a point change in Self-awareness corresponds to a 0.496-point change of diversity.

Table 44. Self-awareness on the diversity regression coefficient

Model	B	Standardized coefficients	<i>t</i>	<i>p</i>
		Beta		
(Intercept)	0.511		11.387	0.000
Self-awareness	0.496	0.521	16.715	0.000

4.2. Study II – Member-report

4.2.1. – Summary of studies

The Study II, called member-report, was subdivided into four other studies. The table 45 presents a summary of these studies.

Table 45. Summary of sub-studies for hypothesis 6

Hypothesis 6: There will be a significant increase in team-member rated about Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX after learning the Hallos method, and this growth is maintained over time.					
Study II	Member rating	Sample	Companies	N (members)	N (leaders)
Sub-study II – 1	“Before” and “after “intervention (September 2019)	1	B, C, D, E	470	153
Sub-study II – 2	(T1) “before intervention” x (T3) one year “after” intervention	2	“A”	T1 x T3 = 26 T1xT2xT3= 19	15/11
Sub-study II – 3	Experimental x Control Group	1 x 3	“C”	220 (Ex) / 104 (Co)	49 / 67
Sub-study II – 4	Sub-study II – 4: Longitudinal (“A”, “C” and “D”)	4	A, C, D	109	60

4.2.2 Study II – 1 – Companies “B”, “C”, “D”, “E”

Analysis of the studied hypotheses.

H6: There will be a significant increase in team-member rated about Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX after learning the Hallos method, and this growth is maintained over time.

4.2.2.1 – Summary of results for hypothesis 6

To summarize the results of the four sub-studies carried out, the table 46 was prepared with a descriptive analysis of each one.

Table 46. Summary of Study II results for Hypothesis 6

Variables	Study II – Synthesis	N	Pre-Intervention (Before)		Post-Intervention (After Hallos)		Growth %
			Mean	SD	Mean	SD	
Self-awareness	Sub-study II – 1: Companies “B”, “C”, “D”, E”	470	3.68	0.80	3.86	0.80	4.81%
	Sub-study II – 2: Experimental “C”	220	3.76	0.72	4.00	0.71	6.3%
	Sub-study II – 2: Control group “C”	104	3.52	1.07	3.58	1.10	1.6%
	Sub-study II – 3: Company “A” (T3-T1)	26	3.85	0.58	4.23	0.55	10.00%
	Sub-study II – 4: Longitudinal (“A”, “C” and “D”)	109	3.62	0.65	3.87	0.60	6.71%
Transformational Leadership	Sub-study II – 1: Companies “B”, “C”, “D”, E”	470	3.75	0.74	3.95	0.74	5.14%
	Sub-study II – 2: Experimental “C”	220	3.88	0.71	4.11	0.71	5.9%
	Sub-study II – 2: Control group “C”	104	3.56	1.04	3.63	1.02	1.9%
	Sub-study II – 3: Company “A” (T3-T1)	26	3.75	0.81	4.00	0.62	6.59%
	Sub-study II – 4: Longitudinal (“A”, “C” and “D”)	109	4.07	0.59	4.20	0.53	3.21%
Emotional Intelligence	Sub-study II – 1: Companies “B”, “C”, “D”, E”	470	3.67	0.78	3.86	0.78	5.26%

	Sub-study II – 2: Experimental “C”	220	3.74	0.76	3.98	0.74	6.4%
	Sub-study II – 2: Control group “C”	104	3.58	1.01	3.64	1.02	1.5%
	Sub-study II – 3: Company “A” (T3-T1)	26	3.60	0.75	4.02	0.53	11.76%
	Sub-study II – 4: Longitudinal (“A,” “C” and “D”)	109	3.81	0.72	3.97	0.59	4.25%
	Sub-study II – 1: Companies “B”, “C”, “D”, E”	470	3.64	0.68	3.83	0.69	5.22%
LMX	Sub-study II – 2: Experimental “C”	220	3.64	0.67	3.88	0.65	6.7%
	Sub-study II – 2: Control group “C”	104	3.58	0.88	3.69	0.88	2.8%
	Sub-study II – 3: Company “A” (T3-T1)	26	3.91	0.44	4.23	0.55	8.16%
	Sub-study II – 4: Longitudinal (“A,” “C” and “D”)	109	3.82	0.57	4.03	0.56	5.49%
	Sub-study II – 1: Companies “B”, “C”, “D”, E”	470	3.64	0.68	3.83	0.69	5.22%

Table 46 shows that in all analyses made, except for the control group, the intervention made using the Hallos method promoted significant growth in all the variables studied, which confirms hypothesis 6.

4.2.2.2 – II-1. – Evaluation total sample of companies “B,” “C,” “D” and “E”.

Descriptive statistics for the general sample can be seen in Table 47. The result shows that the evaluation scores “after” participation in the Hallos workshop were higher than at the “before” point in time knowing Hallos method, for all variables. The t-test for repeated measures indicated that the growth in Self-awareness was statistically significant ($t(469) = -11,01, p < 0.01$). Self-awareness showed a mean increase of 4.81%. The variables Transformational Leadership, Emotional Intelligence, and LMX also showed statistically significant growth (see Table 47). Therefore, these results support H6.

Table 47. Descriptive statistics for the complete sample

Variables	N	Before Intervention		After Intervention		After Int. – Before Int.	
		Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	470	3.68	0.80	3.86	0.80	0.18	4.81%
Transformational Leadership	470	3.75	0.74	3.95	0.74	0.19	5.14%
Emotional Intelligence	470	3.67	0.78	3.86	0.78	0.19	5.26%
LMX	470	3.64	0.68	3.83	0.69	0.19	5.22%

Table 48. Paired *T*-test of repeated measures for the complete sample

Variable	<i>t</i>	<i>df</i>	<i>p</i>
Self-awareness	-11.01	469	< 0.01
Transformational Leadership	-13.56	469	< 0.01
Emotional Intelligence	-12.55	469	< 0.01
LMX	-11.22	469	< 0.01

Hypothesis 7: There is a correlation between Self-awareness and other variables; Leader-member Exchange, Transformational Leadership, Emotional Intelligence.

4.2.2.3 – II-1 – Relation of Self-awareness with other variables

The Pearson correlation scores between Self-awareness and other variables were analysed. Table 49 displays the correlations between the variables measured in the pre-intervention, in the post-intervention, and the change scores between the two-time points. All variables (pre and post) showed positive, strong, (Cohen, 1988) and significant correlations with each other. When observing the correlations of the

change scores between the pre-intervention and the post-intervention (lines 9 to 12 of Table 49), it can also see that the change in Self-awareness is highly correlated with the change in the other variables. Change in Emotional Intelligence was the variable with the highest proportion of variance explained by the shift in Self-awareness (53.5%), followed by Transformational Leadership (46.8%) and LMX (37.3%). These correlations support Hypothesis 7 that there is a relation between Self-awareness and other variables.

Table 49. Pearson correlations between pre-intervention and post-intervention

	1	2	3	4	5	6	7	8	9	10	11
1. Self-awareness (pre)	1										
2. Transformational Leadership (pre)	.83**	1									
3. Emotional Intelligence (pre)	.88**	.90**	1								
4. LMX (pre)	.74**	.67**	.74**	1							
5. Self-awareness (post)	.91**	.77**	.83**	.67**	1						
6. Transformational Leadership (post)	.77**	.91**	.85**	.61**	.84**	1					
7. Emotional Intelligence (post)	.80**	.82**	.91**	.65**	.89**	.91**	1				
8. LMX (post)	.68**	.64**	.70**	.86**	.76**	.71**	.76**	1			
9. Change in Self-awareness	-.23**	-.13**	-.11*	-.15**	.21**	.15**	.20**	.18**	1		
10. Change in Transformational Leadership	-.12**	-.20**	-.10*	-.14**	.18**	.22**	.23**	.18**	.68**	1	
11. Change in Emotional Intelligence	-.19**	-.19**	-.22**	-.22**	.13**	.13**	.21**	.15**	.73**	.75*	1
12. Change in LMX	-.08	-.04	-.06	-.24**	.18**	.21**	.24**	.30**	.61**	.58*	.70**

Note: * $p < 0.05$; ** $p < 0.0$

4.2.2.4 – II – 1 – Simple Linear Regression

Table 50 shows the fit of all tested regression models (Models 1 to 3). The regression model was performed with a sample 1 (p. 120) having 470 participants. All regressions exhibited an excellent fit. Emotional Intelligence was the variable with the highest variance ratio explained by the change in Self-awareness (53.5%), followed by Transformational Leadership (46.8%) and LMX (37.3%).

Table 50. Adjustment of regressions and explained variance ratio

Model	Result variable	df1	df2	<i>F</i>	<i>p</i>	Explained variance
Model 1	Transformational Leadership (change)	1	468	411.58	< 0.01	46.8%
Model 2	Emotional Intelligence (change)	1	468	538.08	< 0.01	53.5%
Model 3	LMX (change)	1	468	278.14	< 0.01	37.3%

The result shows that the change in Self-awareness was positive, strong, and statistically significant in relation to all variables (Table 51). A one-point increase in Self-awareness (measurement of post-intervention Self-awareness – measurement of pre-intervention Self-awareness) was associated with a 0.61-point increase in Transformational Leadership (measurement of post-intervention Transformational Leadership – measurement of pre-intervention Transformational Leadership); 0.70 points in Emotional Intelligence; 0.64 points in LMX. Emotional Intelligence was the variable most associated with Self-awareness.

Table 51. Strength and significance of predictors for each regression model

Model	Result variable	Predictor	<i>B</i>	Beta (β)	<i>p</i>
Model 1	Transformational Leadership (change)	Self-awareness (change)	0.61	0.68	< 0.01
Model 2	Emotional Intelligence (change)	Self-awareness (change)	0.70	0.73	< 0.01
Model 3	LMX (change)	Self-awareness (change)	0.64	0.61	< 0.01

4.2.3. Sub-study II – 2 – Company “C” – Experimental group x control group

In company “C”, the effect of Hallos was tested by comparing an experimental group (n = 220, 67.9%), who participated in the Hallos workshop, and a control group (n = 104, 32.1%), who did not take part or learn about the Hallos method.

4.2.3.1 – II – 2 – Results: Experimental group x Control group

The comparison between the two groups “before” and “after” participating in the Hallos method showed that the experimental group varied between 5.9% and 6.7%, while the control group showed growth rates between 1.5% and 2.8% (Table 52).

Table 52. Descriptive statistics of the experimental groups of company “C”

Variables	Group	N (members)	Before Intervention		After Intervention		After Int. – Before Int.	
			Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	Experimental	220	3.76	0.72	4.00	0.71	0.24	6.3%
	Control	104	3.52	1.07	3.58	1.10	0.06	1.6%
Transformational Leadership	Experimental	220	3.88	0.71	4.11	0.71	0.23	5.9%
	Control	104	3.56	1.04	3.63	1.02	0.07	1.9%
Emotional Intelligence	Experimental	220	3.74	0.76	3.98	0.74	0.24	6.4%
	Control	104	3.58	1.01	3.64	1.02	0.06	1.5%
LMX	Experimental	220	3.64	0.67	3.88	0.65	0.24	6.7%
	Control	104	3.58	0.88	3.69	0.88	0.10	2.8%

Figure 26 shows the comparison between the experimental group and the control group for Self-awareness.

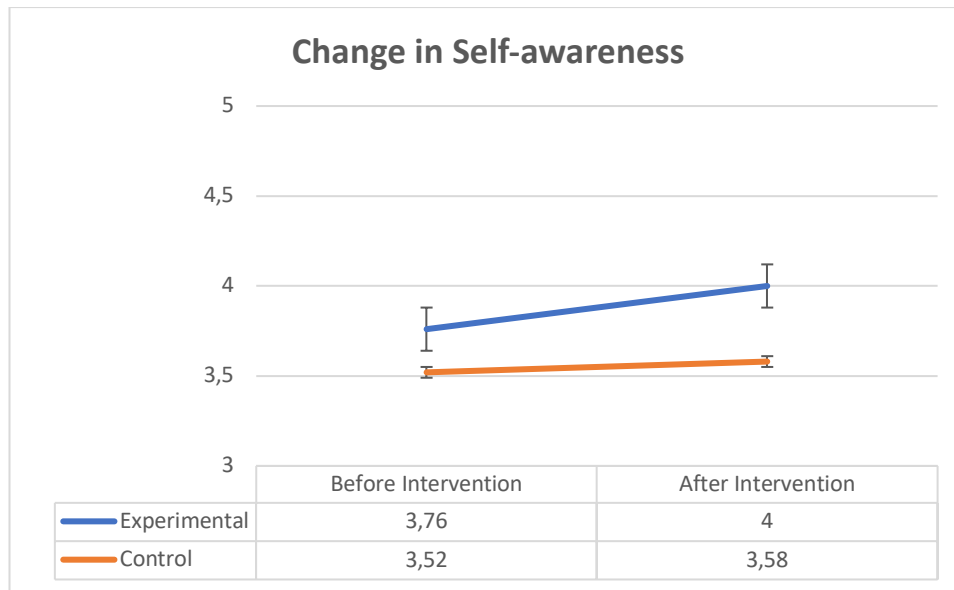


Figure 26 – Change of Self-awareness by group

4.2.3.2. Comparisons experimental x control group

The results of the ANOVA for mixed designs showed that the effects of time and the interaction between time and group were statistically significant for all variables (Table 53). Besides, there was a significant group effect on the variables Self-awareness, Transformational Leadership, and Emotional Intelligence.

The time effect indicates that all participants showed significant growth ($p < 0.01$) between the first and second assessments, in all variables, regardless of the group where they were allocated. Effect sizes varied (partial η^2) between 0.15 (Emotional Intelligence) and 0.19 (Self-awareness). The group effect, on the other hand, points out that regardless of the time of assessment, one group obtained significantly higher scores than the other. The experimental group showed higher scores than the control group in all variables except LMX ($F(1, 322) = 2.18$, $p = 0.14$, partial $\eta^2 = 0.01$). The effect of interaction between time and group indicates that the experimental group exhibited greater growth than the control group in all variables.

Table 53. Results of mixed ANOVA between Hallos experimental and control group in company “C”

Effect	Variable	df1	df2	<i>F</i>	<i>p</i>	partial η^2
Time	Self-awareness	1	322	56.32	0.00	0.15
	Transformational Leadership	1	322	75.58	0.00	0.19
	Emotional Intelligence	1	322	70.24	0.00	0.18
	LMX	1	322	62.93	0.00	0.16
Group	Self-awareness	1	322	10.70	0.00	0.03
	Transformational Leadership	1	322	16.62	0.00	0.05
	Emotional Intelligence	1	322	6.48	0.01	0.02
	LMX	1	322	2.18	0.14	0.01
Interaction	Self-awareness	1	322	20.90	0.00	0.06
	Transformational Leadership	1	322	21.78	0.00	0.06
	Emotional Intelligence	1	322	27.33	0.00	0.08
	LMX	1	322	10.63	0.00	0.03

4.2.4. Sub-study II – 3 – Company “A”

The present study aimed to investigate the effects of the Hallos method on the expansion of Self-awareness, Transformational Leadership, Emotional Intelligence, and leader-member interaction in company “A”. The variables studied were measured at three times: T1. Pre-intervention. Completing the multi-source questionnaire, before leaders took part in the Hallos method. T2. Post-intervention: completing the multi-source survey four to

five months after the first timepoint, and T3. Post-Intervention: completing the multi-source questionnaire one year after the leaders took part in the Hallos method.

Result Sub-study II – 3

4.2.4.1 – II – 3 – Comparison between T1 and T3

Table 54 shows the descriptive statistics for the sample. The variable with the smallest change observed was Transformational Leadership, with 6.59% growth, while the most significant change occurred in Emotional Intelligence, with 11.76%. According to the results of the t-test, visible in Table 54, the variables Self-awareness, Emotional Intelligence, and LMX showed statistically significant growth. The change in Transformational Leadership was not statistically significant. Figure 27 shows the change graph for each of the variables.

This result confirms hypothesis 6 that the Hallos method positively impacts the growth of studied variables. At the same time, it indicates that this increase in keeps over time, one year later.

Table 54. Descriptive statistics before the intervention T1 and at the post-intervention T3

	N	Before Intervention (T1)		Post Intervention (T3)		Difference	Growth Percentage
		Mean	SD	Mean	SD		
Self-awareness	26	3.85	0.58	4.23	0.55	0.38	10.00%
Transformational Leadership	26	3.75	0.81	4.00	0.62	0.25	6.59%
Emotional Intelligence	26	3.60	0.75	4.02	0.53	0.42	11.76%
LMX	26	3.91	0.44	4.23	0.55	0.32	8.16%

Table 55. Results of the t test before the intervention (T1) and after the intervention (T3)

	<i>t</i>	<i>df</i>	<i>p</i>
Self-awareness	-3.26	25	< 0.01
Transformational Leadership	-1.53	25	0.14
taEmotional Intelligence	-3.34	25	< 0.01
LMX	-3.90	25	< 0.01

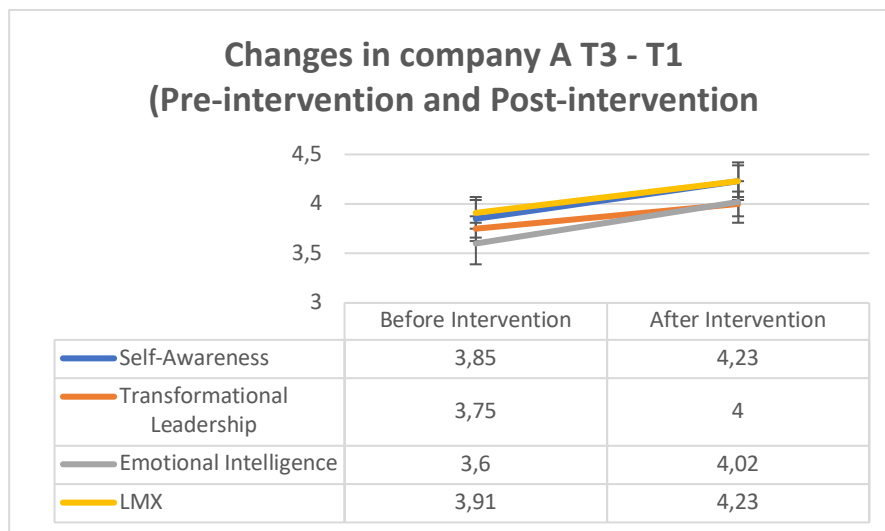


Figure 27 - Changes in pre-intervention and post-intervention

4.2.4.2 - II - 3. Comparison between T1, T2, and T3

Table 56 shows descriptive statistics for the 19 team members who answered the questionnaire at the three timepoints. The observed growth between pre-intervention (T1) and post-intervention (T2) timepoints ranged from 1.10% to 4.34%. In contrast, growth between post-intervention (T2) and follow-up (T3) ranged from 3.01% to 7.49%. This resulted in an overall growth ranging from 4.14% to 11.85% between T1 and T3 in this sample.

Table 56. Descriptive statistics for company “A” at three timepoints

	Pre-test (T1)			Post-test (T2)		Follow-up (T3)		T2 – T1		T3 – T2		T3 – T1	
	N	Mean	SD	Mean	SD	Mean	SD	Diff	%	Diff	%	Diff	%
Self-awareness	19	3.76	0.48	3.87	0.56	4.16	0.49	0.11	2.93%	0.29	7.49%	0.39	10.37%
Transformational Leadership	19	3.62	0.76	3.66	0.55	3.77	0.52	0.04	1.10%	0.11	3.01%	0.15	4.14%
Emotional Intelligence	19	3.46	0.63	3.61	0.59	3.88	0.45	0.15	4.34%	0.26	7.20%	0.41	11.85%
LMX	19	3.92	0.4	4.03	0.41	4.18	0.56	0.11	2.81%	0.15	3.72%	0.26	6.63%

The ANOVA results (Table 57) indicates significant growth for Self-awareness, Transformational Leadership, and LMX between the three-time points. The results also indicate that for this sample the increase increases over time. This confirms Hypothesis 6 that the Hallos method promotes the increase in all variables, and this keeps over time.

Table 57. ANOVA results for the three timepoints of time

Variable	df1	df2	<i>F</i>	<i>p</i>	partial η^2
Self-awareness	2	36	5.49	0.01	0.23
Transformational Leadership	2	36	0.52	0.60	0.03
Emotional Intelligence	2	36	4.68	0.02	0.21
LMX	2	36	3.69	0.04	0.17

Hypothesis 7: There is a correlation between Self-awareness and other variables; Leader-member Exchange, Transformational Leadership, and Emotional Intelligence.

For this study, Pearson correlations were used to measure the relationships between the variables studied at all times of assessment. The change scores for each variable were also correlated. The change of each variable was measured as the current timepoint score minus the score from the previous time point (e. g.: change at T3= T3 score – T2 score).

Table 58 displays the correlations between the variables measured in the pre-intervention (T1), post-intervention (T2), post-intervention (T3), and the change scores. In the pre-intervention timepoint (T1), Self-awareness, Transformational Leadership, and Emotional Intelligence showed positive, strong, and statistically significant correlations with each other. The pre-intervention LMX variable did not significantly correlate with any of the scales previously mentioned measured at T1.

In the post-intervention, with the exception of the correlation between Transformational Leadership and LMX, all correlations were positive, strong, and significant. Transformational Leadership exhibited a positive, moderate, and non-significant correlation with Self-awareness and Emotional Intelligence at T2. This pattern was repeated in the follow-up, with the change that the only non-significant correlation occurred between LMX and Emotional Intelligence.

Initial scores of Self-awareness were significantly and positively related to all T2 scores, but not to follow-up scores. Most importantly, the change score of Self-awareness at T2 did not significantly correlate with the change of Transformational Leadership, Emotional Intelligence, and LMX at T3. Change in Self-awareness was strongly correlated with change in other variables at the same timepoint (both T2 and T3), indicating that change occurs simultaneously in all variables.

Table 58. Pearson correlations between T1 pre-intervention, T2 post-intervention T3 post-intervention (1 year)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Self-awareness (T1)	1																		
2. Transformational Leadership (T1)	.582**	1																	
3. Emotional Intelligence (T1)	.702**	.931**	1																
4. LMX (T1)	.382	-.257	-.080	1															
5. Self-awareness (T2)	.746**	.332	.458*	.576**	1														
6. Transformational Leadership (T2)	.639**	.696**	.741**	.086	.652**	1													
7. Emotional Intelligence (T2)	.723**	.604**	.716**	.226	.748**	.862**	1												
8. LMX (T2)	.475*	.072	.087	.665**	.662**	.308	.504*	1											
9. Self-awareness (T3)	.180	-.129	-.029	.673**	.396	.186	.031	.183	1										
10. Transformational Leadership (T3)	.169	.233	.225	.324	.315	.354	.092	.050	.749**	1									
11. Emotional Intelligence (T3)	.215	.343	.302	.314	.283	.407	.233	.232	.597**	.777**	1								
12. LMX (T3)	-.090	-.466*	-.456*	.686**	.292	-.163	-.214	.475*	.623**	.456*	.349	1							
13. T2 change Self-awareness	-.181	-.257	-.224	.360	.520*	.144	.178	.369	.354	.248	.143	.547*	1						

14. T2 change Transformational Leadership	-.168	- .692**	-.550*	.445	.194	.037	.026	.209	.366	.031	-.068	.485*	.501*	1					
15. T2 change Emotional Intelligence	-.025	-.490*	-.440	.400	.340	.100	.312	.531*	.080	-.187	-.112	.346	.534*	.782**	1				
16. T2 change LMX	.114	.402	.203	-.408	.107	.271	.340	.411	-.598**	-.334	-.099	-.256	.011	-.287	.161	1			
17. T3 change Self- awareness	-.562*	-.428	-.464*	.023	-.620**	-.467*	-.691**	-.478*	.474*	.338	.239	.253	-.196	.127	-.258	- .613**	1		
18. T3 change Transformational Leadership	-.430	-.426	-.474*	.200	-.317	- .596**	-.696**	-.234	.476*	.540*	.301	.538*	.084	-.007	-.250	-.530*	.710**	1	
19. T3 change Emotional Intelligence	-.505*	-.309	-.438	.012	-.480*	-.498*	-.743**	-.295	.383	.452	.478*	.433	-.062	-.070	-.359	-.375	.788**	.836**	1
20. T3 change LMX	-.475*	-.566*	-.567*	.222	-.206	-.422	-.633**	-.274	.536*	.459*	.197	.716**	.305	.364	-.043	- .606**	.655**	.773**	.708**

4.2.5. Sub-study II – 4 – Companies “A”, “C”, “D”

The sub-study II-4 evaluated 109 participants from 3 different companies assessed 60 leaders before and after the intervention of the Hallos training. The analyses relied on descriptive models, inferential statistics, and mediation techniques developed from generalized, and hierarchical linear models. The results allowed us to conclude that all variables had higher and significant results after the intervention. In percentage, the increase has varied between 3.21% (Transformational) and 6.71% (Self-awareness). The comparison between companies pointed out that Company A was the greatest beneficiary of the programme, with significant growth in all variables. Hierarchical models were convergent to classical models, and mediation indicated that possibly the intervention extends Self-awareness levels, which is associate with LMX after the intervention.

The findings of this research will be presented in specific sections, each of which provides tables and graphs and partial interpretations of the results.

Longitudinal outcomes in Self-awareness, Transformational, Emotional Intelligence and LMX:

Initially, was investigated the effect of the Hallos programme (training) implementation from a longitudinal design. In this type of analytical design, people are evaluated at two different points in time, where the first occurs before starting the intervention programme and the second occurs after the intervention is completed. Figure 28 and Table 59 indicate the main results.

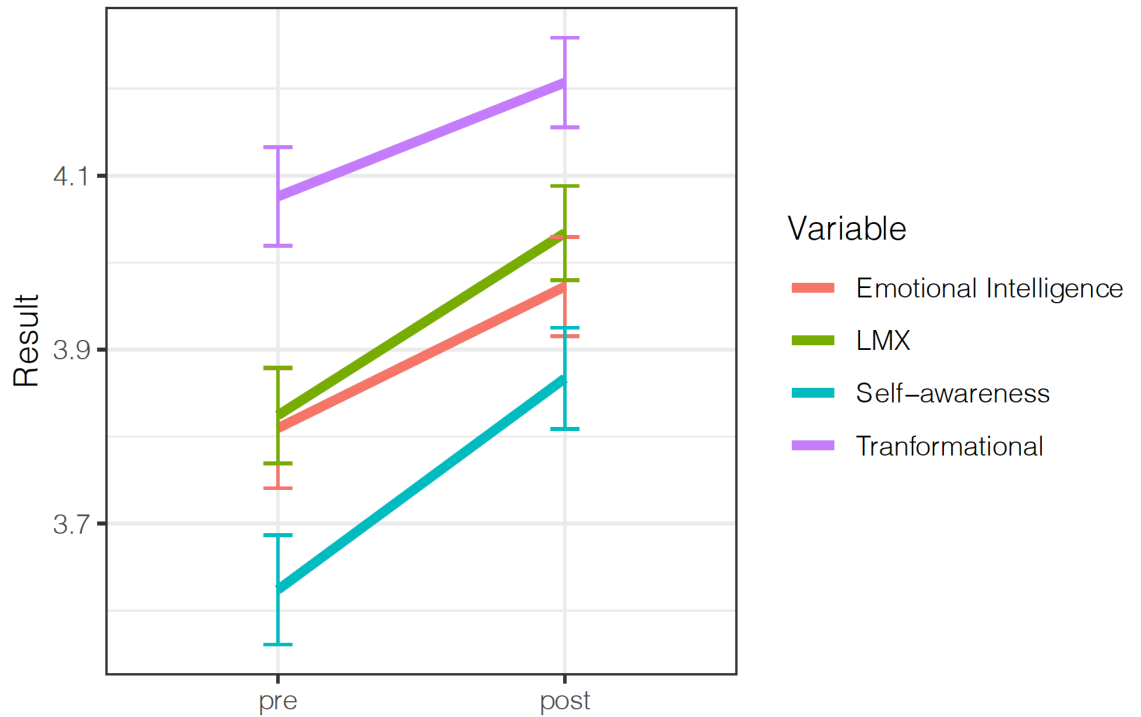


Figure 28 - Pre and post results of the variables

Table 59. Pre and post results of the variables (in all companies)

N = 109	Before intervention		After intervention		Change		Making decision		
	Mean	SD	Mean	SD	Diff	Increase	<i>T</i>	<i>p</i>	<i>d</i>
Self-awareness	3.624	0.658	3.867	0.608	0.243	6.71%	3.871	<0.001	0.384
Transformational	4.076	0.592	4.207	0.538	0.131	3.21%	2.545	0.012	0.232
Emotional Intelligence	3.81	0.721	3.972	0.597	0.162	4.25%	2.668	0.009	0.246
LMX	3.824	0.574	4.034	0.564	0.21	5.49%	4.862	<0.001	0.368

It can be seen that the average of all variables had increased significantly after the intervention. In percentage, the increase has varied between 3.11% (Transformational) and 6.28% (Self-awareness).

A frequently used measure to check the effect size is Cohen's *d* so that the results can also be viewed independently of the measurement scale used, and the magnitude of difference can be estimated and has a more pragmatic interpretation. According to this

measurement, Self-awareness had the most significant outcome ($d = 0.384$) when compared to others, followed by LMX ($d = 0.368$).

One way to check the effect of Hallos programme is to estimate the relationship strength between variables before and after the intervention. In this sense, a correlation (two by two) of Self-awareness, Transformational, Emotional Intelligence and LMX before and after the intervention. Figure 29 and Table 60 show the results.

Table 60. Correlation between the variables before and after intervention

Pre	Self-awareness	Transformational	Emotional Intelligence	LMX
Self-awareness	1.00			
Transformational	0.72	1.00		
Emotional Intelligence	0.72	0.57	1.00	
LMX	0.48	0.67	0.25	1.00
Post				
Self-awareness	1.00			
Transformational	0.73	1.00		
Emotional Intelligence	0.67	0.62	1.00	
LMX	0.52	0.69	0.47	1.00

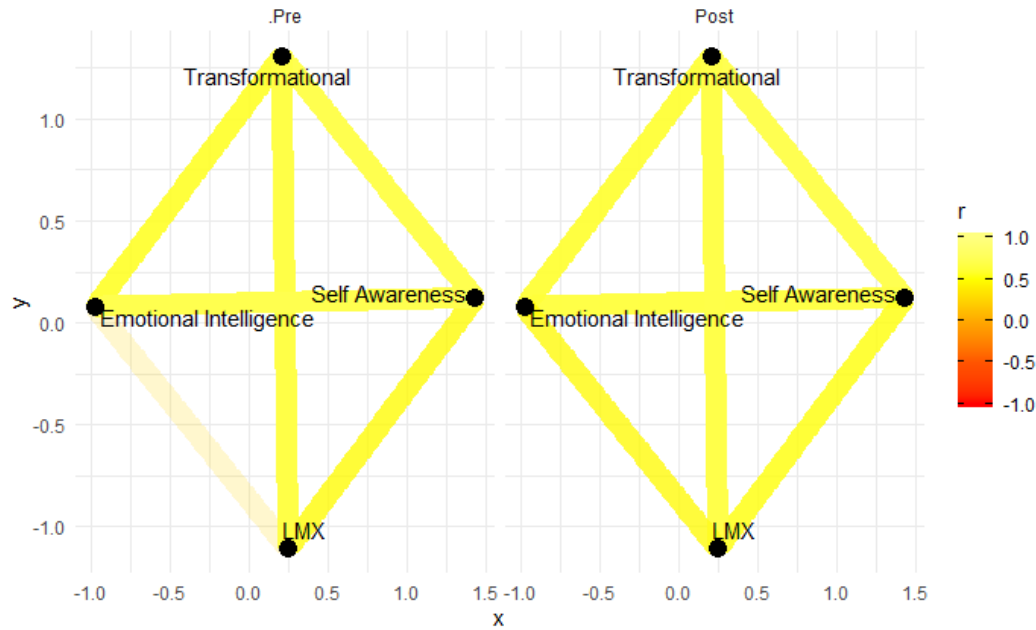


Figure 29 - Correlations between all variables at two points in time

In this study, the results indicate that the relationship between Emotional Intelligence and LMX was the more strengthened after the intervention. In this sense, it is possible to suggest that the programme (Hallos) had a particular influence on the relationship between both variables.

Longitudinal outcomes in Self-awareness, Transformational, Emotional Intelligence and LMX in different companies:

The transition of variables was also investigated in each of the three companies used in this study. The primary purpose of this analysis is to increase the detailing gradient of the previously obtained results.

Firstly, the initial values of each company in each variable were investigated. The Figure 30 presents the profile of these variables. A robust ANOVA indicated that they were not significantly different at this point (Company 1 (A): $M = 3.93$, $SD = 0.47$, Company 3 (C): $M = 3.63$, $SD = 0.66$, Company 4 (D): $M = 3.8$, $SD = 0.26$, $p = 0.154$).

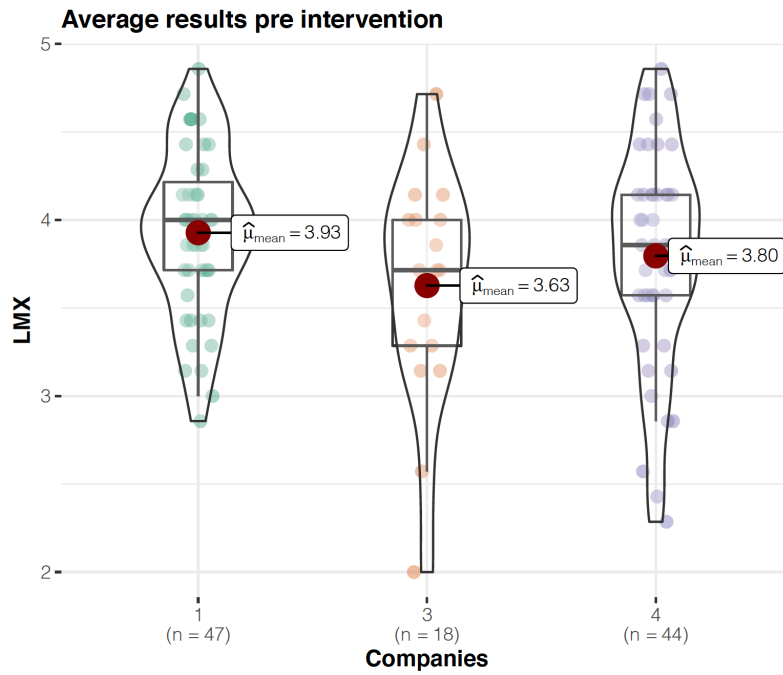


Figure 30 - Results among companies before the intervention

Next, the effect of implementing the training programme (Hallos method) was investigated in the same companies. Figure 31 presents the results, and Table 61 the details.

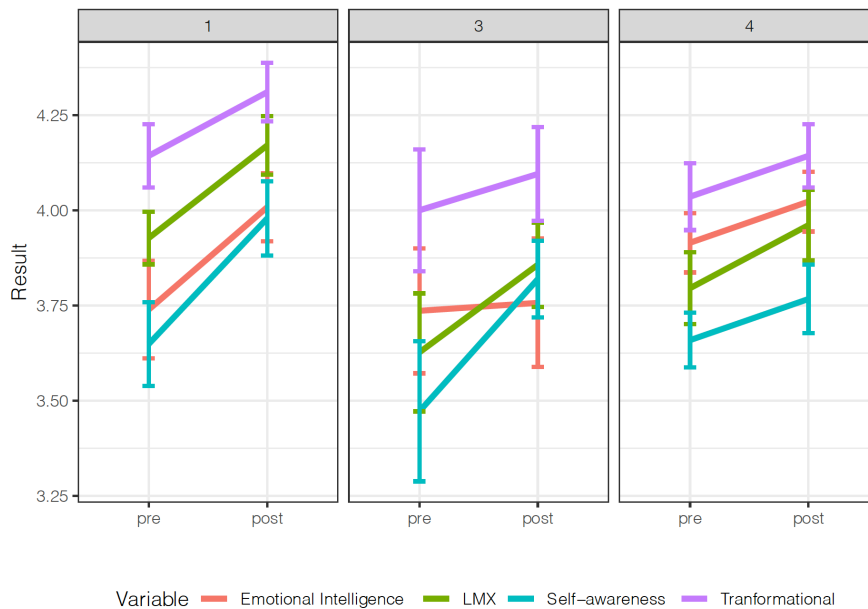


Figure 31 - Transition of results as a function of intervention and companies (A=1, C=3, D=4)

From the graphical analysis, it is possible to perceive an upward slope in all variables. In this sense, the point in time after the intervention presented higher results than those obtained before the intervention. The Table 61 show details of results.

Table 61. Pre and post results of the variables all surveyed companies

Variables	Before intervention		After intervention		Change		Decision	
	Mean	SD	Mean	SD	diff	Increase	<i>t</i>	<i>p</i>
Company A (N = 47)								
Self-awareness	3.649	0.753	3.979	0.667	0.330	9.04%	3.051	0.004
Transformational	4.143	0.571	4.31	0.525	0.167	4.03%	1.940	0.059
Emotional Intelligence	3.739	0.879	4.008	0.61	0.269	7.19%	2.440	0.018
LMX	3.927	0.474	4.17	0.528	0.243	6.19%	3.387	0.001
Company C (N = 18)								
Self-awareness	3.472	0.781	3.819	0.427	0.347	9.99%	2.234	0.039
Transformational	4.000	0.679	4.095	0.523	0.095	2.37%	0.813	0.428
Emotional Intelligence	3.736	0.696	3.757	0.714	0.021	0.56%	0.160	0.874
LMX	3.627	0.658	3.857	0.470	0.230	6.34%	2.198	0.042
Company D (N = 44)								
Self-awareness	3.659	0.476	3.767	0.596	0.108	2.95%	1.332	0.189
Transformational	4.036	0.583	4.143	0.551	0.107	2.65%	1.414	0.165
Emotional Intelligence	3.915	0.516	4.023	0.520	0.108	2.76%	1.383	0.173
LMX	3.795	0.623	3.961	0.613	0.166	4.37%	2.672	0.011

In summary, the results indicate that there is an increase in variables after the intervention in all companies. However, there is variability among the groups, indicating that there are companies where the growth was more pronounced and others where it was lower. In this sense, the inferential procedures indicated that Company A (1), contrasted with the others, was the one in which most variables showed significant growth. In this company, only the Transformational variable had results close to statistical significance. Figure 32 presents such a result.

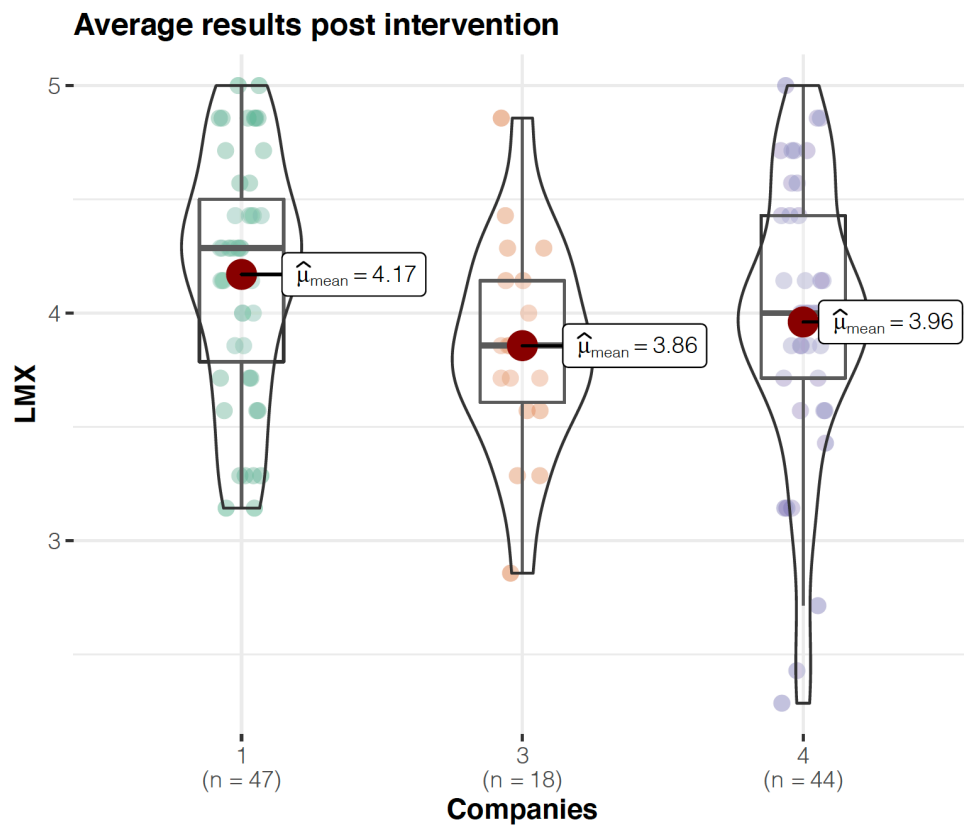


Figure 32 - Results among companies after the intervention

Hierarchical Model

Among the hierarchical models, the LMM is often used to work with longitudinal data or repeated measures. This model makes it possible to define both population parameters (fixed effects) and individual coefficients (random effects), in addition to the experimental error.

The results obtained in this study are grouped as findings among all the participants and companies within this sample. Thus, it is possible that some participants or companies, different to the trend of their groups, have had lower or different results. Hierarchical models allow to compute individual variations and thereby more accurately represent both the data and results.

In this type of modelling, it is sought to verify whether the results grouped in the variables are different or inferior to those verified considering each participant. In other words, the participants are considered random effects (that is, each participant has a

distinct baseline) and, in turn, the variables Self-awareness, Transformational, Emotional Intelligence, and LMX are considered as main effects.

It was possible to verify that both the Self-awareness results ($F(1, 137) = 9.3, p = 0.002$) and the Transformational Leadership ($F(1, 164) = 4.14, p = 0.04$), Emotional Intelligence ($F(1, 166) = 5.4, p = 0.02$) and LMX ($F(1, 158) = 13.46, p < 0.001$) show different results. These results indicate that, although the general trend of each variable was to increase after the intervention of the program, some participants, in particular, showed different responses to this trend. Figure 33 and Table 62 details these results.

Table 62. Results of the hierarchical model

Variable	SSQ	MSQ	<i>df</i> (1)	<i>df</i> (2)	<i>F</i>	<i>P</i>
Self-awareness	2,983	2,983	1	173.31	9,304	0,002
Transformational	0,832	0,832	1	164.47	4,136	0,043
Emotional Intelligence	1,381	1,381	1	166.23	5,396	0,021
LMX	2,204	2,204	1	158.93	13,466	<0,001

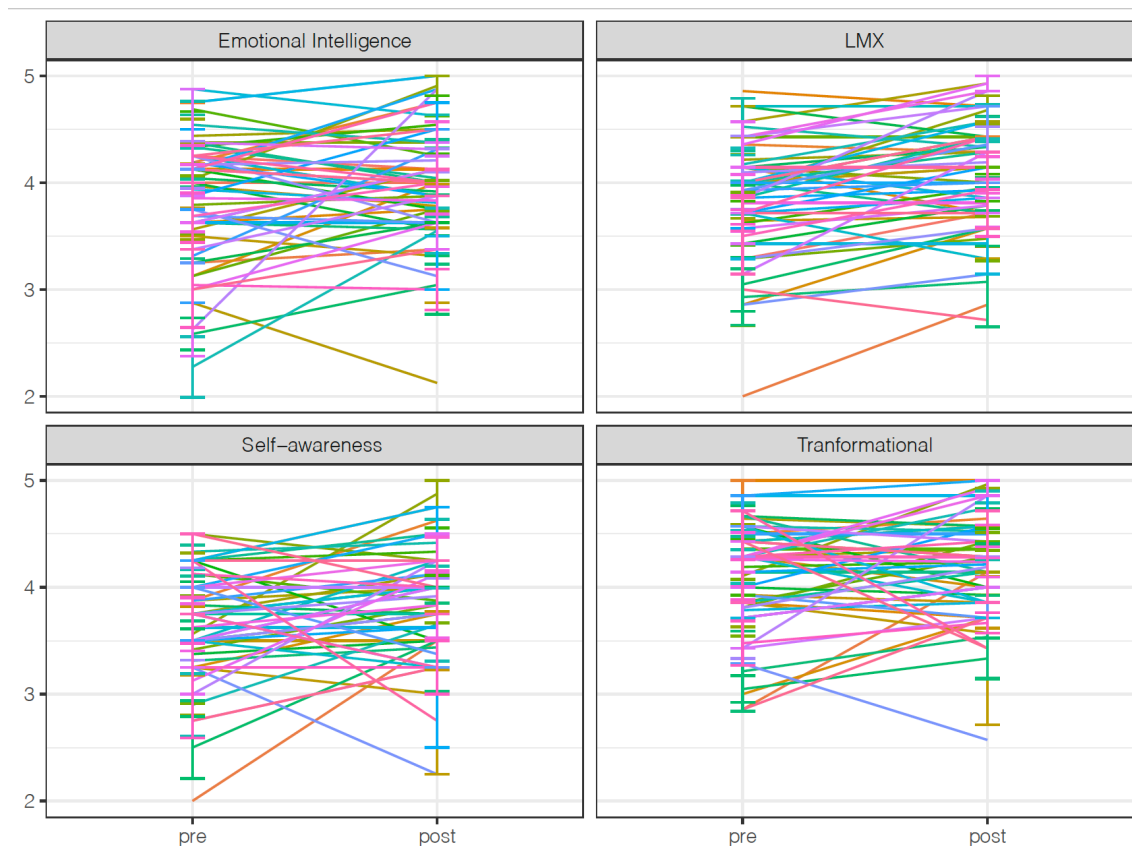


Figure 33 - Results of the hierarchical model

Mediation model

In order to investigate the direct and indirect effects of Self-awareness level on LMX, a mediation model was developed based on Hayes (2018). The following diagram introduces the theoretical concept. The empirical results are presented immediately afterwards.

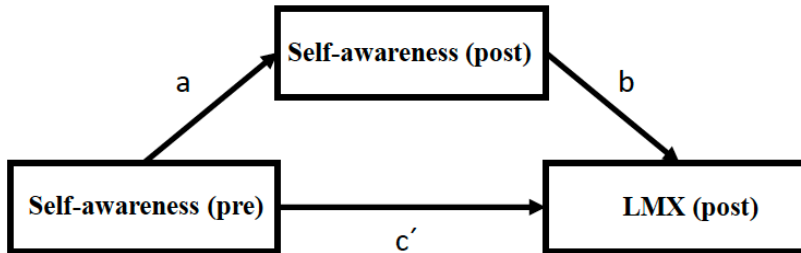


Figure 34 - Conceptual diagram of the mediation model

Table 63. Results of mediation model

		M (Self-awareness post)				Y (LMX post)		
		Coefficient	EP	<i>p</i>		Coefficient	EP	<i>p</i>
X (SA pre)	a	0,431	0,079	< 0.001	c'	0,064	0.08	0.42
M (SA post)		--	--	--	b	0.454	0,087	< 0.001
ab (ind)		0,196	0,051	< 0.001				
Total		0,259	0.08	0,001				
F (2.106) = 20.49, <i>p</i> < 0.001								
R2 = 0.28								

Note: SA = Self-awareness. ab indicates the indirect effect

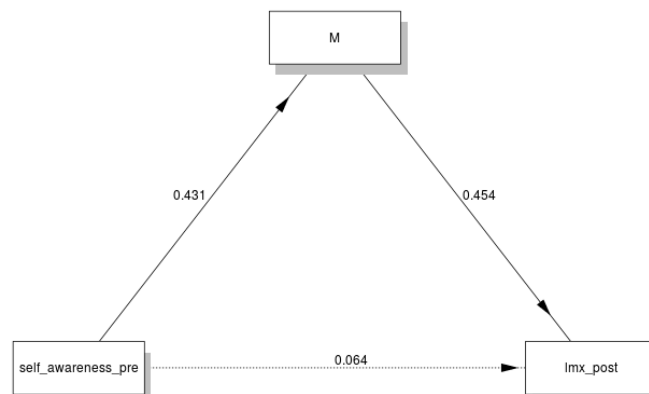


Figure 35 - Empirical results of mediation

From the mediation analysis, the results indicated that the levels of Self-awareness before the intervention might have a positive effect on their levels after the intervention ($r = 0.43$, $p < 0.001$). Interestingly, it was shown that the latter effect on Self-awareness values after the intervention seems to exert a positive mediation effect on the Leader-member Exchange (LMX) values after the intervention ($r = 0.45$, $p < 0.001$). These results indicate that, after the Hallos program, the relationship between leaders and members tended to increase, partially due to the increase in the Self-awareness of the leaders after the intervention.

Moreover, it was also possible to achieve a significant indirect positive effect of the Self-awareness levels before the intervention on the LMX levels after the intervention ($r = 0.196$, $p < 0.001$). However, the strength of association was not significant when the direct effect of these two variables was accounted for ($r = 0.064$, $p = 0.42$). Overall, the levels of Self-awareness before the intervention are related to the increase in Self-awareness after the intervention, which in turn is related to a significant increase in LMX levels after the intervention.

Regression and correlations models

Regression models were created to check the effect of changing Self-awareness on changing conditions of interest. Table 64 presents the results. An increase of 1 point in the Self-awareness produces, on average, an increase of 0.593 points of difference in Transformational Leadership, as well as 0.549 in Emotional Intelligence, and 0.216 in LMX. Transformational Leadership was more related to Self-awareness ($r = 0.72$, $p < 0.001$).

Table 64. Results of regression models

Model	Outcome Variable	Predictor Variable	<i>df1</i>	<i>df2</i>	<i>F</i>	<i>b</i>	<i>Beta</i> (β)	<i>p</i>	<i>R</i> ²
Model 1	Transformational Leadership (delta)	Self-awareness (delta)	1	107	117.10	0,593	0,723	< 0.001	0,518
Model 2	Emotional Intelligence (delta)	Self-awareness (delta)	1	107	50.17	0,549	0,565	< 0.001	0,319
Model 3	LMX (delta)	Self-awareness (delta)	1	107	11,707	0,216	0,314	< 0.001	0,090

The correlation between the measures is shown in the Table 65.

Table 65. Correlational results

	1	2	3	4	5	6	7	8	9	10	11	12
1 self_awareness_pre	1,000											
2 self_awareness_post	0,466	1,000										
3 Tranformational_pre	0,718	0,444	1,000									
4 Tranformational_post	0,293	0,729	0,551	1,000								
5 emotional_intel_pre	0,719	0,385	0,570	<i>0,171</i>	1,000							
6 emotional_intel_post	0,453	0,666	0,408	0,617	0,546	1,000						
7 lmx_pre	0,478	0,445	0,671	0,499	0,248	0,339	1,000					
8 lmx_post	0,302	0,524	0,490	0,691	0,049	0,470	0,687	1,000				
9 delta_self_awareness	-0,571	0,461	-0,309	0,383	-0,365	<i>0,163</i>	<i>-0,066</i>	<i>0,183</i>	1,000			
10 delta_tranformational	-0,497	0,242	-0,549	0,395	-0,456	0,169	-0,239	0,152	0,723	1,000		
11 delta_emotional_intel	-0,389	0,189	-0,262	0,385	-0,620	0,319	0,036	0,384	0,565	0,674	1,000	
12 delta_lmx	-0,230	<i>0,090</i>	-0,242	0,229	-0,255	<i>0,157</i>	-0,414	0,377	0,314	0,496	0,435	1,000

Note: Results in italics and Gray are **not** significant

For instance, the relationship of Self-awareness before intervention with LMX after the intervention is 0.302 ($p < 0.001$), indicating that they bear a proportional and moderate relationship. In turn, the relationship between Self-awareness before intervention with Transformational after the intervention is 0.293 ($p < 0.001$), indicating - in the same sense - that the correlation is proportional and close to moderate. Finally, the relationship between Self-awareness before the intervention and Emotional Intelligence after the intervention is 0.453 ($p < 0.001$), also indicating a moderate correlation.

Regarding the variables that were measured before the implementation of the Hallos programme and after a period of a few months, it was possible to verify a moderate and positive correlation between these variables as a function of time. So, for example, between Self-awareness before the intervention and the Self-awareness result after the programme is 0.466 ($p < 0.001$), thus indicating that both variables are positively correlated. Similarly, in relation to the Transformational level, there was a moderate and positive correlation between the point in time before and after the intervention programme (0.551, $p < 0.001$). Regarding the Emotional Intelligence variable, a correlation coefficient of 0.546 ($p < 0.001$) between the pre-and post-intervention time points showing a moderate, positive association. Finally, regarding the LMX level, the results pointed to a moderate and positive correlation of 0.687 ($p < 0.001$) between the first point in time of application and the second.

In general, regarding the correlation matrix presented in table 65, the variable Emotional Intelligence before and Transformational after (0.171, $p > 0.05$) had a low and non-significant correlation. The other variables showed moderate and significant coefficients among the bivariate relationships.

MANOVA

To check the correlation profile between a set of variables before the intervention and after the intervention (Hallos programme), it is necessary to pair variables with the suffix "pre" with those with the suffix "post". These analyses were based on a sample 4 (page 121) of 109 participants from 3 companies. These participants evaluated their

respective leaders (60 leaders), and each participant could have evaluated one or more leaders. Among the participants, the frequency of men was higher (N = 67), representing 61.5% of the sample.

In this study, a MANOVA was carried out in order to explore the response process and identify possible effects of the average levels of self-Awareness, transformational leadership, emotional intelligence and LMX before the intervention on the outcomes of these same variables after the intervention. In inferential statistics, the multivariate analysis of variance (MANOVA) is a method for contrasting the means of two or more dependent variables. As MANOVA is an omnibus test, significance tests using each dependent variable separately are employed when significant findings are achieved by this procedure.

The effect of each independent variable (IV) was analysed, controlling for all other IVs, and considering the effect of the correlations of the outcome variables (DV). At the current time, we used the same sample size and design previously reported.

In general, the results indicated that all variables measured before the intervention are statistically significant on the outcomes measured after the intervention. This result means that self-awareness, transformational leadership, emotional intelligence, and LMX results after the intervention are partially dependent on the values obtained by the participants at the pre-intervention point in time. Table 66 summarises such results.

Table 66. MANOVA's results

Variables	Df	Pillai	approx. F	num Df	den Df	P value
(Intercept)	1	0.99	3133	4	97	0.001
Self-awareness pre	1	0.33	11.83	4	97	0.001
Transformational pre	1	0.43	18.29	4	97	0.001
Emotional Intelligence pre	1	0.43	18.01	4	97	0.001
LMX pre	1	0.299	10.38	4	97	0.001
Residuals	100					

Results like these indicate that it is possible to estimate the relationships between variables by calculating a coefficient that indicates how much the presence of variability

in a predictor variable impacts the variability of the outcome variables. The following images, as well as Table 67, present these results.

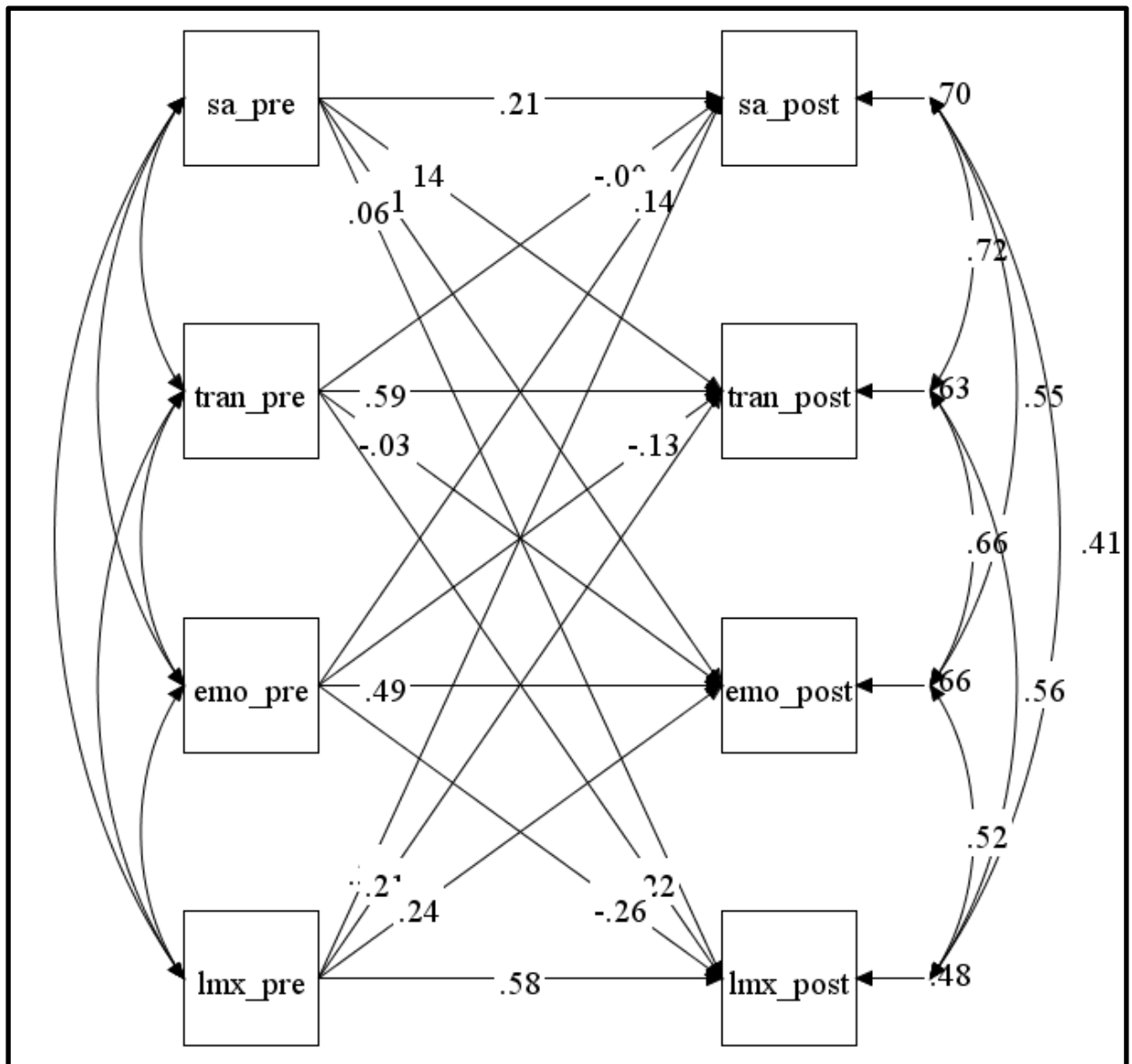


Figure 36 - Uncontrolled empirical results

Although these relationships between the variables can be estimated from the data, control for type 1 error inflation should be done to see how much the multiple comparisons are reducing the P-values. The controlled results are arranged in the following image, as well as in the last column of Table 67 (P-value).

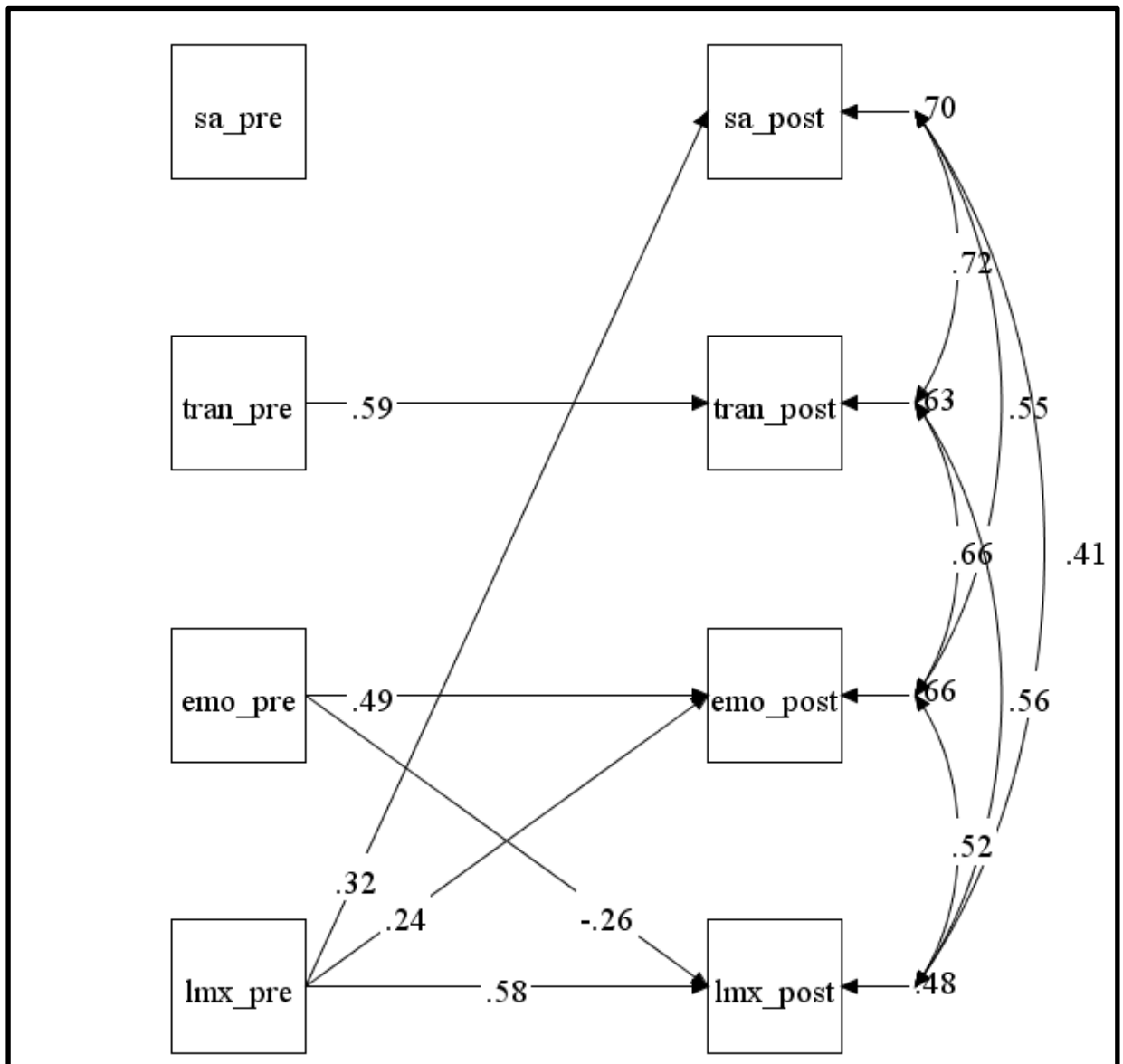


Figure 27 - Controlled empirical results

After verifying the significant relationship of all predictor variables on some of the outcome variables measured after the intervention, it was possible to verify specifically which of these variables showed an important relationship with the predictor variables. In addition, it was also possible to check how much such variables were explained by the predictor variables by means of the regression coefficient.

After controlling the effect of type 1 error inflation, the results have shown a strong and significant relationship of pre-intervention LMX levels with Self-awareness scores measured after the intervention, controlling the effect of other variables included in the model. This is equivalent to saying that a 1-point increase in the pre-intervention LMX level produces, on average, a 0.33-point increase in the post-intervention Self-

awareness level ($\beta = 0.31$, $SE = 0.11$, $p < 0.01$). Similarly, a strong and significant relationship was found between LMX pre and Emotional Intelligence and LMX post-intervention. Specifically, the increase of 1 point in the LMX pre score explains the average increase of 0.244 for Emotional Intelligence ($\beta = 0.238$, $SE = 0.11$, $p = 0.03$) and 0.571 of post-intervention LMX ($\beta = 0.583$, $SE = 0.087$, $p < 0.01$).

It was also possible to verify that there is a significant link between pre- and post-intervention Transformational Leadership variables. Specifically, the regression results show that the increase of 1 point in Transformational Leadership before the intervention explains, on average, the 0.53-point increase in the post-intervention level of Transformational Leadership ($\beta = 0.589$, $SE = 0.131$, $p < 0.01$).

As for the average levels of the pre-intervention Emotional Intelligence variable, a strong and significant relationship was found with the outcomes of the variables Emotional Intelligence and LMX after the intervention. Overall, this result shows that the 1-point increase in average Emotional Intelligence levels before the intervention explains the 0.406 in post-Emotional Intelligence ($\beta = 0.494$, $SE = 0.112$, $p < 0.01$) and a reduction of 0.203 in post-intervention LMX ($\beta = -0.259$, $SE = 0.102$, $p = 0.011$).

In turn, when considering the pre-intervention Self-awareness variable as a predictor, it was not possible to verify significant results in relation to the other outcome variables measured after the intervention. These results can be seen in table 67 and figure 37.

Table 67. Direct results between pre- and post-intervention values (MANOVA)

	Non-standard		Standard		P value
	Estimate	S. E	Estimate	S. E	
Self-awareness Post with:					
Self-awareness pre	0.196	0.131	0.213	0.142	0.134
Transformational pre	-0.001	0.148	-0.001	0.145	0.997
Emotional Intelligence pre	0.117	0.103	0.139	0.122	0.257
LMX pre	0.334	0.12	0.319	0.112	0.005
Transformational Post in:					
Self-awareness pre	-0.115	0.11	-0.141	0.135	0.297

Transformational pre	0.534	0.125	0.589	0.131	0.001
Emotional Intelligence pre	-0.095	0.087	-0.127	0.116	0.273
LMX pre	0.193	0.101	0.207	0.108	0.057
Emotional Intelligence Post in					
Self-awareness pre	0.01	0.124	0.011	0.138	0.934
Transformational pre	-0.031	0.14	-0.031	0.14	0.825
Emotional Intelligence pre	0.406	0.097	0.494	0.112	0.001
LMX pre	0.244	0.114	0.238	0.11	0.032
LMX Post in					
Self-awareness pre	0.049	0.102	0.057	0.118	0.632
Transformational pre	0.207	0.115	0.216	0.12	0.073
Emotional Intelligence pre	-0.203	0.08	-0.259	0.102	0.011
LMX pre	0.571	0.093	0.583	0.087	<0.001
Transformational Post with:					
Self-awareness pre	0.158	0.026	0.722	0.047	<0.001
Emotional Intelligence Post with:					
Self-awareness pre	0.136	0.027	0.554	0.068	<0.001
Transformational Post	0.138	0.024	0.664	0.055	<0.001
LMX Post with					
Self-awareness pre	0.083	0.021	0.409	0.081	<0.001
Transformational Post	0.095	0.019	0.556	0.067	<0.001
Emotional Intelligence Post	0.099	0.021	0.516	0.072	<0.001

4.2.6. Sub-study II - 5 Self-report x member-report

Table 68 shows the descriptive statistics for sample 1 (self-report) and sample 2 (member-report). Self-awareness was measured with a single item in the first sample and showed a growth of 26.27%. In the second sample Self-awareness was measured with a four-item scale which showed 4.26% growth.

Table 68. Descriptive statistics of Sample 1 and sample 2

Variables	Sample	N	Before Intervention		After Intervention		After Int. – Before Int.	
			Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	Sample 1	55	3.35	0.70	4.23	0.51	0.88	26.27%
	Sample 2	191	3.76	0.79	3.92	0.79	0.16	4.26%

The growth in sample 1 was statistically significant, as evidenced by the results of the Wilcoxon signed rank test ($z = -5.39, p < 0.01$ see Table 69) and a large effect size (Cohen's $d = 2.12$). The repeated measure t-test indicated that the growth in sample 2 was statistically significant ($t(190) = 6.14, p < 0.01$, see Table 69) with a small effect size (Cohen's $d = 0.21$). Thus, leaders' self-evaluation described a greater change than that supported by the team members.

Table 69. Result of the differences: Sample 1 (self-report) x Sample 2 (member-report)

		z^a	p	Cohen's d
Sample 1		-5.39	0,00	2,12
	df	t	p	Cohen's d
Sample 2	190	-6.14	.000	0.21

Note: ^a z-score of the signed-rank Wilcoxon test.

Chapter 5: Discussion and Conclusion

5.1. Introduction:

There is enough evidence and research to claim that we all have blind spots (George, 2009; Goleman, 2014), or as Jung claims, a conscious part, and an unconscious part (Jung, 1991). It would not be necessary to talk about Self-awareness if every human being was aware of their behaviour's effect on people, whether positive or negative. Self-awareness is not sophisticated and is conceptually configured as the self-perception that an individual has about their behaviour, strengths and weaknesses, values, and impact on others (Goleman, 2011, p. 6).

The expansion of Self-awareness is something natural and part of human development. As described in Item 2.2.8 (p. 42), several authors mention that life experiences, positive and negative, meeting an inspiring person, or even a book that brings reflections, can promote Self-awareness. In addition to these forms, some instruments have been used to increase the awareness of individuals and, specifically, leaders, such as Executive Coaching, Life Story, 360-degree, Feedback Sessions, and typologies such as Big Five, MBTI, Temperaments, and the Hallos method.

There are many empirical studies and authors who claim that Self-awareness is an essential quality for improving the relationship between leaders and members, such as in Gardner et al. (2005), Tekleab et al. (2007), Goleman (2011), and that allows leaders to achieve clarity regarding their motivations, identity, and goals (Gardner et al., 2005). With Self-awareness, they are able to self-observe and govern themselves (Kofman, 2002, p.133) and understand who they are and what they believe. Consequently, they can be aware that blind spots can distort reality, impair relationships, quality of decision-making and severely impact other people's standard of living (Goleman, 1995).

Along the same lines, the primary purpose of this project was to assess whether an instrument different from the existing ones, the Hallos method, can promote

increased Self-awareness and improvement in interpersonal relationships in the workplace, confirming other theories and research.

This chapter has been divided into five parts: 5.2. Discussion of Study I (self-report): Study I discusses whether the Hallos method promotes the expansion of Self-awareness and if this improvement influences the relationships between leaders and team members. Hypotheses also cover recognizing whether there is a long-term effect. 5.3. Discussion Study II (member-report): Study II is characterized by the evaluation of members on changes in their leaders before and after the training programme of Hallos. Moreover, it evaluates the changes in the studied leadership variables and the improvement in the relationship between leaders and members. 5.4. Project contributions 5.5. Recommendations for future research.

5.2. Discussion of Study I (self-report):

5.2.1. Discussion of the hypothesis

Hypothesis 1: There is an increase in individual Self-awareness from Hallos' method learning

The first result showed that, in the perception of 91.3% of 750 participant individuals, there was a 'high' or 'very high' Self-awareness level increase after the Hallos method intervention. Besides being statistically relevant, the result confirms the Hallos method's impact on individual perception. Such choice represents an average 35.8% Self-awareness increase, comparing the point in times 'before' knowing the Hallos method and after the intervention. Likewise, no participant registered on the same scale a Self-awareness change level as 'nothing' or 'little' (1 and 2, respectively). It was also observed that the highest share of this Self-awareness increase took place in individuals that assessed themselves at a 'moderate' level before knowing the Hallos method, and they saw themselves as 'high.' The highest stability took place in the individuals that considered their Self-awareness level as 'high' at first. That was expected because an individual who assesses him/herself with a high Self-awareness level cannot progress

much further regardless of that being real or not. The average increase of 'before' knowing Hallos method and 'after' knowing Hallos method was significant.

The result suggests that the Hallos method leads individuals to a reflective process that foster an increase in Self-awareness. Like other instruments that also promote reflective processes and the expansion of Self-awareness, such as Coaching (Saporito, 1996; Yeow and Martin, 2013), and typologies (McCarthy and Garavan, 1999; Burkhard, 2006), the Hallos method can only have a positive effect on individuals who are open to new perspectives and a review of their mental models and values. This statement is possible because the professionals who participated in workshops on the Hallos method in the vast majority arrived with an individual or collective predisposition oriented towards openness to changes and development, which, probably, positively influenced the results. In companies where a group had already participated in workshops, the groups arrived with even greater curiosity and motivation.

Although there has never been any group of people who indicated different results, more critical individuals might be more resistant to this method. This suggests that further research and the method's improvement can contribute to more individuals in the future. The same positive results were found in demographic variables (Appendix 4).

- Differences between Leaders and Non-Leaders:

Self-awareness increases comparison among leaders (n =562) and non-leaders (n =188), which evidenced that both groups increased significantly between 'before' and 'after' knowing the Hallos method. Leaders had a 31.9% growth, and non-leaders, 36.1%. On the other hand, although existing, the growth difference between both groups is not statistically significant. This result evidence that the Hallos method impacts both individual groups. It also demonstrates that Self-awareness expansion impact can happen with any professional, regardless of hierarchic position.

All studies presented showed an acknowledgement by most participants that a significant Self-awareness increase after Hallos method learning. This increase is also performed in all demographic variables studied and analysed, which confirms hypothesis 1 of Study I, that there is an individual Self-awareness increase from Hallos method knowledge. This study also confirms that the Hallos method, like other human typologies (Jung, 1991;

Myers and Myers, 1995), can increase individual perception and foster Self-awareness expansion.

Hypothesis 2: The Hallos method fosters interpersonal relations improvement

- Hallos method can foster relation improvement:

The present study's result showed that 92.3% of individuals surveyed state that the Hallos method can foster interpersonal relation improvement, and only 0.8% do not believe in this hypothesis. This result suggests that human type knowledge and how to deal with each type, Hallos method essence, impact personal expectation on interpersonal relation improvement. In a period in which interpersonal relations achieve new dynamics in the work environment (Hess, 2014; Laloux, 2016), instruments like the Hallos method can contribute to this need.

An important finding was that the individuals in the groups who completed the questionnaire after the intervention at different periods, as between 6 months and two years, between 2 and 4 years, and even more than four years, there was a very high rating average, varying from 4.19 to 4.38 on improvement perspective on interpersonal relation improvement.

As in any other knowledge, it was expected that this would be 'forgotten' by the individuals, and it would remain only at the unconscious level. That indicates that, regardless of the period individuals filled in the evaluation questionnaire, immediately after knowing the Hallos method or four years later, there is a significant potential improvement perception. This study's surprising point is that even individuals filled in the questionnaire after four years of knowing the Hallos method continue to believe this knowledge can still contribute to relation improvement.

- The Hallos method fosters improvement in the quality of relationships, and this is maintained over time:

Several studies on Self-awareness, including, for instance, Gardner et al. (2005) and Tekleab et al. (2007), state that Self-awareness increase, in the case of leaders, expands their perception increase and fosters self-regulation process, through which leaders adjust their behaviours.

Thus, they can develop more empathy, listen more, and promote relations improving with their team members. The study performed with 302 individuals filled in the evaluation questionnaires at least six months after knowing the Hallos method showed that 75.5% of participants stated that there had been a significant change in the quality of their relationships. In contrast, only 4.3% said that the change was low or non-existing.

Although this study, through the self-report, does not use LMX scales, it is possible to state that the result indicates an increase in the quality of exchanges, and consequently, an increase in LMX.

The improvement in the interpersonal relationship was also significant in the different periods analysed. In 6-month to 2-year (74.67%), 2-year to 4-year (74.38%), and finally after 4-year (84.87%) periods. This result shows that relation improvement through Self-awareness expansion remains stable through time, and it can even increase, as in the study case performed. This is also a significant discovery, as most research that refers to Self-awareness and relations between leaders and their teams does not provide data on how this quality behaves in time; they only state there is relation improvement. One of the goals was to confirm that Self-awareness changes are sustained through time, what happened indeed. Self-awareness is something stable. It means that some individuals who expand Self-awareness and use self-regulation to change their behaviours can make them a new habit.

The same assessment performed with the participants that filled in the evaluation questionnaire after six months brought a tangible view about the Hallos method (and the expansion of Self-awareness). 65.5% of participants stated an improvement in

relationships both in the professional and personal areas, which shows how it was expected, that behavioural changes influence individuals not just a specific area of life.

Perhaps the results may indicate, as the workshop participants of workshops verbalize, that the Hallos method presents a very **'simple' and 'intuitive'** understanding typology, and this knowledge that is initially unconscious becomes tangible and very natural. In terms of practical implications, perhaps, such knowledge may become a conscious practice in daily life, which may significantly contribute to relations, as evidenced by results achieved in this investigation. Finally, and that should be a future research study object, perhaps may infer there was relational intelligence increase, and such intelligence, as it is acquired, remains stable, and it can even increase.

- Comparison between relation improvement perspective and leader and non-leader actual improvement

The results showed that all average evaluations were very high to the perspective of improvement versus the real relationship. Leaders attributed 4.33 to the perspective of improvement and 4.21 to real improvement on average. Non-leaders attributed 4.26 to the perspective of improvement and 4.15 to real improvement in the relationship.

The studies on leaders and non-leaders showed that existing "expectations" and "reality" about the relationships' improvement were very similar and significant.

This makes it possible to consider that, for this group, the relation improvement expectations became a reality, which can also lead to considering that the Hallos method can foster a consistent improvement in interpersonal relations that keeps over time.

These results assume that Hallos method knowledge can promote relation improvement between leaders and their team members and among team members themselves and members and their leader. Using the Hallos method in all such dimensions can enable leaders and members to know the way everyone is and acts and values diversity as complementarity. This can allow the disposition for a more collaborative, synergetic work, providing team productivity improvement and a lighter work

environment. In practice, this possibility has been performed in several companies with the Hallos method, and practical results have been very significant.

Hypothesis 3 - Self-awareness expansion remains over time

Individuals' Self-awareness progress from the pre-intervention and post-intervention of the Hallos method (sample 2), between 6 months and two years after knowing the Hallos method was 35% (3.03 to 4.09). The average of the group who filled out the questionnaire two years and four years was 37% (3.05 to 4.18), and the average of the ones that filled in after four years was 37% (2.94 to 4.03). These results suggest that Self-awareness is maintained through time. In case of comparison between sample 1 with questionnaire filling in soon after knowing Hallos method, and sample 2, with filling in at least six months later, it is seen that sample 1 presented a 30.34% increase (3.23 to 4.21). In contrast, sample 2 provided a 35.97% increase (3.03 to 4.12), which confirms that Self-awareness is maintained and increases through time.

In the third study performed with sample 3, which refers to 36 individuals filling in the same questionnaire twice in different point in times, there was an average increase of 3.03, soon after knowing the method, to 4.08, after learning the method, with 35% growth. This group also showed an increase between both periods and confirms that Self-awareness is maintained through time. These results indicate that the search continues for the improvement of the Self (Gardner et al., 2005), and the self-regulation process leads to the support of Self-awareness over time.

Although the result has been highly positive and confirms the hypothesis studied, it is worth noting that no studies can claim quite Self-awareness is a level that cannot regress when it is reached. This is relevant, as the increase of Self-awareness is not static. The 'progress' does not mean there cannot be individual awareness obliteration in stressful situations and particular life circumstances. Although Self-awareness can provide more freedom of choice, there can also be a fight between the old Self and the new Self (Gardner et al., 2005). Likewise, Graves (2005) states that human evolution is performed through time by awareness levels and that, even if a new level acquired reaches a new level, life contexts can make individuals navigate in different possibilities, whether

lower or higher. It happens similarly with Maslow's pyramid (Thielke et al., 2011; Maslow, 2018), in which an individual that reached, for instance, self-fulfilment, when losing his/her job, can return to survival or safety level.

Hypothesis 4 – Participants recognize the importance of diversity in the work environment, and this perception is maintained over time

One of the critical points investigated in the project was the relationship between the Hallos method, Self-awareness, and diversity. The diversity theme has been one of the most discussed in the social and organizational scope and treated by several authors (Page, 2007, 2011; Esty, 1995; Fields, 2009; Ilmakunnas and Ilmakunnas, 2011), in addition to being one of the pillars of the Hallos method.

In this sense, the relevance of diversity perception progress, for 750 individuals, increased significantly among individuals after the Hallos method's intervention. 91.1% of participants stated this increase was high or very high on a 1 to 5 scale. The average increase was 33% in the comparison between before and after knowing the method.

Differences between Leaders and Non-Leaders: Diversity relevance perception increase of leaders and non-leaders also rose significantly compared to 'before' and 'after' knowing the Hallos method. Leaders rose 34%, and non-leaders, 30%.

In practical terms, if confirmed by other research, this result may indicate a possibility that Self-awareness can be a mediating variable in the understanding of diversity and the inclusion of different types of individuals in the work environment. An individual who is predisposed to change and break the circle of sympathy and dislike and questions his Self always (Gardner et al., 2005) can learn to include more people in his relationship circle (in-group). In practical terms, this change is expected to improve interpersonal relationships, as self-reporting.

H5 - Self-awareness has an impact on the perception of the importance of diversity in the workplace

A final analysis was performed to check how the increase of Self-awareness impacted by the Hallos method could influence the general view on daily routine diversity relevance. The study showed evidence that Self-awareness explains that 27.7% of diversity increases, and that the change of one point in Self-awareness corresponds to a 0.496-point change for diversity. As expected, evidence demonstrates that Self-awareness expansion through the Hallos method when addressing a typology made up of human archetypes can be associated with the increase in Self-awareness and, consequently, a positive effect in broadening the perception of the importance of human diversity in the work environment. This confirms once more the hypotheses surveyed in this study. The result shows that the Hallos method and Self-awareness are associated with the understanding of diversity. This may trigger a broader awakening of the theme diversity in leaders and members of organizations.

5.2.2. Summary of Study I

Every Study I hypothesis was confirmed. Even though many studies on leadership, this investigation differs from others for presenting the Self-awareness expansion through a 'new' method. While more similar and acknowledged Self-awareness methods, including Big5 and MBTI, analysed personality traces, the Hallos method works with archetypes. Even though the tools mentioned above can also foster similar results, they are generally associated with some leadership theories and specific studies on personality, or the effect of change related to some variables. The Hallos method was the only one created intentionally to promote Self-awareness and improve the dyadic relationship. We could not find studies that assess Self-awareness progress in time, as well as its effect in interpersonal relationships, also through time.

Specifically, in quality of the relationship, one of the interests of the Leader-member Exchange theory, the results indicate in the evaluation of the participants (leaders and non-leaders), that even in the long term, the Hallos method promotes the improvement in the relationship quality between leaders and members. This also suggests that leaders are likely to increase their Self-awareness about how they act and also start

to include, as the results suggest, different people in their circle of interest (in-group). Although not the object of this study, this result also indicates that members probably influenced by the Hallos method can change their behaviour and improve relations with their leaders.

This study also provides various sources, formed by a large variety of organizational cultures and countries, concerning Self-awareness and relationship topic analysis. Finally, this study is probably one of the few that offers a survey based on the tripod comprised of Self-awareness, type diversity, and relationship.

Besides the survey results, participants who knew the Hallos method more than two years ago were also asked if they would have any short experiences to tell. In general, people who participate in the Hallos workshop report an increase in Self-awareness, the understanding of differences of the other human types, and improved relationships in the professional and personal life. Therefore, to finish this summary, the following are presented five testimonies sent by participants who were invited to provide feedback on their experiences. There are four middle management women from Brazil and a Coach from Spain.

- "I became a more mature person. I learned to observe more and mainly to see people's needs before to be directive with them. I listen more and be more analytical and thoughtful in relationships".

- "Hallos' learning helped me to observe people better, to perceive their colours (types) and the ideal way to work and communicate with them. In general, it made me put myself in the other's place, making me think without judgment; does that person act like that? How can I help him?"

"- From the point in time I started to admit my complementary needs to the group, to respect the differences more and to give the opportunity for the predominant colour (type) of each one to manifest, the strength of the team grew exponentially".

- "Acquiring this knowledge was essential for my growth. Being able to understand clearly why we are so different, made me be more understanding with myself

and of course, with my team, my children and especially my husband".

- "Hallos Relations had a great impact on me. It served to make me understand myself better and to become more aware of how I relate and the impact I cause on others. It has helped me in my relationship with my husband and it was revealing to understand my profile and his. I use it in all my Coaching sessions ".

5.2.3. Study I Limitations

Even though all the results confirm the stated hypotheses, some limitations may influence the results of Study I.

The project's original design was intended to have samples from more countries, especially from Asia, to generalise the model, which was not possible. However, the sample was positive, with 750 individuals from 17 companies, in 3 different countries.

In Study I, due to its configuration and design, it was impossible to obtain a control group to carry out a comparative analysis, which is always desirable.

In self-assessment, individuals may have a specific tendency to overestimate their performance (Martin et al., 2019; Harris and Schaerbeek, 1988; Mabe & West, 1982; Tekleab et al., 2007). Thus, the difference in self-assessment may be different from the assessment of the members and be configured in a study bias.

Another limitation is that participants fill out their questionnaires only after the Hallos programme, about "before and after" intervention in the Hallos training programme. Although this approach is considered a limitation, as already described, studies on self-reporting (Howard et al., 1979; Howard and Dailey, 1979) have shown that there is a more significant bias when a person completes a survey before learning the concept and again after knowing the idea. When the individual becomes familiar with the concepts, their understanding changes, and according to these studies, the bias in filling out the questionnaire is less. For this reason, the authors (Howard et al., 1979; Howard and Dailey, 1979; Nimon, Zigarmi, and Allen, 2011) recommend that the

respondents assess their perception or state prior to the intervention at the same time in which they answer the post-test.

The facilitator may have influenced the results. Even though the quantitative approach assumes that the investigator and knowledge are separate, there is no absolute impartiality, as stated by Nagel (Steel and Guala, 2011). On the other hand, although the influence of the facilitator is always a possibility, the fact that samples from seventeen different companies from different cultures and countries were used, obtaining similar results and feedback, indicates minimising this risk. Another relevant point is that many professionals have completed the questionnaire twice: the first time right after the Hallos programme and the second time, six months, one year or even two years after having participated in the programme and have shown similar results to the first time, in all periods. This reduces the chances of influence from the facilitator and also from the impact of the training itself. It is important to note that the Hallos programme is not training with solely cognitive concepts but an invitation to a process of behavioural changes, and it is expected to promote changes over time. This would justify the remembrance by the participants. It is also important to note that many individuals who complete the assessment receive the reports without participating in the Hallos programme. These individuals report the same effectiveness of the results compared to those who participate in the programme. These facts suggest that the facilitator's presence has little influence on the results.

Project limitations include the difficulty of obtaining samples. Even though there was interest and apparent commitment to the project, it was tough to obtain the project's respondents. This is, in part, probably due to the workload excess that individuals currently have in organisational environments, which causes great exhaustion and stress, leading to a rejection of additional 'tasks'. Another related point to the same difficulty is that the new data-protection law prevented using many questionnaires in some countries, including the United States and Spain. The professionals refused to submit their data in the research. By the end of the process, we obtained some participants from Spain and Chile who filled in the questionnaire but kept their anonymity.

The last point that we have highlighted, already presented in the discussion, is the Likert scale limitation in individual evaluation, discussed further in Study II.

A possible deviation in the results is that a professional tends to make evaluations like their peers searching for acceptance and belonging. The vast majority of individuals that use the Hallos method, either through training or even receiving a report, can influence other individuals.

Although limitations and deviations are inherent to a project, precautions have been taken to minimise possible errors and deviations, from planning to process implementation and to ethical cautions.

5.3. Discussion Study II

Hypothesis 6: There will be a significant increase in team-member rated about Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX after learning the Hallos method, and this growth is maintained over time.

Hypothesis 7: There is a relationship between Self-awareness and other variables; Leader-member Exchange, Transformational Leadership, Emotional Intelligence, and this relationship is maintained over time.

Hypothesis 8: The Self-awareness variable's growth is greater in the self-assessment of leaders than of members of their teams.

5.3.1. Introduction and summary:

As described in the introduction of this project, in the last decades organisations have experienced changes in all dimensions (Malvezzi, 2000). With that, they have undergone an immense impact on their management and leadership models (Heifetz, 2009). The leaders were not prepared to work in a heterogeneous environment with generations of individuals who want to dialogue, build together, and express their talents. This scenario stimulated a reflexive process on the leader's role and hundreds of surveys on the relationship between leaders and members. Among the different

theoretical matrices about leader-member relationships, the Leader-Member Exchange (Graen and Uhl-Bien, 1995), Transformational Leadership (Bass, 1990), Servant Leadership (Greenleaf, 1997) and Authentic Leadership (Gardner et al., 2005; George, 2009) theories stand out. In their empirical studies and different taxonomies, these theories propose that a high degree of LMX, for example, is related to improving the quality of exchanges and relationships between leaders and team members, as well as greater quality and productivity. Except for LMX, these theories suggest that Self-awareness is a fundamental quality for changing leaders' perceptions and improving their relationships with their followers.

From this perspective, study II aimed to verify the effect of the intervention of the Hallos programme on the evaluation of members. The results confirmed that the Hallos programme exerted a significant increase in the levels of Self-awareness of leaders and also promoted a positive change in the relationships between leaders and members, based on scales associated with leadership theories, such as Leader-Member Exchange and Transformational Leadership, which meets hypothesis 6 of this study. In addition, the Study II analyses considered the possible existence of a positive correlation between Self-awareness and the other studied variables to satisfy hypothesis 7 of the study, which was also confirmed.

The studies carried out allowed theoretical and practical advances on the Hallos intervention, as well as on aspects of the team's leader-member relationship, which can be summarized in the following topics: (1) the correlation results showed that Self-awareness, Transformational Leadership, Emotional Intelligence and Leader-member Exchange (LMX) increased significantly after intervention in all sub-studies and showed an even stronger correlation between LMX and Emotional Intelligence in sub-study II-4; (2) from a regression analysis, the results indicated that the increasing change in the level of Self-awareness explains the increase of the change of Transformational Leadership, Emotional Intelligence and LMX levels; (3) mediation analyses (Sub-study II-4) verified that pre-intervention Self-awareness seems to impact post-intervention Self-awareness (mediator) and, then, this relationship impacts the post-intervention Leader-member Exchange; (4) the results of the hierarchical model (Sub-study II-4), indicated that, although the general trend of each variable was to increase after the intervention of the programme, some participants, in particular,

presented responses that were different from this trend; (5) the pre- and post-intervention paired comparisons pointed to a significant increase of leadership skills in relations with members after the Hallos programme's intervention; (6) the Sub-study II-2 (experimental x control) results indicated a significantly higher increase in relation to the Self-awareness of the leaders who participated the intervention in comparison with the participants who were not subjected to it.

The table below represents the synthesis of the analyses carried out in the four sub-studies and their results.

Table 70 - Synthesis of the sub-studies II-1, II-2, II-3, and II-4

Study II-1 - Type of analysis	Study II-1 Main results
<p>Percent growth: It checks the percent growth of a variable based on time (current and previous)</p>	<p>Pre- and post-Self-awareness difference: diff = 0.18 Percent growth: 4.81% Pre- and post-Transformational Leadership difference: diff = 0.19, Percent growth: 5.14% Pre- and post-Emotional Intelligence difference: diff = 0.19, Percent growth: 5.26% Pre- and post-LMX difference: diff = 0.19 Percent growth: 5.22%</p>
<p>Paired T Test Comparison of the mean at two time points (before and after)</p>	<p>Self-awareness: (t (469) = - 11.01, p < 0.01) <i>Transformational Leadership</i>: (t (469) = - 13.56, p < 0.01) <i>Emotional Intelligence</i>: (t (469) = - 12.55, p < 0.01) LMX: (t (469) = -11.22, p < 0.01)</p>
<p>Correlation: It checks the direction and the strength of association between two numeric variables.</p>	<p>Pre-intervention: Self-awareness and Transformational Leadership: r = 0.83 (p < 0.001) Self-awareness and Emotional Intelligence: r = 0.88 (p < 0.001) Self-awareness and LMX: r = 0.74 (p < 0.001)</p> <p>Post-intervention: Self-awareness and Transformational Leadership: r = 0.84 (p < 0.001) Self-awareness and Emotional Intelligence: r = 0.89 (p < 0.001) Self-awareness and LMX: r = 0.76 (p < 0.001)</p>

<p>Regression It analyses the outcome of a variable explained by a predictor, by controlling the effect of another variable</p>	<p>Model 1 - delta Self-awareness and delta Transformational Leadership: $\beta = 0.68, p < 0.01$</p> <p>Model 2 - delta Self-awareness and delta Emotional Intelligence: $\beta = 0.73, p < 0.01$</p> <p>Model 3 - delta Self-awareness and delta LMX: $\beta = 0.61, p < 0.01$</p>
<p>Study II-2 - Type of analysis</p>	<p>Study II-2 - Main results</p>
<p>ANOVA: It analyses the variance of a set of variables, where it is checked if the means of three or more groups are different.</p>	<p>Interaction effect Self-awareness: $F(1, 332) = 20.9, p < 0.001, \eta^2 = 0.06$ Transformational Leadership: $F(1, 322) = 21.78, p < 0.001, \eta^2 = 0.06$ Emotional Intelligence: $F(1, 322) = 27.33, p < 0.001, \eta^2 = 0.08$ LMX: $F(1, 332) = 10.63, p < 0.001, \eta^2 = 0.03$</p>
<p>Study II-3 - Type of analysis</p>	<p>Study II-3 - Main results</p>
<p>Percent growth: It checks the percent growth of a variable based on time (current and previous)</p>	<p>Sample with 19 participants:</p> <p>T1 - T2 Self-awareness difference: $\text{diff} = 0.11$ Percent growth: 2.93% Transformational Leadership difference: $\text{diff} = 0.04$, Percent growth: 1.10% Emotional Intelligence difference: $\text{diff} = 0.15$, Percent growth: 4.34% LMX difference: $\text{diff} = 0.11$ Percent growth: 2.81%</p> <p>T1-T3 Self-awareness difference: $\text{diff} = 0.39$ Percent growth: 10.37% Transformational Leadership difference: $\text{diff} = 0.15$, Percent growth: 4.14% Emotional Intelligence difference: $\text{diff} = 0.41$, Percent growth: 11.85% LMX difference: $\text{diff} = 0.26$, Percent growth: 6.63%</p>
<p>Paired T Test: Comparison of the mean at two time points (before and after)</p>	<p>Self-awareness: $(t(25) = -3.26, p < 0.01)$ <i>Transformational Leadership</i>: $(t(25) = -1.53, p = 0.14)$ <i>Emotional Intelligence</i>: $(t(25) = -3.34, p < 0.01)$ LMX: $(t(25) = -3.90, p < 0.01)$</p>
<p>ANOVA: It analyses the variance of a set of variables, where it is checked if the</p>	<p>Self-awareness: $F(2; 36) = 5.49, p < 0.001, \eta^2 = 0.23$ Transformational Leadership: $F(2; 36) = 0.52, p < 0.060, \eta^2 = 0.03$</p>

means of three or more groups are different.	Emotional Intelligence $F(2; 36) = 4.68, p < 0.002, \eta^2 = 0.21$ LMX: $F(2, 36) = 3.66, p < 0.004, \eta^2 = 0.17$
<p>Correlation: It checks the direction and the strength of association between two numeric variables.</p>	<p>Pre-intervention: Self-awareness and Transformational Leadership: $r = 0.58 (p < 0.001)$ Self-awareness and Emotional Intelligence: $r = 0.70 (p < 0.001)$ Self-awareness and LMX: $r = 0.38 (p < 0.001)$</p> <p>Post-intervention: Self-awareness and Transformational Leadership: $r = 0.65 (p < 0.001)$ Self-awareness and Emotional Intelligence: $r = 0.75 (p < 0.001)$ Self-awareness and LMX: $r = 0.66 (p < 0.001)$</p> <p>Follow up: Self-awareness and Transformational Leadership: $r = 0.75 (p < 0.001)$ Self-awareness and Emotional Intelligence: $r = 0.60 (p < 0.001)$ Self-awareness and LMX: $r = 0.62 (p < 0.001)$</p>
Study II.4 - Type of analysis	Study II.4 - Main results
<p>Paired T Test Comparison of the mean at two time points (before and after)</p>	<p>Self-awareness: $(t = -3.871, p < 0.001)$ <i>Transformational Leadership</i>: $(t = 2.545, p < 0.012)$ <i>Emotional Intelligence</i>: $(t = 2.668, p < 0.009)$ LMX: $(t = 4.862, p < 0.001)$</p>
<p>Correlation: It checks the direction and the strength of association between two numeric variables.</p>	<p>Pre-intervention: Self-awareness and Transformational Leadership: $r = 0.72 (p < 0.001)$ Self-awareness and Emotional Intelligence: $r = 0.72 (p < 0.001)$ Self-awareness and LMX: $r = 0.48 (p < 0.001)$</p> <p>Post-intervention: Self-awareness and Transformational Leadership: $r = 0.73 (p < 0.001)$ Self-awareness and Emotional Intelligence: $r = 0.67 (p < 0.001)$ Self-awareness and LMX: $r = 0.52 (p < 0.001)$</p>

<p>Regression It analyses the outcome of a variable explained by a predictor, by controlling the effect of another variable</p>	<p>Model 1 - delta Self-awareness and delta Transformational Leadership: $R^2 = 0.518(p < 0.001)$ Model 2 - delta Self-awareness and delta Emotional Intelligence: $R^2 = 0.319 (p < 0.001)$ Model 3 - delta Self-awareness and delta LMX: $R^2 = 0.090(p < 0.001)$</p>
<p>Mediation It checks the direct and indirect effects of a variable on another</p>	<p>Direct effect of pre-Self-awareness on post-LMX: $c' = 0.064 (p = 0.42)$ Indirect effect of pre-Self-awareness on post-LMX: $ab = 0.196 (p < 0.001)$</p>
<p>Hierarchical It investigates the random effects of grouped and individual results</p>	<p>Self-awareness: $F (1, 137) = 9.3, p = 0.002$ Transformational Leadership: $F (1, 164) = 4.14, p = 0.04$ Emotional Intelligence $F (1, 166) = 5.4, p = 0.02$ LMX: $F (1, 158) = 13.46, p < 0.001$</p>

Next, we present the discussion of each of the sub-studies in their order.

5.3.2. Sub-study II - 1:

The main objective of Sub-study II-1, as well as the other sub-studies, was to verify the growth hypothesis from the perception of Self-awareness, Transformational Leadership, Emotional Intelligence and LMX variables after the Hallos programme intervention. Furthermore, this study analysed the growth of variables before and after using the Hallos programme. Analyses were carried out through the responses of the members and leaders of each company's teams (470 members and 153 leaders), based on a series of statistical procedures. The first analytical procedure was the T-Test, where it was possible to verify significant differences of the variables based on the time point of the Hallos programme intervention (before and after). In addition, correlation analyses were prepared in order to verify the strength of association between the variables of interest before and after the Hallos programme. Finally, simple linear regression models were implemented, with the aim of exploring and analysing the outcomes of the variables of interest according to a predictor variable (Self-awareness). Thus, the paragraphs below

carry out an exposition of this study's main results and discuss in detail each of the analyses that were performed. A summary of the results can also be seen in Table 70.

Sub-study II - 1 - pre-and post-intervention growth

To investigate the hypothesis of increased Self-awareness, Transformational Leadership, Emotional Intelligence and LMX, was verified their growth in two different point in times, the pre-and-post intervention of the Hallos programme, through the evaluation of leaders by the members of their teams. After applying for the Hallos programme, the results showed significant growth in all variables. The Emotional Intelligence variable showed the most expressive growth, 5.26% (diff = 0.19). Furthermore, a growth of 5.22% (diff = 0.19) of the LMX variable, 5.14% (diff = 0.19) in Transformational Leadership and 4.81% (diff = 0.18) in Self-awareness was observed. These results suggested the effect of the Hallos programme on behavioural changes in leaders, which contribute towards an improvement in the leader-member relationship, which in turn enables the building of a healthier environment in the work setting.

The growth in the Emotional Intelligence variable demonstrates the importance of this variable for the development of leaders' effectiveness (Goleman, 1995; George, 2000). This ability to manage emotions is experienced individually by the leader. Still, it also helps in the team's performance, as it allows stability and possible improvement in the quality of relationships with the members of the work team (Goleman, 1995; George, 2000).

Through the paired-sample t-test, it was possible to observe that the Transformational Leadership ($t(469) = -13.56, p < 0.01$), Emotional Intelligence ($t(469) = -12.55, p < 0, 01$), LMX ($t(469) = -11.22, p < 0.01$) and Self-awareness ($t(469) = -11.01, p < 0.01$) variables showed a significant difference when comparing the two point in times. These results suggest that the intervention of the Hallos programme promotes change in behaviour in the leaders of the companies, which confirms hypothesis 6 of this study.

This growth allows us to assume, from related studies on the same topic, that the Hallos programme influencing an increase in LMX may suggest that this instrument contributes to the improvement in the quality of relationships and the improvement in the

productivity of teams, as proposed by several researchers. Due to the few existing research that relates LMX and personality, LMX and Self-awareness are perhaps one of the important discoveries of this project.

Likewise, this result also suggests in the existing literature that the increase in Transformational Leadership generated by the Hallos programme can increase the leader's effectiveness. This variable indicates that a transformational leader treats team members positively (Bass, 1990), mainly by developing values such as trust and ethics applied in the work setting (Tekleab et al., 2007). This transformational leader's attitude (Bass, 1985) can promote greater productivity.

Sub-study II - 1 - T Test

Through the paired-sample t-test, it was possible to observe that the Transformational Leadership ($t(469) = -13.56, p < 0.01$), Emotional Intelligence ($t(469) = -12.55, p < 0.01$), LMX ($t(469) = -11.22, p < 0.01$) and Self-awareness ($t(469) = -11.01, p < 0.01$) variables showed a significant difference when comparing the two point in times. These results suggest that the intervention of the Hallos programme promotes change in behaviour in the leaders of the companies, which confirms hypothesis 6 of this study.

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Regarding the growth of all variables, after the intervention of the Hallos programme, it is essential to highlight some points and relate this result to theoretical conditions. Initially, the Hallos programme was developed based on the understanding that an increase of Self-awareness based on knowledge of an individual's strengths and weaknesses and the recognition of the impact of their behaviours can foster positive changes that influence the interpersonal relationships and also the interaction between leaders and members. This relationship between Self-awareness and the relationships between leaders and members is presented in several studies on Authentic Leadership (Gardner et al., 2005; George, 2009), Transformational Leadership (Bass, 1985; Bass and Avolio, 1990) and Emotional Intelligence (Fisk and Friesen, 2011; George, 2000).

Therefore, the results suggest that the Hallos programme contributes towards the expansion of the leaders' Self-awareness and the development of relationship skills between leaders and members. Self-awareness, as already described, is a crucial skill whose increase has been linked to the development, performance, and effectiveness of leaders (Gardner et al., 2005), which is confirmed by several studies (Atwater and Yammarino, 1992; Atwater and Fischthal, 1995; Church, 1997; Tekleab et al., 2007). Increased Self-awareness allows leaders to recognize and control the effects of their attitudes and emotions (Gardner et al., 2005; George, 2000), in addition to learning how to better deal with team members. Therefore, the results suggest that the Hallos programme plays an important role in promoting and developing such skills in the organizational setting. Sub-study II-1 also confirms the proposed hypothesis 6, suggesting the effectiveness of the Hallos programme.

Sub-study II - 1 - Correlations

In addition to analysing the growth of the variables and their significant differences, this study aimed to verify the direction and level of association between the Self-awareness, Transformational Leadership, Emotional Intelligence and LMX variables before and after the intervention. For this, analyses were prepared using Pearson's correlation. The results indicated significant correlations between all variables analysed in the pre-and-post Hallos intervention time points.

In general, it was possible to verify that the pre-intervention Self-awareness ratio with LMX is 0.74 ($p < 0.01$), indicating that they maintain a proportional and strong

relationship. Such positive and significant correlation is also verified between pre-intervention Self-awareness with pre-intervention Emotional Intelligence ($r = 0.88, p < 0.01$) and Transformational Leadership ($r = 0.83, p < 0.01$), demonstrating that the variables are strongly correlated. Likewise, considering the post-intervention time point, it was possible to verify a significant and proportionally strong relationship of the level of Self-awareness with Emotional Intelligence ($r = 0.89, p < 0.01$), Transformational Leadership ($r = 0.84, p < 0.01$) and LMX ($r = 0.76, p < 0.01$).

In addition to verifying the correlation profile of the variables of interest before and after the Hallos intervention, it was possible to analyse their correlation growth after the Hallos programme. The pre-intervention relationship between Self-awareness and LMX was 0.74 ($p < 0.001$), indicating a significant and robust correlation between the variables. After the intervention, there was an increase in the association level between the variables ($r = 0.76, p < 0.001$), showing a strong and significant association. These results demonstrate that the relationship between the Self-awareness of leaders and the relationship between members and leaders in the company (LMX) was more effective after the intervention, showing in evidence the change produced by the Hallos programme.

Likewise, it was possible to compare the level of correlation in the pre-and post-intervention time points between the Self-awareness and Transformational Leadership variables. The results show an increased strength of association between post-intervention Self-awareness and Transformational Leadership. The relationship between these pre-intervention variables was 0.83 ($p < 0.001$), indicating positive and significant. After the intervention, the correlation between Self-awareness and Transformational Leadership was 0.84 ($p < 0.001$), a proportional and strong correlation. These results indicate that the relationship between Self-awareness and Transformational Leadership increased after the Hallos intervention, suggesting the programme's effectiveness concerning this variable, confirming the correlation of these variables, as already pointed out by other studies.

In general, the correlation results suggest that Self-awareness has an important relationship with other skills in the work setting and that, therefore, it can promote the improvement of the qualities of exchanges between leaders and members, studied by the LMX theory. Thus, it is possible to understand that these results are in line with transformational and Authentic Leadership and also are relevant to the leader-member

exchanges (LMX), which are presented, when positive, as a relationship of trust, respect, and mutual obligation (Graen and Uhl-Bien, 1995), having a direct effect on the well-being or health of those involved (Yukl and Tracey, 1992).

Sub-study II - 1 - Simple linear regressions

In order to explore the response process and identify possible effects of the difference in the level of Self-awareness at the pre-and post-intervention time points in the outcomes of changes in the Transformational Leadership, Emotional Intelligence and LMX variables before and after the implementation of the programme Hallos, simple linear regression models were performed. In this type of linear statistical model, the aim is to verify how much a predictor variable (in this case, the pre-and post-Self-awareness changes) explains the variability of the results of changes in the other variables. Overall, the impact of the Self-awareness change was positive, strong, and statistically significant concerning the levels of changes of all variables. The results of linear regressions indicated that the level of difference in the pre-and post-intervention Self-awareness variable has a meaningful relationship with changes in the pre-and post-intervention Transformational Leadership, Emotional Intelligence and LMX levels.

Specifically, the results of the regressions show that the increase of 1 point in the change of pre-and post-intervention Self-awareness produces, on average, a growth of 0.61 points in the difference in the level of Transformational Leadership ($\beta = 0.68$, $p < 0.01$). Likewise, the 1-point increase in change of Self-awareness impacts the increase of 0.70 in the difference of Emotional Intelligence level ($\beta = 0.73$, $p < 0.001$), and it also explains the increase of 0.64 in LMX ($\beta = 0.61$, $p < 0.001$). This is to say that the growth provided by the Hallos programme in Self-awareness plays a significant explanatory power in the variability of change in the Transformational Leadership, Emotional Intelligence and LMX variables.

All the outcome variables of the linear models showed variability explained with the change in the levels of Self-awareness of the leaders, demonstrating that they are not only strongly associated, but also that the skills related to the Emotional Intelligence of the leaders, as well as in Transformational Leadership and in the relationship between leaders and members (LMX) are significantly explained by Self-awareness.

This means that regression results confirm the hypothesis that Self-awareness can influence the improvement of the qualities of exchanges between leaders and members, studied by LMX and the development of the leader's Emotional Intelligence and Transformational Leadership.

Therefore, based on the regression results, it is possible to verify that the increasing change in the levels of Self-awareness that was verified through the intervention of the Hallos programme is significantly related to the increase in changes in the levels of Transformational Leadership, in the quality of exchanges between leader and members and above all with Emotional Intelligence, where a greater association with Self-awareness was verified. Such results are consistent with findings in the literature and demonstrate their importance within the organizational context (Graen and Uhl-Bien, 1995; Yukl and Tracey, 1992).

5.3.3. Sub-study II - 2 - Control and experimental group

Sub-study II.2 presented a design different from the other studies. Particularly this one, a “quasi-experimental” design was adopted (used to verify a causal effect of an intervention), with the use of a control group and an experimental group. In this sense, the study aimed to evaluate the levels of Self-awareness, Transformational Leadership, Emotional Intelligence and LMX among leaders who participated in the intervention of the Hallos programme (experimental group) and among participants who were not submitted to this intervention (group control) in equal periods of time and in the same company. Initially, the percentage of growth of Self-awareness, Transformational Leadership, Emotional Intelligence and LMX in control and experimental groups was verified after the first time point. The results indicated an increase in the perception of Self-awareness of leaders between the post-intervention and pre-intervention of 6.3% (diff = 0.24) in the experimental group. However, in the same period, the percentage of growth in the control group was 1.6% (diff = 0.06).

Likewise, in the Transformational Leadership variable, a growth of 5.9% (diff = 0.23) was observed in the group that received the intervention, and a growth of 1.9% (diff = 0.07) in the group that did not receive the intervention of the programme. For LMX

there was a growth of 6.7% (diff = 0.24) in the experimental group, while for the control group the growth was 2.8% (diff = 0.11). That is, a significantly higher percentage of growth in skills was verified for the group that received the intervention of the Hallos programme, compared to the control group that did not participate in the programme. In this sense, interventions seem to play an important role in the growth of Self-awareness, Transformational Leadership, Emotional Intelligence, and leader-member exchange (LMX) skills of the participating leaders.

In addition to verifying the percentage of growth, study II - 2 also aimed to analyse the differences in the results of each variable based on the groups (experimental and control) and based on time (pre-and post-intervention), considering their main effects of interaction. For this, a two-way analysis of variance (ANOVA) was performed (time and group) and its interaction effect. The findings indicated the main effect of time and group on the variables. In this sense, the experimental group (received the intervention) showed significantly higher results in the variables, except for LMX ($p > 0.05$), compared to the control group (did not receive the intervention).

In addition, an interaction effect between time and group was verified in all variables. In this sense, a significant difference was found in the Self-awareness ($F(1, 332) = 20.9, p < 0.001, \eta^2 = 0.06$), Transformational Leadership ($F(1, 322) = 21.78, p < 0.001, \eta^2 = 0.06$), Emotional Intelligence ($F(1, 322) = 27.33, p < 0.001, \eta^2 = 0.08$) and LMX ($F(1, 332) = 10.63, p < 0.001, \eta^2 = 0.03$) variables. That is, the participants who participated in the training programme (experimental group and posterior time point) present high levels of the analysed variables, showing that the intervention (Hallos programme) promotes, in addition to the expansion of Self-awareness, the development of leadership behaviours proposed by the LMX and Transformational Leadership theory, in the perception of the team members who evaluated their leaders. The results suggest an important difference in the variables; that is, the Hallos intervention programme significantly influenced the increase in leadership skills in the experimental group compared to the group that did not receive the intervention.

5.3.4. Sub-study II - 3 - Company A - Longitudinal study: Team members made three assessments in three different point in times

Sub-study II-3 analysed a sample of leaders only from company A at three different time points for one year. The first time point is before the intervention of the Hallos programme (T1), the second 5 months later (T2), and the third, one year after the intervention. This study aimed to analyse the changes in the Self-awareness, Transformational Leadership, Emotional Intelligence and LMX variables and their longitudinal effect after the Hallos programme.

The following topics discuss the results of each analysis in this sub-study.

Sub-study II - 3 - Evaluation of the changes promoted by the Hallos programme - Sample with 26 participants (T1 - T3)

The results of the evaluation of the pre-intervention (T1) and post-intervention (T3) time points with 26 participants indicated significant growth in all the analysed variables, and the largest was in the Emotional Intelligence variable, in which an increase of 11.76% (diff = 0.42) was observed. Growth was also observed in relation to the perception of Self-awareness of 10% (diff = 0.38), LMX with 8.16% growth (diff = 0.32) and Transformational Leadership of 6.59% (diff = 0.25). The results confirm studies on similar instruments such as MBTI (Myers and Myers, 1985; McCarthy and Garavan, 1999) and BIG 5 (Wilt, and Revelle, 2012) that promote the increase of Self-awareness. The results also confirm hypothesis 6 that the Hallos method influences the increase in Self-awareness, LMX, Transformational Leadership and Emotional Intelligence, which suggests the effectiveness of its training programme.

The results also suggest the maintenance of the effect of the growth of the same variables in the long term (after one year). The result of this sub-study and the others suggest that the Hallos programme offers to leaders of the companies, as proposed, conditions for the expansion of Self-awareness with a positive effect on relationships with team members, and maintained over time, as indicated by the results.

The finding of Emotional Intelligence growth highlighted in the sub-study is in line with other evidence that demonstrates that the variable seems to play an important role in relationships in the organisational setting. Such skill mainly helps in how leaders

act on emotions and how they deal with work team members (Humphrey, Pollack, and Hawver, 2008). Furthermore, Emotional Intelligence has the ability to influence other variables such as Authentic Leadership (Gardner et al., 2005); Transformational Leadership (Brown, Bryant, and Reilly, 2006; Barbuto and Burbach, 2006; Côté et al., 2010), and LMX (Dasborough and Ashkanasy, 2002; Fisk and Friesen, 2012).

Sub-study II - 3 - Evaluation of the changes promoted by the Hallos programme - Sample with 19 participants

This section of the sub-study had as main objective to analyse the differences between the three observed time points (T1, T2 and T3) in the answers given by the members to the same leaders.

When comparing the post-intervention time point (T2) with the pre-intervention time point (T1), it was possible to observe growth in all variables. Self-awareness grew by 2.93% (diff = 0.11), Transformational Leadership grew by 1.10% (diff = 0.04), Emotional Intelligence by 4.34% (diff = 0.15) and LMX grew by of 2.81% (diff = 0.11). This result shows that the application of the Hallos programme contributes positively towards the increase of levels of the variables, after its application.

The results showed that the percentage of growth of the variables at time point T3 was significantly higher than the growth observed between T2 and T1. The Self-awareness (7.49%, diff = 0.29) and Emotional Intelligence (7.20%, diff = 0.26) variables had the highest growth percentage rates between T3 and T2. Regarding the comparison of growth between T3-T1, for this group of 19 participants, the results showed an even greater growth of the variables, in which again the results of the growth percentages of Self-awareness (10.37%, diff = 0, 39) and Emotional Intelligence (11.85%, diff = 0.41) stood out. This finding suggests that after one year, the effect of the Hallos intervention on the variables was even more significant than post-intervention, reinforcing the longitudinal effect of the method.

In addition to demonstrating the longitudinal growth of the variables, the findings mainly highlight the increase in Self-awareness and Emotional Intelligence. These two variables play an essential role in the relationship between leaders and team members, and Emotional Intelligence is a mediator of these relationships (Ashkanasy and Daus,

2002) and provides positive effects, for example, on performance and attitudes at work (Wong and Law, 2002).

Sub-study II - 3 - Paired comparisons

In addition to the results of growth provided by the Hallos programme based on time, a t-test of paired samples was performed, comparing the results from the pre-intervention (T1) and a follow-up one year after the intervention (T3). From the results, it was possible to observe that the Self-awareness ($t(25) = -3.26, p < 0.01$), Emotional Intelligence ($t(25) = -3.26, p < 0.01$), LMX ($t(25) = -3.90, p < 0.01$) showed a significant difference based on time. The results of the Transformational Leadership variable indicated a difference, but it was not significant ($t(25) = -1.53, p = 0.14$). In this sense, the results suggest that the Hallos intervention promotes growth in the studied variables and has a longitudinal effect.

Sub-study II - 3 - ANOVA

In order to verify the variation in the growth of the variables at the three different time points, a one-way analysis of variance (ANOVA) was performed (time). The results indicated a significant difference in the mean levels of the variables based on the time point of intervention. Overall, Self-awareness levels were significantly higher in T3 compared to T1 and T2 ($F(2;36) = 5.49, p < 0.01, \eta^2 = 0.23$). Similarly, the same result is present for the Emotional Intelligence variables ($F(2;36) = 4.68, p = 0.02, \eta^2 = 0.21$), LMX ($F(2;36) = 3.66, p = 0.04, \eta^2 = 0.17$). Only the Transformational Leadership variable did not show a significant result based on time ($F(2;36) = 0.52, p = 0.60, \eta^2 = 0.03$).

In addition to demonstrating the significant growth effects between the pre-intervention and post-intervention time points, this result points to the continuous growth of the variables, once again, based on time. The results indicate that the Hallos programme can play an important role in the expansion of Self-awareness and the improvement in the relationships between leaders and members over time, which confirms hypotheses 6 and 7.

Sub-study II - 3 - Pearson's Correlation

In this 3-point longitudinal design, the pre-intervention Self-awareness ratio with the pre-intervention LMX is 0.38 ($p < 0.001$), indicating a proportional and moderate relationship. Such positive and significant correlation is also verified between the pre-intervention Self-awareness with pre-intervention Emotional Intelligence ($r = 0.70$, $p < 0.01$) and Transformational Leadership ($r = 0.58$, $p < 0.01$). Likewise, considering only the post-intervention time point (T2) of 5 months, it was possible to verify a relationship of the level of Self-awareness with all variables (r between 0.65 and 0.75), indicating that they have a proportional relationship and moderate. Finally, considering only the post-intervention time point in time of 1 year (T3) of the Hallos programme, the presence of a positive and moderate correlation between Self-awareness and the other variables was verified (r between 0.6 and 0.75). This result indicates that the skills worked and developed in the Hallos programme are moderately related.

Through correlation analyses, comparing the results of the variables at T1, T2 and T3, it was possible to verify a significant increase in the strength of the association between Self-awareness and Transformational Leadership, both after five months of intervention and also after one year. The relationship between these pre-intervention variables was 0.58 ($p < 0.001$), indicating positive and significant. After five months of intervention, the correlation between Self-awareness and Transformational Leadership was 0.65 ($p < 0.001$), and after one year, the strength of association was 0.75 ($p < 0.001$), which is a proportional and robust correlation. These results indicate a significant increase in the relationship between the post-Hallos intervention Self-awareness and Transformational Leadership, which suggests the programme's effectiveness in relation to these variables. This result is in harmony with the empirical studies carried out by Tekleab et al. (2007), which indicate the presence of a correlation between increased Self-awareness and Transformational Leadership, for example. In addition, this finding suggests a strengthening and maintenance of changes stimulated by the Hallos programme after one year of the first intervention, suggesting that the method promotes positive changes between leaders and team members in the long term, which confirms once again hypothesis 7.

Likewise, it was possible to compare the level of correlation over three-time points between the Self-awareness and LMX variables. The pre-intervention relationship

between Self-awareness and LMX was 0.38 ($p < 0.001$), indicating a significant and strong correlation between the variables. After five months of intervention (T2), there was an increase of the level of association between the variables ($r = 0.66$, $p < 0.001$), showing five strong and significant associations. One year after the application of the intervention, a correlation between Self-awareness and LMX of 0.62 ($p < 0.001$) was observed, demonstrating that the relationship between these variables was maintained strong over time. Because no studies were found between Self-awareness and LMX, the positive results of the positive and strong correlation between these two variables, after the intervention of the Hallos programme, gain special relevance, given the importance of LMX in the study of the quality of the relationships between leaders and members, a result that was maintained constant even after 1 year of intervention.

This result suggests once again that the Hallos programme promotes the expansion of leaders' Self-awareness and an improvement in the relationship between leaders and members of the work team (Transformational and LMX). In addition, the programme also plays a role of the consolidation of skills over time, suggesting that it is an intervention that acts on the learning and internalization of these skills. Therefore, based on the correlation results, it is possible to suggest that the Hallos programme helps to improve the quality of relationships in the work environment and promotes stability in the relationships between leaders and team members. The changes promoted by the Hallos programme in variables such as LMX can bring important contributions in the organizational setting, as it helps to bring the leader and team members closer together, increasing trust and reciprocity between individuals, key elements in the quality of relationships, as suggested by researchers such as: Avolio and Gardner, (1995), Graen and Uhl-Bien, (1995), Liden and Maslyn, (1998) and Martin et al., (2015).

5.3.5. Study II - 4 - Longitudinal study: Team members made two assessments in two different point in times.

The Sub-study II-4 evaluated 109 participants from assessed the same 60 leaders before and after the intervention of the Hallos training.

Sub-study II - 4 - Pre- and post-intervention growth

The results showed a significant growth in all analysed variables, after the application of the Hallos programme. The Self-awareness variable grew 6.71% (diff = 0.24), LMX grew 5.49% (diff = 0.21), Emotional Intelligence 4.25% (diff = 0.16) and finally Transformational Leadership 3.21% (diff = 0.13).

Sub-study II - 4 - Correlations

The Pearson correlations were developed to verify the direction and level of association between the pre-and post-intervention Self-awareness, Transformational Leadership, Emotional Intelligence, and LMX variables. The relationship of pre-intervention LMX with pre-intervention Self-awareness is 0.478 ($p < 0.001$), indicating a proportional and moderate relationship. Likewise, it was possible to verify a relationship between the level of pre-intervention Self-awareness and the post-intervention LMX of 0.302 ($p < 0.001$), indicating that they have a proportional and moderate relationship. These results bring a new contribution, suggesting a correlation between Self-awareness and LMX, which would confirm that an increase in Self-awareness can improve the quality of exchanges between leaders and members, as shown by different studies of theories such as transformational and authentic and not found for LMX.

This analysis also verified the existence of a proportional and significant correlation between the levels of post-intervention LMX and Transformational Leadership ($r = 0.69$, $p < 0.001$).

The improvement in the level of relationship between leader and member is associated with both LMX and the increase in the level of Transformational Leadership, although these theories have different taxonomies. These results confirm other studies

reporting the correlation between LMX and Transformational Leadership (Basu and Green, 1996; Lee, 2008).

In relation to the pre-intervention time point of the programme, a correlation level of 0.25 was verified between the LMX and Emotional Intelligence, which demonstrated that there was a relatively weak association ($r < 0.3$). However, when pairing the results of post-intervention LMX and Emotional Intelligence of the programme, a proportional and significant strength of association was found ($r = 0.47$), where it is possible to verify that the increase in LMX is moderately related to the increase in Emotional Intelligence after the application of the intervention. In this sense, these results indicate that the relationship between the Emotional Intelligence of the leaders and the level of exchange between the leaders and team members had a stronger level of association after the intervention. This result confirms the findings of other studies, which found a positive association between Emotional Intelligence skills and the development of leaders (Goleman, 1995; George, 2000). According to Kerr et al. (2006) and Rosete and Ciarrochi (2005), managing emotions and developing high Emotional Intelligence make leaders more effective in team relationships and performance (Van Kleef et al., 2009). It is interesting to note that the various studies on Emotional Intelligence, since its presentation by Mayer and Salovey (1993) and other researchers such as Gross (1998), Côte et al. (2010) and Costa and Faria, 2014, stand out among the four pillars of Emotional Intelligence, Self-awareness, which would be the individual's ability to perceive their own feelings and those of others, as in the case of team members.

The results of the correlation between Emotional Intelligence and LMX confirm other studies presented (Dasborough and Ashkanasy, 2002; Fisk and Friesen, 2012) that affirm the existence of a relationship between these theories. From the taxonomy of Emotional Intelligence and the relevance of Self-awareness in this theory, the results also suggest that Self-awareness can influence the improvement of the qualities of exchanges between leaders and members studied by LMX. Importantly, Emotional Intelligence influences not only LMX (Dasborough and Ashkanasy, 2002; Fisk and Friesen, 2012), but also Authentic Leadership (Gardner et al., 2005) and Transformational Leadership (Brown, Bryant, and Reilly, 2006; Barbuto and Burbach, 2006; Côté et al., 2010) and presents a positive correlation with all these variables studied, in the other sub-studies carried out.

Therefore, as indicated in the analysis of the correlations between the variables studied, after applying the intervention of the Hallos programme, it is possible to understand that these results are in line with the leader-member relationship, which presents itself as a relationship of trust, respect, and mutual obligation (Graen and Uhl-Bien, 1995), having a direct effect on the well-being or health of those involved (Yukl and Tracey, 1992). Thus, a work environment with a leader who has difficulties in social-emotional skills and does not have a high level of Self-awareness can affect dyadic relationships and the performance of team members.

The correlations of this Sub-study II-4 confirm the same results existing in Sub-studies II-1 and II-3. The correlations between the variables found confirmed previous studies that highlight, for example, the existence of a correlation between Transformational Leadership and Authentic Leadership (Avolio and Gardner, 2005; Bass and Steidlmeier, 1999) between LMX and Transformational Leadership (Basu and Green, 1996; Lee, 2008), as well as Emotional Intelligence and the other variables, as highlighted earlier. Despite their different goals and taxonomies, these theories have points in common. Table 71 presents a summary of the main pillars or elements of these theories and their commonalities.

Table 71 – Values and behaviours associated with the studied variables

Authentic Leadership	Transformational Leadership	Emotional Intelligence	LMX
<ul style="list-style-type: none"> • Higher degree of trust • Respect • Self-awareness • Authenticity • Self-regulation • Integrity • Commitment • Development • Transparency • Fairness • Recognition • Role Model 	<ul style="list-style-type: none"> • Higher degree of trust • Respect • Self-awareness • Authenticity • Integrity • Communication of purpose • Moral • Ethics • Fairness • Genuine concern • Recognition, • Role Model 	<ul style="list-style-type: none"> • Self-awareness - perception of one's own feelings and emotions as well as those of others. • Emotion management 	<ul style="list-style-type: none"> • Higher degree of trust • Respect • Mutual Obligation (Reciprocity) • Support • Loyalty • - Recognition
Gardner et al. (2005); George (2009); Gardner (2005); Walumba et al. (2008); (Dirks & Ferrin, (2002); Jones & George (1998)	Gardner (1990); Burns (1978); Bass (1988), Zhu et al. (2011); Bass and Steidlmeier (1999); Bacha and Walker (2013); Bass (1985), Pudsakoff et al. (1990); Teckleab et al. (2007)	Ashkanasy & Daus (2002); Ashkanasy & Tse (2000); George, (2000); Gardner et al. (2005, p. 352); Hogeveen et al. (2016, p. 695) and Côté (2010, p. 497)	Graen and Uhl-Bien (1995); Liden, Sparrowe and Wayne (1997); Yukl (1989, p. 271)

The current work highlights some common values that influence the relationship between leaders and members, whether for leader development, such as Self-awareness, and other values such as respect, loyalty, transparency, and reciprocity. However, the value that stands out in the relationships between leaders and team members is trust. Theories such as Authentic Leadership (Gardner et al., 2005), Transformational Leadership (Bass, 1985; McAllister, 1995) and exchange of leader members (Liden, Sparrowe and Wayne, 1997; Anand et al., 2011) emphasise the importance of a "high degree of trust" in relationships.

The trust that leads an individual to believe, for example, in the right intentions, honesty, ethics, and authenticity of another and to have a particular faith that other individuals will not harm them (Merriam-Webster, Cambridge and Collins dictionaries). Therefore, trust can apparently represent the intersection between the leader, the member, and the quality of a relationship (Briault, 2010; Liden, Sparrowe and Wayne, 1997; Zhu e Akhtar, 2014; McAllister, 1995). To reaffirm this possibility, Zalesny & Graen (1987) highlights in the LMX theory that there are low-quality exchanges, in which the followers report low trust in the leader and that they feel like generic labour, and, at the other extreme, "high-quality exchanges" by the existence of a high level of trust, respect, and mutual obligations.

In Authentic Leadership, Gardner et al. (2005) state that a productive relationship exists when interactions are characterised by trust, openness, transparency, and confidence, the latter quality being the core element of a leader's identity and promoting positive relationships with their subordinates. Bass (1985) states that trust has a central role in Transformational Leadership, and McAllister (1995) highlights that trust is based on cognition and affection. According to affection-based trust, a leader shows genuine interest, concern, and care for the member. It is plausible to consider; therefore, that trust is one of the elements that justify in theoretical terms the correlation between the theories studied and that a more self-aware leader can create a climate of trust in which relationships reveal a high degree of productivity and growth for both leaders and the members.

Sub-study II - 4 - Simple linear regressions

In order to explore the data and identify the effects of change in the level of pre- and post-intervention Self-awareness about the outcomes of Transformational Leadership, Emotional Intelligence, and LMX changes before and after the intervention programme, a model was performed of linear regression. The results of the regressions indicated that the measure of Self-awareness change before and after the intervention had a significant relationship with all variables (Transformational Leadership, Emotional Intelligence, and LMX).

In general, this result is equivalent to saying that an increase of 1 point in the Self-awareness difference produces, on average, an increase of 0.593 points of difference in Transformational Leadership ($\beta = 0.723$, $p < 0.001$), as well as 0.549 in Emotional Intelligence ($\beta = 0.565$, $p < 0.001$) and 0.216 in LMX ($\beta = 0.314$, $p < 0.001$). Among all the outcome variables of the models, the one related to Transformational Leadership was the one that had the greatest association with leaders' Self-awareness ($r = 0.72$, $p < 0.001$), specifically in this sub-study. Therefore, based on the results of the regressions, it is possible to verify that the increasing change in the levels of Self-awareness that was verified through the intervention of the programme is significantly related to the increase in changes in the levels of Transformational Leadership, Emotional Intelligence and LMX. These results are consistent with findings in the literature and demonstrate the importance of Self-awareness within the organizational context (Yukl and Tracey, 1992; Tekleab et al., 2007; Graen and Uhl-Bien, 1995).

Sub-study II - 4 - Mediation Model

To investigate the direct and indirect effects of the Hallos programme from the level of pre-intervention Self-awareness at the post-intervention Leader-member Exchange (LMX) level, a mediation model was developed, as proposed by Hayes (2018). From the analysis of the mediation of direct and indirect effects, the results indicated that the levels of pre-intervention Self-awareness might have a positive effect on their post-intervention levels ($r = 0.43$, $p < 0.001$). Interestingly, it showed that this last effect on post-intervention Self-awareness values seems to exert a positive mediation effect on the post-intervention Leader-member Exchange (LMX) values ($r = 0.45$, $p < 0.001$). These results indicate that, after the Hallos programme, the relationship between leaders and

members showed a tendency to increase, in line with the increase in the levels of Self-awareness of the leaders after the intervention.

Furthermore, the existence of a significant indirect effect of pre-intervention Self-awareness levels on post-intervention LMX levels was verified, showing a proportional and significant association ($r = 0.196$, $p < 0.001$). However, the strength of association is not significant when the direct effect of these two variables is verified ($r = 0.064$, $p = 0.42$). That is, levels of Self-awareness before the intervention are associated with increased post-intervention Self-awareness, which is associated with a significant increase in post-intervention LMX levels. In this case, the intervention of the Hallos programme exerts a direct effect on increasing the Self-awareness of leaders, and this, in a mediating way, exerts an increase in the levels of relationship between the leaders and the members of the company.

Sub-study II - 4 - Hierarchical model

In order to verify the behaviour of the data considering both the individual participants and the responses grouped in the variables, a hierarchical model was created. This type of analysis aims to verify whether the results grouped in the variables are different or inferior to those verified considering each participant. In other words, the participants are considered random effects (each of which has a different starting line and trajectory) and, in turn, the Self-awareness, Transformational Leadership, Emotional Intelligence and LMX variables are seen as a general effect. It was possible to verify that both the results of Self-awareness ($F(1, 137) = 9.3$, $p = 0.002$) and those of Transformational Leadership ($F(1, 164) = 4.14$, $p = 0.04$), Emotional Intelligence ($F(1, 166) = 5.4$, $p = 0.02$) and LMX ($F(1, 158) = 13.46$, $p < 0.001$) give different results. These results indicate that, although the general trend of each variable was to increase after the intervention of the programme, some participants, in particular, showed different responses from this trend.

Sub-study II - 4 - Paired comparisons

In order to verify the longitudinal effect of the Hallos programme on the Self-awareness, Transformational Leadership, Emotional Intelligence and LMX variables, a t-test of dependent samples was performed by pairing two-time points (pre-and post-intervention). Thus, a comparison of the results of the leaders was carried out, in which

all variables showed significant growth in the post-intervention time point. It was possible to verify a significant post-intervention growth percentage, mainly for the Self-awareness variable (6.71% post-intervention growth).

In addition, the t-test was performed to verify the significant difference in the mean results of the variables between the pre-and post-intervention time points. Furthermore, the size of the effect of differences in each variable was also verified, using the Cohen (Cohen, 1998). Such a measure aims to estimate the magnitude of the differences in the results. Overall, the results indicated a significant difference in pre-and post-intervention Self-awareness levels ($t = 3.871$, $p < 0.001$, $d = 0.384$). In addition, significant differences were also verified in the Transformational Leadership ($t = 2.545$, $p < 0.012$, $d = 0.232$), Emotional Intelligence ($t = 2.668$, $p < 0.009$, $d = 0.246$) and LMX ($t = 4.862$, $p < 0.001$, $d = 0.368$) variables. This demonstrates that there was, in the perception of members, a change in the behaviour of leaders when they understood their strengths, weaknesses and the impact of their behaviour on members (Self-awareness).

Regarding the results of sub-study II - 4, it is important to highlight again that the Halos method was developed with the aim of improving the quality of relationships between leaders and members through the expansion of their Self-awareness, their way of acting in the world (human type) and about how to function and relate to other types (personalities). This knowledge presented in the Hallos programme presupposes that the increase in Self-awareness can positively influence interpersonal relationships and also the interaction between leaders and members.

Therefore, like other similar instruments (MBTI, Big Five), the Hallos programme plays an important role in promoting and developing relationships between leaders and members, as suggested by the results. This can be confirmed by several similar studies, claiming that there is a relationship between high levels of Self-awareness and the relationships between leaders and members in Authentic Leadership (Gardner et. al., 2005; George, 2009), Transformational Leadership (Bass, 1985; Bass and Avolio, 1990) and Emotional Intelligence (Fisk and Friesen, 2011; George, 2000). This study further adds the relationship between Self-awareness and LMX, the theory that most explicitly addresses understanding the exchange relationship between leaders and members.

The results of this sub-study finally suggest that the Hallos programme contributes to developing leadership-member relationship skills, Emotional Intelligence, Transformational Leadership, and especially leaders' Self-awareness.

Sub-study II - 4 - MANOVA Findings

Overall, the results indicated that all variables measured before the intervention have statistical significance in the outcome measured after the intervention. As previously stated, the results of Self-awareness, Transformational Leadership, Emotional Intelligence and LMX after the intervention are dependent on the values obtained by the participants at the pre-intervention moment. Thus, it is possible to verify a small difference compared to other studies, but similarly the pre-intervention period proved to be significant for subsequent performance.

In the study in which a MANOVA was carried out, four main findings were obtained:

(1) there was a significant and robust correlation between all four dependent variables (Self-awareness, transformational, Emotional Intelligence and LMX) in this model. (2) there was a meaningful relationship of LMX pre- with Self-awareness, Emotional Intelligence and LMX post, controlled by variables in the model. (3) Emotional Intelligence before intervention (emo_pre) performs a significant relation with Emotional Intelligence and LMX after intervention (emo_post e lmx_post), and (4) there was a significant relationship between Transformational Leadership pre and post (tran_pre and tran_post).

By detailing the first result, the relation between the Self-awareness post and LMX post is strong and significant ($r = 0.112$, $p < 0,05$). In turn, the other variables showed significant correlation levels, such as Emotional Intelligence post-intervention and pre-intervention LMX ($r=0.238$, $p<0,05$), post-intervention LMX and post-intervention Transformational Leadership Hallos ($r = 0.556$, $p<0,05$). These results indicate a significant correlation between all the variables analysed when compared in two different periods and are consistent with the findings in the literature that address a good correlation between such variables. The post-intervention results indicate that the application of the Hallos programme can contribute positively to the development of the variables analysed and that they are moderately related. The discussion in this chapter

about the existing correlations between the different taxonomies of the variables studied suggest this association.

It is important to point out that the main result applied is shown in figure 37. When controlling for all possible relationships between the variables, the model indicates that Emotional Intelligence at the time before the intervention (emo_pre) plays a significant relationship with Emotional Intelligence and LMX at the time after the intervention (emo_post and lmx_post). The values of this correlation are 0.49 and -0.26 and this confirms other studies mentioned before. In this sense, people with high values in Emotional Intelligence before the intervention seem to have also obtained high values after the intervention in this same variable. Conversely, people who had high values in Emotional Intelligence before the intervention did not necessarily follow high values in LMX post and may have had a reduction, which was not conceptually expected.

This second finding is important, as Emotional Intelligence stood out in the model that used the other variables. This indicates that, in addition to other skills such as Self-awareness, Emotional Intelligence has a significant predictive effect, especially in the post-intervention period. This finding highlights the possible effect of the Hallos method and expands a perspective only focused on the Self-awareness effect, which demonstrates that other variables are crucial for this method.

High values for the variable of Emotional Intelligence were kept at two different times, which is an important finding because this variable, as presented earlier, plays an important role in interpersonal relationships, particularly in dyadic relationships between leaders and work team members. Among the benefits of strengthening this variable, the literature highlights that Emotional Intelligence influences how leaders observe and act on their own emotions and consequently those of others around them (Humphrey, Pollack, and Hawver, 2008). This third finding demonstrates that, in addition to having a predictive effect on other variables, the Emotional Intelligence initially developed or stimulated by the Hallos method is maintained over time. This result demonstrates stability of skill maintenance, even with a longitudinal effect.

Specifically, the variable of Transformational Leadership was possible to verify a significant relationship between the variable of pre-and post-intervention Transformational Leadership ($r = 0.589, p < 0.05$). This result suggests the maintenance of

the presence of the variable over time after the intervention of the program, which confirms the other studies and results presented by similar studies. This result is significant because it suggests the leader's effectiveness in the relationships with his teams (Teckleab et al., 2007; Walumba et al., 2008). This finding reinforces, like other results presented previously, that the Hallos method helps to develop in addition to Self-awareness and those individuals maintain such skills as Emotional Intelligence and Transformational Leadership over time.

5.3.6. Summary of Study II Findings - Hypotheses 6 and 7

All four sub-studies of Study II (members' evaluation) presented results that confirmed the findings of Study I (self-evaluation), suggesting that the Hallos programme can increase the Self-awareness of leaders and promote improvement in the relationships between leaders and members (hypotheses 3 and 6). These findings confirm the numerous studies cited that describe that the expansion of Self-awareness can promote changes in the behaviour of individuals through a process of self-regulation, with positive consequences for the relationships between leaders and members. In Study II, to assess the improvement of the relations, LMX and Transformational Leadership were chosen as mediating variables by emphasising the relationships between leaders and members, especially LMX, which that proposes a particular dimension to the relationship.

It is important to remember, in this summary, that the Hallos programme is configured as a reflexive process, whose essence is a typology that presents five human types, which could resemble the Big Five traits or the MBTI types, even though it has in its taxonomy different and perhaps deeper aspects of the way human beings communicate and relate to other individuals. As described in Appendix 1, from the perspective of Hallos & Triads, each human being has two of the five types in their essence and develops a third type throughout their lives. Differently from the other instruments mentioned, Hallos was developed through observing individuals in the work environment, in a much more complex reality than in the past, to understand human relationships and contribute to their development process. The idea is that knowing an individual's strengths and weaknesses and their impact on relationships (Self-awareness) and understanding the strengths and weaknesses of other individuals and their needs and forms of communication (diversity of types), opens up the possibility of self-regulation and change

in behaviour, stimulating the leader's adaptability, in their way of acting, communicating, and relating to others. Therefore, Self-awareness (first pillar) and understanding different human types (second pillar) can improve the quality of exchanges, interpersonal relationships, and the collaboration of individuals who find each other complementary. That is the purpose of the Hallos & Triads programme.

Based on the existing research, although other instruments are also used today to reflect, avoid conflicts, and understand how others work, the Hallos & Triads programme offers a more profound possibility of studying and understanding the different aspects of human relationships.

In terms of synthesis, the work presented in Sub-study II-2 had a “quasi-experimental” design, where it was possible to create a control group and an experimental group. Considering that the results of Sub-studies II-1 and II-2 are positive and significant statistically, despite a different design, these sub-studies offer a robust indicator of the effectiveness of the Hallos programme in the context of relations.

Sub-study II-3 was the only one that allowed an evaluation of the results in three different points in time over one year, in which the participants evaluated their leaders. Although the sample size was small, this is common in studies present in the literature, which have a longitudinal design, specifically when analysing three different points in time, and this was the sub-study that had the best post-intervention results.

Sub-study II-4 had the most significant sample of individuals who completed the assessment questionnaires twice at different times. In this study, in addition to paired tests, correlations and regressions, other techniques were used, such as a mediation model and a hierarchical model. Like the others, this sub-study confirmed the results and the hypotheses raised.

The findings suggest that the Hallos programme can increase cognitive and social-emotional skills in the organisational context by expanding Self-awareness. The increase in these abilities initially affects the individual (reflection on oneself, understanding of their limitations) and then expands, positively impacting the whole organisation. Thus, the individual understands the effect of their actions on others and can then deal positively with different human types and their team members. This is essential in the relationship

between leaders and members because it can provide greater understanding, respect, and trust between them. Consequently, it motivates performance in work-related activities and stimulates a sense of well-being in this context (Gardner et al., 2005).

Finally, another relevant issue explored in this chapter was a correlation between all the variables studied to meet hypothesis 7. Although it was initially expected (Avolio and Gardner, 2005; Bass and Steidlmeier, 1999; Basu and Green, 1996; Lee, 2008), the confirmation of the results stimulated a deeper evaluation of the subject and raised some ideas of the possible causes of the correlations based on taxonomies and similar elements existing in the studied variables.

5.3.7. Discussion of Variables

In addition to a detailed view of all sub-studies performed, analysis of each studied variable will be presented below.

- Authentic Leadership and Self-awareness:

Self-awareness is a quality that has been associated with several studies of theories as Authentic Leadership (Gardner, 2005; George, 2009), Transformational Leadership (Bass, 1985; Bass and Avolio, 1990), and Emotional Intelligence (Fisk and Friesen, 2011; George, 2000). Self-awareness is a crucial skill whose increase has been linked to the development, performance, and effectiveness of leaders (Gardner et al., 2005), which is confirmed by several surveys (Atwater and Yammarino, 1992; Atwater, and Fischthal, 1995; Church, 1997; Tekleab et al., 2007). This is because high Self-awareness allows leaders to recognize and control the effects of their attitudes and emotions (Gardner et al., 2005; George, 2000), in addition to knowing how to deal better with team members.

Authentic Leadership is one of the theories that are most associated with Self-awareness. In addition to ethical issues and their associated values, Authentic Leadership suggests that the essential basis for transforming a leader must be a continuous reflective process in understanding oneself in developing Self-awareness.

Gardner et al. (2005) indicate that Self-awareness and self-regulation are central components of Authentic Leadership.

From the perspective of Self-awareness, the result of Study II -1 demonstrated that leaders' Self-awareness in their members' perceptions increased 4.81% (3.68 before to 3.86 after) after intervention with the Hallos method. In Study II – 3A (TI x T3), growth was 10% (3.85 before to 4.23 after) after one year of intervention. This growth is even more important when comparing the experimental group versus the control group. The experimental group grew 6.3% (3.76 before to 4.0 after), and the control group rose 1.6% (3.52 before to 3.58 after).

Thus, all different studies demonstrated statistically that the Hallos method promotes the expansion of Self-awareness in the evaluation of team members, which varied from 3 months to one year in company “A” (II-3).

Through the taxonomy proposed by Authentic Leadership, it can also confirm that team member who recognizes their leaders' high authenticity have better relationships, Walumbwa et al. (2008), and obtain better results. This demonstrates, in practical terms, that leaders that demonstrate an interest in working on their development and expanding Self-awareness (Hallos method), beyond the increase of the perception of themselves and the other, they also can start to build a relationship of greater trust, through a process of listening and paying attention to the needs of professionals. The Hallos method and Authentic Leadership propose have proved to be convergent on this issue, which is suggested by the results of study and confirmed by the work of Walumbwa et al. (2008) and Gardner et al. (2005).

Although the Hallos method as Authentic Leadership has a central pillar of the increase in Self-awareness, the study cannot predict how much of this increase in Self-awareness promoted the increase in the other variables studied.

Although empirical studies by several researchers such as Tekleab et al. (2007), Gardner et al. (2005) relate the increase in Self-awareness to Transformational Leadership, for example, in the effectiveness of the leader, the design of Study II does not allow analysing the causal relationship between Self-awareness and other variables.

What can be said is that the results indicate there is a correlation between Self-awareness and other studied scales.

As a typology, the results obtained by Study II with the Hallos method confirm other studies that typologies like MBTI and Big Five can generate the increase of Self-awareness (Goldberg, 1990; Sears and Hackett, 2011; Roush and Atwater 1992; Judge and Bono, 2000)

- Transformational Leadership

The second variable analysed was Transformational Leadership. This theory establishes that the transformational leader influences followers through an inspirational vision. The theory states that values such as trust, ethics, and morals are part of the transformational leader and that Self-awareness and personality are factors that influence their development (Tekleab et al., 2007) and the effectiveness of the leader.

All studies indicated that the Hallos method promoted significant growth at the levels of Transformational Leadership and Self-awareness. The experimental and control group analysis showed an increase of 5.9% (3.88 before to 4.11 after) in the experimental group of 1.9% (3.56 before to 3.63 after) in the control group, showing the method Hallos' impact in Transformational Leadership. The longitudinal study of company "A" also showed that even after one year after the Hallos method's intervention, growth in the transformational variable is positive and significant, 6.59% (3.75 before to 4.00 after).

One of the essential points brought to the leaders through the Hallos typology is about the difference between individuals in the workshops. They learn from experiences about how to deal with the appropriate way with different types. This learning is key to the process of expanding Self-awareness and behavioural changes. Perhaps the results indicate that this may have happened according to Bass's (1990a) affirmation that transformational leaders have the "ability and willingness to treat different subordinates differently." (p. 23)

This suggests that the Hallos method does promote positive changes in the relationships between leaders and members from the perspective of Transformational

Leadership. The study also confirms the empirical studies by Tekleab et al. (2007) that there is a correlation between Self-awareness and Transformational Leadership.

Although in the workshops on the Hallos method, participants learned about each of the archetypal human types, the study considered only the intervention of the Hallos method as a whole. Despite this, the results it can also suggest that the results of the study concerning Transformational Leadership reinforce studies with similar theories, such as the Big Five and MBTI (Hautala, 2005; Roush and Atwater, 1992; Sears and Hackett, 2011) that demonstrate that some traits of personality (Big Five) and types (MBTI) are positively related high levels of Transformational Leadership (Furnham, 1996; Costa and McCrae, 1995; Goldberg, 1990). The comparisons with these theories can be seen in more detail in Appendix 1.

The results of Study II about the relationship between the Hallos programme and Transformational Leadership may suggest that the Hallos & Triads can promote improved relationships between leaders and members in values and attitudes such as trust, support, encouragement for development as described by researchers such as Judge and Bono, (2000), Roush and Atwater (1992). Besides, this improvement promoted by the Hallos method can make team members work harder, be more creative, and produce more as proposed by Bass (1985).

- Emotional Intelligence:

The third variable studied was Emotional Intelligence. Research shows that good leaders can manage their emotions and also influence the emotional states of their team members (Humphrey, Pollack, and Hawver, 2008), at the individual level but also the collective level (Ashkanasy and Jordan, 2008; George, 2000). At the same time, Emotional Intelligence influences Authentic Leadership (Gardner et al., 2005), Transformational Leadership (Brown, Bryant, and Reilly, 2006; Barbuto and Burbach, 2006; Côté et al., 2010), and LMX (Dasborough and Ashkanasy, 2002; Fisk and Friesen, 2012).

All the results of the present study suggested that the Hallos method influences Emotional Intelligence. The average assessment of participants showed that there was

growth in all sub-studies. In the Sub-study II-2, there was a growth of 6.4% (3.74 before to 3.98 after) in the experimental group, while in the control group, it was 1.5% (3.58 before to 3.64) after the intervention, which may indicate the impact of the Hallos method in the Emotional Intelligence. In the Sub-study II-3, there was an increase of 11.76% (3.6 before to 4.02 after) in one year after the Hallos method intervention. This greater increase may be justified because team members had an enormous difficulty dealing with the second most important leader of company "A", who caused stress and fear in the words of the members. During the project, these same professionals publicly praised the change in that person's behaviour. This may have positively impacted other leaders and members.

As empirical studies demonstrate Emotional Intelligence as influencing a leader's positive or negative behaviours (Fisk and Friesen, 2011), it can be inferred that the Hallos method, by influencing the increase in Emotional Intelligence, which can also positively influence the attitudes of individuals.

In its taxonomy, Emotional Intelligence has empathy as one of its essential elements (Goleman, 2011; Hogeveen, Salvi and Grafman, 2016), a process that leads the individual to put himself in the place of the other and thus to think, to feel, and acting more comprehensively, than only his / her mental model. This reflective process leads to the second key element in developing Emotional Intelligence, which is Self-awareness (Berman and West, 2008; Goleman, 2011).

The results demonstrated a strong correlation between Emotional Intelligence and all the other variables studied. They also confirm the importance of Emotional Intelligence and Self-awareness as a mediator of relationships between leaders and members of their teams (Ashkanasy and Daus, 2002) and which can promote positive effects performance and attitudes at work (Wong and Law, 2002).

- Leader-member-Exchange

The fourth variable studied was the Leader-member Exchange. This theory offers the most comprehensive view on leadership because it presents three dimensions in its taxonomy: the leader, the member, and the relationship's dimension. Thus, LMX proposes that when analysing the theme of leadership, should be considered not only at the

supervisor level but also at the members level, and the level of the relationship between them (Graen and Uhl-Bien, 1995), proposing that the quality of the relationship (Deluga and Perry, 1991; Martin et al., 2015) and the development of the leader influence the members (Lee et al., 2015). Although all three dimensions are structural pillars of LMX, the theory's final focus is mainly on dyadic relations. The scale itself used in this study (Graen and Uhl-Bien, 1995, p. 237) is entirely directed towards evaluating dyadic relationships.

The Hallos method intervention in the LMX showed that in the average assessment of team members about their leaders, there was growth in all sub-studies. Additionally, the result of the longitudinal study of the company "A" showed that there had been an increase in LMX and its maintenance over time that makes it possible to conjecture that there can be stability in relations after reaching a certain level. These results suggest from the perspective of LMX that the Hallos method influence the improvement of the quality of leader-member relationships. Among the positive results, the comparative study between the experimental and control groups can be highlighted. The experimental group grew 6.7% (3.64 before to 3.88 after). In comparison, the control group grew 2.8% (3.58 before to 3.69 after), taking into account that positive changes in the control group (managers) may have influenced by the attitudes of their leaders (Heads and Directors) who already knew and were practising the Hallos method.

The research results also indicate that there is a conceptual proximity between the Hallos method and LMX. Both theories claim a systemic relationship between their three dimensions (leader, member, and relation).

As there was an increase in LMX promoted by the Hallos method, it is possible to assume an increase in confidence, and consequently, in reciprocity between leader-member as also confirmed by other studies (Avolio and Gardner, 1995; Graen and Uhl-Bien, 1995; Liden and Maslyn, 1998; Martin et al., 2015). It is also possible to infer that leaders have learned to accept and include the diversity of different types, that is, to transfer some people from the out-group to the in-group.

Besides the more practical issues, such as the capacity for achievement and good results, which brings the leader and the member together, in the relational aspect, if a

leader is loyal in the perception of a member, there must be a resonance of that loyalty also by the member; otherwise, he will not belong to the leader's circle. It is natural to imagine that the leader's circle is composed of individuals with whom he has more considerable sympathy, affinity, and rapport in which leaders and members understand each other well and have a common feeling (Oxford 2000).

Another analysis that can be done between the Hallos method and LMX is that these two theories are interested in the affective dimension and their influence on the leader-member relationship. Although this was not a specific variable studied, it is an essential part of both LMX and the Hallos method. There is a consensus that affective processes represent an essential element for LMX (Liden and Maslyn,1998). If the role is fundamental to LMX exchange relations (Uhl-Bien et al., 2000), especially in the first weeks of the relations between the leader and the team member, qualities such as affection and respect also become crucial components in this relationship (Gerstner and Day, 1997; Liden and Maslyn,1998; Sears and Hackett, 2011). This affect element is also found in the archetypal system (Hallos method), as well as in theories like Big Five and even MBTI and presents similar qualities, such as genuine interest in the other, respect, empathy, courtesy, flexibility, and recognition, among others (Goldberg, 1990; Costa and McCrae, 1995). These attitudes are known to influence the quality of relationships between leaders and team members and, consequently, the level of LMX (Liden and Maslyn,1998). Leaders who have qualities such as kindness and are more affective have a strong influence on the team members (Sears and Hackett 2011). This allows us to consider that the affective dimension, one of its pillars of the Hallos method, may be associated with the growth of LMX after the intervention and that this was one of the elements responsible for the leaders' behavioural changes.

Another additional analysis is the influence of personality in LMX because personality is an essential element to be considered in the quality of relationships between leaders and their teams (Vries, 2012; Bernerth et al., 2008). Even though the analysis of each archetypal human type's effects was not the object of this study, the impact of the Hallos typology as a whole can be analysed compared with other studies that relate LMX with theories such as the Big Five and MBTI. In this sense, the results obtained from this study confirm other studies done on the relationship between Big Five and LMX (Bernerth et al., 2008; Judge et al., 2002). In contrast, although several researchers

confirm the significance of personality in leadership effectiveness (Bass, 2009; Lord, De Vader, and Alliger, 1986; Judge et al., 2002), not all research shows consistent results (Liden and Maslyn, 1998; Bono and Judge, 2004), while other studies consider that only some aspects of personality traits influence the leader, not all (Hogan, Curphy and Hogan, 1994). Although the results of this study are positive and confirm other research, most likely other studies may present different results or even negative ones, depending on the context and personality of those involved in the study.

Still, in this context, some studies claim that the personality similarity between the leader and the member facilitates higher quality LMX (Bernerth et al., 2008). Therefore, understanding the differences in personalities of the leader and the member, more broadly, as proposed by the Hallos method, could help maintain and increase job satisfaction (Hautala, 2006) and contribute to the improvement in the quality of the exchanges. Consequently, this positive change in the relationship can also influence the performance and results, as stated by several authors (Liden et al., 2006, p.725; Martin et al., 2005).

Although the studies have been promising in demonstrating a correlation between Self-awareness and LMX and that the Hallos method influences quality of relationships, this leads to considering as an opportunity to develop new research that can confirm the results of the current study.

5.3.8. Discussion of Hypothesis 8

Hypothesis 8: The Self-awareness variable's growth is greater in the self-assessment of leaders than of members of their teams.

As a final discussion, was analysed assessment among different results achieved in Study I and II, concerning Self-awareness expansion fostered by the Hallos method, and the possible improvement in relations between leaders and members.

- Comparison between Self-awareness progress in Studies I and II

The Sub-study II-5 opposed the self-evaluation of leaders with the team member's evaluation of the same leaders. Although measurement scales and the number of observations were different, the change effect size could be compared. As expected, the self-evaluation of change was much greater (Cohen's $d = 2.12$) than that reported by team members (Cohen's $d = 0.21$).

Although the questions in Study I are different from Study II, the results are similar to several studies (Hautala, 2006; Moshavi et al., 2003; Roush and Atwater, 1992; Tekleab et al. 2007; Atwater and Yammarino, 1992) that there is a trend of leaders to assess themselves with higher levels than their team members evaluations.

5.3.9. Study II Limitations

Although the project has shown positive results in all evaluations and confirmed that the Hallos method could promote increased Self-awareness and improved relationships between member-leaders, the study also has some limitations to be presented.

There was great difficulty in obtaining samples for Study II. It was not possible to use the responses of more than 800 member participants, who filled in the questionnaire only once before or after the leaders had participated in the Hallos program. This was because many members had their leaders changed in a short period. If in Study I the sample of 750 individuals can be considered robust, in Study II, in the longitudinal study (Study II - 4), the maximum achieved was 60 leaders and 109 members in Study II-4.

Another problem in obtaining more respondents was that the professionals were incredibly overworked. We have seen this in the higher number of hours worked and the drastic reduction in hours of training.

A bias in selecting samples for Study II - 2 is that all participants are Brazilian, from international companies, different from Study I. This makes it impossible for this study to have a broader view of other cultures and possible generalizations.

A possible limitation of the unmeasured effect of training with leaders in all variables studied is that they may have changed their behaviour with their teams due to the knowledge acquired, regardless of whether it was an increase in Self-awareness. On the other hand, the one-year follow-up of company A, despite not being a huge sample, showed that there was consistency in the changes during this period, which may suggest that there really was a change in the consistent behaviour of the leaders.

For the longitudinal study, a control sample was not obtained, which would give more consistency to the results.

In the initial design, all Study I leaders were intended to participate in Study II. With that, we would have a more robust sample for the self-report and member-report study. This was not achieved, except for a small group, analysed under hypothesis 8.

The design of Study II does not allow checking of direct causality between Self-awareness and improvement in relationships. However, the existence of a correlation between both variables has been confirmed.

Another limitation of this study is data collection from Sub-studies II-1 (experimental group) and II-2 (control group). Although it is a robust sample, in this case, participants evaluated the relations with their leaders before and after the intervention and three months after the intervention of the Hallos programme. Despite being a significant limitation, since research such as the type carried out in this project, using only longitudinal studies, the fact that each participant registered both assessments at the same time brought homogeneity to the experimental and control groups and, at the same time, the certainty that the leaders and the members had been working together for at least six months. Although it is unusual, we consider the results of the studies by Howard et al. (1979); Howard and Dailey (1979); Nimon, Zigarmi, and Allen (2011), already described concerning Study I, that assessing a situation before and after, at the same time, is less biased than filling out a Likert scale questionnaire,

six months or a year later, without remembering appropriately and comparatively the changes in the leader.

In some cases, the project was followed up for more than a year in the companies, and the leaders and team members became partners in several activities. This made it possible to observe nuances that quantitative research cannot register. The first is an observation and recognition that it is impossible to control all the project factors, which confirms no absolute exemption in a social psychology project. Internal changes, overwork, the professionals' mood, and even revenge in some cases, of team members and their leaders, as well as fear, are examples of situations that can influence the project. Another situation is the difference in culture, the management models, and even when the context may affect the results.

Another limiting point, already described, is the subjective question of self-perception and blind spots of individuals. Many authors, like Goleman (2014; 2015) and Tekleab et al. (2007), claim that humans do not entirely perceive themselves, their behaviours, and how others see them. This situation can influence the evaluation and the results.

One of the most critical limiting factors is how much each individual's personality can affect the study, be it the leader-member in a dyadic relationship or each of these members concerning the leader. When performing interviews with professionals who participated in the project, it was possible to verify that those members who have a different style from the types of their leaders have more resistance or rejection of the leader's ideas and are more critical of them, which is also mentioned by Tekleab et al. (2007). The opposite is also true. Leaders also tend to reject the diversity of types. The differences in types (Hallas) and personalities (Costa and McCrae, 1995; Goldberg, 1990; Hautala, 2005) influence individuals' decisions and evaluations, and this is a limitation that was not measured by this research.

Another limitation felt in this study is using the Likert scale from 1 to 5. This scale does not allow us to assess accurately, due to several factors. When following some groups, it was observed that professionals who have an affinity with their leaders sometimes chose a score of 5 in the first assessment. When a second assessment on the

leader's improvement was asked, there was no way to assess changes. In the survey, team members were asked whether or not there was an improvement in their leaders' relations, and they almost unanimously affirmed it. However, the numbers did not capture the actual dimension of how much had improved on the Likert scale. The ideal situation would be to use a larger scale, 1 to 10, or another in which fractionation such as 4.5 or 9.7 would be allowed. The Likert scale may also have influenced the results of Study I (self-report) and Study II (member-report). A leader who self-reports a score between 3 or 4 may, without more options, choose the highest rank.

Another point observed in the question of samples was that, although there was total freedom to participate in the study, and this was informed several times with guarantees of confidentiality, there was resistance, especially in two of the largest participating companies. From some interviews conducted, it was found that there was a great fear of participating. An interesting example that a senior leader gave is that in another confidential survey, a poorly rated director began to retaliate on his group, making his team members say who had made a negative assessment. It was impossible to assess how much the fear and the freedom to participate influenced even larger samples. This situation confirms other studies that fear (Lara, 2006; Guoa et al., 2018; Dorado and Solarte, 2016) and, consequently, the lack of confidence are essential components in the relationships (Snook, 2008; Caldwell, 2009) and results. However, more important than the sample size is to reflect on how more rigid cultures and leaders can influence the members' evaluation quality.

Finally, as already highlighted in Study I, the data-protection law impacted getting more samples. Participants justified their non-participation by e-mail, by not agreeing that their data could be stored, even with all the guarantees offered in countries outside Brazil.

5.4. Project contributions

The project presented brought new perspectives and advances to studies involving Self-awareness and human relationships.

Firstly, this project contributes to the study and development of ways to increase Self-awareness through the Hallos Triad programme.

From the results achieved in the project, it is possible to suggest that the evidence-based method takes to the organisations a programme that enables improvements in dyadic relationships between team members and leaders. Consequently, leaders can improve their skills in engaging diversity with different types of professionals.

This means that the comprehension of the sympathy and antipathy concept and the Self-awareness expansion brought by Hallos & Triads can potentially contribute to leaders in minimising the rejection of members (out-group) and increasing the number of members to their circle of interest (in-group). This change in attitude may improve the quality of dyadic relationships, and the integration and increase of motivation and collaboration of the team.

Perhaps the most significant contribution of this project, which brings new perspectives and advances to the theme of Self-awareness and dyadic relationships, is the use of the instrument Hallos & Triads (Hallos method), presented for the first time in the context of academic research. As already described, the Hallos & Triads was developed through practical observations of individuals in the daily activities of organisations, specifically to improve interpersonal relationships between leaders and members and between professionals of the same team. This objective is built by promoting the expansion of leaders' Self-awareness, and the knowledge that these leaders acquire about different human types to improve the quality of dyadic relationships. This is a substantial differential of the Hallos & Triads, concerning any other instrument that can promote Self-awareness, and an essential contribution of the project to the development of relationships in the work environment.

A positive point of this research was its scope. 750 professionals from 17 different international companies with their own cultures were evaluated in Study I. The largest group completed the questionnaire shortly after the training. Still, another important group completed the same questionnaire for the second time, at least six months after participating in the Hallos training. The results were positive and

significant, reducing the facilitator's influence in the results. Study II may differ from other similar studies because it involves relevant variables simultaneously, such as LMX, Transformational Leadership, Authentic Leadership, and Emotional Intelligence. In order to satisfy as comprehensively as possible, Study II presented different analyses with the gathered data, exploring different perspectives, regardless of whether longitudinal or not and from different companies and cultures, confirming the proposed hypotheses.

Since its formal presentation only 13 years ago, Hallos & Triads is currently present in 12 countries, in Europe, Asia, Latin America, and also in the United States. In contrast, instruments similar to Hallos, such as DISC, the most popular nowadays, created by William Moulton Marston in 1928, Jung's Typology presented in 1921, MBTI inspired by Jung in 1942, and Big Five in 1949, were created or presented between 80 and 100 years ago. Although all of them have developed over time, and have been recognised throughout the decades, these instruments were created "only" to understand the differences in the personality of individuals and are used, in general, for the identification and hiring of professionals, even though some of them may be used in other ways, according to their development.

On the other hand, as a more recent instrument that was born through an interest in relationships at the workplace, Hallos & Triads makes a relevant contribution, offering a language appropriate for its time, for the current leadership and for new generations, which is simple to understand, intuitive and at the same time practical to use, as the testimonies and results prove.

Another relevant point that Hallos & Triads brings to this project is that, despite the mentioned personality instruments being associated with Self-awareness, almost all of the research shows Self-awareness correlated to a particular type of personality traits, differences that are sometimes investigated as mediators of the leaders' effectiveness. Thus, most of these studies do not position these instruments as inducers of the expansion of Self-awareness, as the Hallos programme explicitly does. Few instruments present longitudinal studies, showing the impact over time of the expansion of Self-awareness, as presented in this project, both in the assessment of the leaders themselves and the assessment of the team members.

The survey results also confirmed a correlation between Authentic Leadership (Self-awareness), Transformational Leadership, Emotional Intelligence, and Leader-Member Exchange, which led to a search to understand the similarities between the theories explored in this project. No studies have been found to use all these variables at the same time. In general, research with pairs of variables, studied together and comparatively, have been found.

As a highlight, although hundreds of studies associate Self-awareness with Transformational Leadership, Authentic Leadership and Emotional Intelligence, no studies related Self-awareness and LMX. This was perhaps the first study to objectively analyse the correlation between Self-awareness and LMX.

Finally, this project and the concepts used by Hallos & Triads showed an important correspondence concerning the LMX theory. Both theories have as main interest the exchange relationship and the quality of the relationships of leader-members in situations that configure themselves as in-group or out-group. Furthermore, Hallos & Triads observes in its reflections with leaders, three dimensions of the human relationship, namely, leader (Self-awareness), member (diversity of types) and relationship (leader and member behaviour), which are perspectives also proposed by LMX. This invites further investigation, using this instrument in relation to LMX and other leadership theories.

Contributions to the organizational context

This study was carried out with the participation of different companies and cultures. The samples were generally collected in working sessions with teams (Hallos programme), with groups of leaders or leaders and members. In some of these organizations, the Hallos programme was initial work used to resolve existing relationship problems and explicit conflicts. As already described, the issue of sympathy and antipathy that a leader may have towards members can potentially lead to conflicts, with the inclusion of some and the exclusion of other professionals. As noted by Liden et al. (2006), when members perceive that their leader treats them differently,

this is natural to happen. There is a negative feeling and the possibility of affecting performance.

In this sense, the significant results obtained in all variables studied from the Hallos programme to a greater or lesser degree, suggest that this instrument can make a relevant contribution in resolving conflicts and building a space of trust between leaders and members, which allows for the improvement of relationships and to build teams with greater productivity, according to testimonies given during this project by several leaders.

Some authorized reports can provide examples of what has already been accomplished.

“I have always intended that my work team was comprised of people similar to me, and I thought that would make my work easier and faster. Hallos has shown me I was wrong. Building a work team with people diversity with different ways of being and thinking led us to improve in every aspect, and we have learned to relate better and make better use of all talents.” E. D., **Hagraf S.A. General Corporate Manager – Chile**

As we know, leaders have a significant influence on the behaviour of their teams. CEOs and business heads have an even more significant impact because they are the ones who give direction to their organizations. What can be said is when one of these professionals expands Self-awareness and changes their mental models, the proposed changes are more profound. When leaders embrace work as a cause and place themselves as the project's sponsor, placing themselves not only as a leader but as part of a team, the best results are achieved.

An example was a team that was followed up for a year, which was extremely committed to the changes and its leader, who always took charge of the project. This authorized report brings that experience.

“The management of an extremely diverse team presented conflicts and an uncertain future, but through working with the Hallos method, we were able to build a common

and interdependent agenda between people. It is very gratifying to see that a Self-awareness method led the organization to develop individually and collectively in a reliable, integrated, and consistent manner. It was a personal and professional turn around. This experience brought us the main consequences of constructing the team's purpose and concrete and superior results, which repositioned us internally and externally. We transformed the Supply Chain together and effectively became a competitive advantage!” R. A., **Supply Chain Head of Europe - Sanofi France**

Although deep in its essence, the Hallos method is simple and appropriate for improving communication between different human types. This report brings some of this experience.

“After 15 years leading teams and used tens of courses and methods, Hallos has enabled me to establish the best routes to maximize the communication with the people of my team and also managing myself efficiently and simply. Undoubtedly, this is the method that I have retained the most and that I put into practice due to its simplicity and effectiveness. And I am totally sure it was the most successful one for my team.” D. M., **General Manager Director - Red Bull Spain.**

The Hallos method can contribute to studied theories because, at its core, it suggests that the leader develops ethical principles and a relationship of trust and reciprocity like all of them. This is a report account of a transformation achieved in this direction.

“Hallos has strongly enabled barrier elimination in our relations with our members, and among managers, providing handy tools to achieve honest, efficient, and effective communication.” J. R. O., **Banco Estado S.A. General Manager – Chile**

Another relevant point is discovering the innate talents and the collective potential to increase the group's effectiveness and the organization.

“Hallos Relations has taught me that it is not simply enough wanting to improve a company if it is not clear the relevance to know individual potentialities of a team. Hallos Relations has taught me to enjoy more the work I did, and trust more the ones that have believed in my great corporate adventure.” C.C.M, **Neurona Group Director – Chile**

In the last three years, this research's final contribution is that the process stimulated some experiences in companies. In one of them, the Hallos method started being used to hire leaders and choose the most appropriate professional diversity for each area and company need. There is a public testimony (video) of this work given by S.G, CFO of a Brazilian company, talking about this work with subtitles in English (www.hallos.com).

In summary, Hallos can contribute to the development of leaders and organizations. Consequently, as suggested by the intervention results, leaders can improve their skills in relating to the diversity of human types and increase the inclusion of the number of members in their circle of interest (in-group).

5.5. Recommendations for future research

Like any project that seeks an understanding of human beings and their relationships, this study focused only on a small part of the possibilities presented in the work environment. This suggests to the Hallos & Triads method a new path of discovery new research covering the network of dyadic relationships and personality theories.

A little-explored research point is about the relationship of sympathy and antipathy of each individual within their archetypal type concerning individuals of other types and the quality of dyadic relationships. In this sense, it is interesting to investigate each type of leader, which human types they have more comfortable leading, and with which they have difficulties.

Still on the same theme, regardless of the type of leader and assuming that his/her role is to act with professionals' diversity, what would be the ideal team configuration, if any, for each context or area of work?

Most leader-member surveys generally address the leader's attitudes, as if the leader were solely responsible for the relationship and the results. This is perhaps the

traditional model. Maybe future studies can cross the perceptions of the leader-member and even investigate which strategies of the followers to influence and "manipulate" their leaders, besides verifying in which conditions they give themselves to the relationship, beyond values as a trust, for example, and what kind of strategies leads members to recoil and not exposing themselves.

Although it was not the scope of this project, 180 interviews about Culture were conducted with professionals from companies studied during this period. In this work, the issue of fear was raised, which helped us understand leaders' and members' behaviours. Perhaps more future research can be done to explore the role of fear in exchange relations. Another point to be analysed in future research is the existing motivation for completing the evaluations. If, on the one hand, as described, the study evaluates that fear (Dorado and Solarte, 2016; Guoa et al, 2018), Culture, and the management model influence relationships and research, it would be interesting to investigate the opposite of what motivates some individuals to complete evaluations and be authentic.

For those interested in exploring the Hallos method in their research, an exciting possibility is investigating dyad networks and how human types influence them.

Another additional study to use the Hallos & Triads method is to investigate according to the context and area, which the ideal diversity of complementary talents (types), to obtain to achieve a group's effectiveness. Thus, the method can contribute to understanding the individual and collective performance of each team.

A research question that could be examined is which archetypal types of leaders most relate to Transformational Leadership and Leader-member Exchange? According to the areas of organisational performance, what are the worst and best configurations of types of employees in team building? Finally, what is each team's influence according to its collective archetypal type in different leadership types?

An exciting point observed in study II - 1, and which could be further explored in the future, is about the criterion for choosing women over men. In this study, women members evaluated leaders, whether men or women, in a more demanding or critical

way than male members (Appendix 5). Further research may confirm whether this is common in other samples and, more importantly, the reason for this difference in women's choice compared to men in the evaluation of leaders.

A proposal based on this project and probably more complex is associated with the dimension of the relationship. In general, existing studies have analysed how leaders or members' behaviours, attitudes, or values have influenced exchanges in a cause-and-effect relationship. In an era in which the relationship takes on particular importance, exploring new forms of more robust dialogues in ideas, feelings, and actions may be essential. This involves training both leaders and members in new dialogue-building techniques, in which personal filters can be more controlled so that relationships, as proposed by Bohm (1996) and Buber (1974), can become "true human encounters." Although it sounds philosophical, this is possible in practical terms. This experience has already been initiated through the Hallos method in some companies, and future research may present results on this topic.

These are some of the many points to be explored in the future.

5.6. Completion of the Project

The realization of a project like this represents much more than the data obtained. It is a journey of discoveries and learning from beginning to end. It requires discipline, motivation, resilience, and a significant challenge to the obstacles that arise until its delivery. A friend says that a thesis cannot be finished but must be abandoned because there is always something to be done or improved, and time limits this work. In this thesis's case, the learning process was so positive and impactful that there would certainly be new and essential learnings if there were sufficient time.

Although fundamental in a scientific research project, the results cannot describe the difficulties, self-demand, and supervisors' positive challenges. The results also cannot express the joy of working directly with the human being, as this study demanded. We learn together, build together, and grow together, with many of the participating groups. This is the best way to express this journey, and this text describes only a small portion of the knowledge acquired and its practical implications.

As a conclusion of the project, it is essential to highlight the Hallos method's essential contributions once more. The phenomena observed in interpersonal relationships for many years were found in the research and concepts studied. Many assumptions used by the Hallos method, some intuitive and other observable in practical experience, proved to be correct, which was also very positive. The Hallos method, or just called Hallos & Triads or Hallos, actually arose from observing individuals and attempting to fit these observations into some existing theories, which led to the creation of own taxonomy that has some similarities with other theories and significant differences. It focuses on developing Self-awareness in a simple way by observing human archetypes and inviting the inclusion of diversity and improvement in human relationships, which may not be the object of other similar theories.

During the thesis period, the method that already worked in Brazil, Spain, Chile, France, the United States of America, South Africa, Japan, and Malaysia obtained the same positive results and gained an in-depth theoretical foundation. Besides, topics such as Self-awareness, diversity, polarity, and the triad of types, were much more in-depth and gained reflective exercises that facilitated understanding these themes by those who knew the Hallos & Triads method. This conceptual and reflective support now offers a more robust basis for its development since one of the most critical assumptions about the Hallos & Triads is that it will never be ready. There is a belief that there will always be what to improve, and continuous learning that brings the Hallos method closer to a truth that will never be achieved in its entirety, given the complexity and richness that human beings present.

In addition to confirming the initial objectives, the Study positively answered all research questions. The results demonstrated that the Hallos & Triads programme increases Self-awareness and improves interpersonal and dyadic relationships between leaders and members. Study I and Study II also showed that the observed changes were maintained and even increased over time for the studied samples. Study II showed that the Hallos method promoted positive changes in all variables studied, Self-awareness, Transformational Leadership, Emotional Intelligence, and Leader-member Exchange. Study II also confirmed a correlation between all variables studied, suggesting common points in their taxonomies.

Study I also showed in the self-perception of leaders that the Hallos method could promote a change in the perception of the importance of diversity in the workplace, indicating that leaders may be learning how to include different types of people in their circle (in-group).

Among the many results raised, some were unexpected. In Study I, even people who learned about the Hallos method more than five years ago remember its colours and recognize the impact on their lives was one of them. For the experience with executives who participated in similar experiences, the tendency would be forgetfulness. The Study II of Company "A" also showed that learning from the Hallos method was maintained over time. This demonstrated that the simplicity of human types' presentation might have been relevant, which can be confirmed in future research.

Currently, the Hallos & Triads method is used in some of the most important international companies. For instance, Nestlé has conducted, through its HR team, a workshop with leaders from Brazil and Latin America to take the Hallos & Triads method. The purpose of these workshops is to increase individuals' Self-awareness, understand the importance of the diversity of types, and the difference as a complementary strength to improve relationships. This work was done in 2020 in Ecuador, Peru, Chile, the Dominican Republic, and Mexico. In the same year, Nestlé from Africa, Asia, were certified in the Hallos & Triads programme to train their leaders and teams.

Some new things have happened in these six years with the Hallos & Triads method. In addition to working with organizations, one of the following future goals for the Hallos & Triads programme is to extend this study to the relationships between teachers (leaders) and children. Teachers also have their circle of inclusion and exclusion of students, generally unconscious, as we have seen. By understanding basic human archetypes, teachers may no longer deal with children in a standardized way, with the same teaching, relationship, and play type. Although it was still embryonic, work carried out with teachers from two schools has already brought meaningful learning. The teachers realized that the reason for the children's proximity or distance is in their attitudes. This led to changes in their interactions, and some reported that

children who were distant had come closer to them. They learned to include and treat their students differently. This experience can show that teachers can also overcome the barriers of sympathy and dislike, rejections and prejudices, and welcome those with great difficulty. If teachers can expand Self-awareness and use this new knowledge, they can help children learn to value each other, reduce bullying, and contribute to a more appreciative culture.

Another future project is to look for associations between the Hallos & Triads method and neuroscience to understand the relationships between types and brain functioning areas. The main interest in this area is to understand the relationship between certain diseases and human types.

As with other theories, there is also a huge interest in partnering with academic researchers interested in the relationship between human types, leadership, and team building. Interested researchers will receive all the preparation and support for this purpose.

The Hallos method started with a search to understand the human being, his peculiarities, potentialities, and shadows, which led to the search for developing Self and discovering the importance of Self-awareness as a means of human development. This was the path that led to the elaboration of the Hallos method and this project.

I take the liberty to end this thesis with a thought by Rudolf Steiner that has been an inspiration and driver of our work (Bartges, 2003, p. 26):

“Our most important task must be to form free human beings
that are able by themselves to find a purpose and
direction for their lives.” Rudolf Steiner

..... and this can only be achieved with the expansion of Self-awareness.

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Appendix:

Appendix 1: Theories of personality and Hallos typology

This appendix is divided into five parts:

1.1. Theories of personality and Hallos typology

1.2. Personality Theory – Traits

1.3. Personality Theory – Types

1.4. Psychological Types of Jung and MBTI

1.5. The Hallos typology

1.5.1. The “Hallos” Relational Intelligence

1.5.2. Synthesis of Hallos Typology

1.5.3. Fundamentals of the Hallos typology

1.5.4 Human Archetypes x Personality

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1.5.6. Differences between Jung’s Psychological types and Hallos typology

1.5.7. Description of the five types

1.5.8. Polarity types

1.1 Theories of personality and Hallos typology

Personality psychology is interested in understanding why people are different in how they feel, think, and act.

Personality and its theories are extensively used, but they don't have a coherent and straightforward definition (Reber, 1985). Some scholars like Allport and Allport (2000) propose that the term personality is almost indescribable, even if its measurement is successful. Various definitions emerge over time. In 1927, Gordon Allport already had

approximately 50 different definitions (Reber, 1985), and apparently, each researcher has his/her own. Among the different concepts, only two were selected, as they bring different approaches. The first states that a relationship between personality and the individual's physiological aspects exists (Eysenck, 1998; Revelle, 2014), and the second does not consider the existence of this relationship. In the first approach, Eysenck (1998, p. 25) states that personality is the sum of the organism's actual or potential behaviour patterns, as determined by heredity and environment. In this sense, like some other scholars, such as William Sheldon and Freddy Gray (Revelle, 2014), Eysenck makes an association between the individual's particularities and the social environment. Conversely, contemporary psychologists' most common definition is that personality refers to consistent and long-term patterns in thinking, feeling, and behaving for each individual, making their identity unique. (Davidoff, 2001). As can be seen, cognitive, affective, and behavioural elements used in social psychology are also at the personality essence.

The word personality etymologically comes from the Latin "personalis" (Larousse, 1988), meaning personal and "persona" (Aurthur, 2007), which means mask. Jung (1991) also utilises the term persona as the adaptive form that the individual finds to present himself to the world, which does not necessarily represent who he is. The masks designated the characters represented by the theatrical actors (Sharp, 1997). Perhaps that leads to two questions: Do individuals have one personality or several? Or Do individuals have a single personality that can present themselves in different roles?

For Erickson (Davidoff, 2001), personality formation begins from the first year of life and develops as individuals go through psychosocial phases. Erickson notes that polarity between success or failure to face the challenges imposed on each individual in each phase exists. Lievegod (2006), Burkhard (2006), and Graves (2005) noted that life works in a spiral movement and that in the event of a "failure", a similar situation would appear in another phase of life, to mirror the experience, until this challenge is overcome, making room for new challenges. Personality theories for over 2,000 years have been concerned with identifying the individual characteristics by which people differ from each other, developing numerous personality trait taxonomies (Wilt and Revelle, 2002; Reber, 1985). It is interested in explaining the complexity observed in individual differences in the pattern of affection, behaviour, cognition, and desires throughout life

(Auther, 2007). In summary, these theories aim to understand the variation of how people think, feel, and act.

Personality theories are subdivided between those trying to explain the human being as a whole and the personality traits theories. The typology refers to people's grouping into categories (Davidoff, 2001) based on specific characteristics. According to Jung, the type would be characterised by the interests, references, and skills observed in individuals who offer the elements to act or react to a given situation (Jung, 1991). On the other hand, a personality trait is a stable characteristic, making individuals behave differently in different situations. (Davidoff, 2001; Reber, 1985). They can include, for example, openness, shyness, dominance, introvert, and rational. The difference between these perspectives is that trait theories refer to certain specific and stable characteristics of part of the personality, while the type accounts for the entire personality (Davidoff, 2001). While type theory separates the person into groups and observes the individual as a whole within which he can be, for example, introverted or extroverted, trait theory observes the gradation in existing traits and its opposite, that is, how much the individual must be extroverted or introverted Eysenck (1998).

To better understand the differences and the relationship between these two views and the relationship with the Hallos method, which is part of the type of approach, a brief description of two theories will be presented, one associated with a typology and the other associated with traits. Jung's psychological types were chosen for the first, represented by MBTI, as it is one of the most used theories in the last thirty years and has a robust structure for analysis. The Big Five was chosen for the trait theory, as it is the most accepted and used theory by hundreds of researchers, who also make an association between this personality tool and leadership theories. These descriptions are essential to provide a complete picture of the relationship between personality theories and the relationship with leadership, one of the essential points of this project. Besides, it allows for a deeper understanding of the similarities and differences between recognised theories and the Hallos method. After these two descriptions, the Hallos method will be presented, and a comparative analysis will be made with the MBTI and Big Five (Furnham, 1996).

1.2. Personality Psychology – Traits

The personality trait psychology seeks to distinguish the variation in how individuals think, feel, and act (Allport, 1937; Goldberg, 1992; Wilt and Revelle, 2012). Thus, it is interested in affection (A), behaviour (B), cognition (C), and desire (D). In layman's terms, behaviour refers to what we do, affection what we feel, and cognition what we think (Wilt and Revelle, 2002). The desire mentioned by some authors is associated with the will that leads to action. Since the 1930s (Allport and Odberg, 1936), in-depth research on traits (Allport and Odberg, 1936) was developed to seek, explain, and group coherent patterns in ABC and sometimes D, which did not happen (Costa and McCrae, 1995; Goldberg, 1990), as expected. Perhaps the researchers who started this study more deeply were Goldberg (1990), Allport and Odbert, and Catell. Allport and Odbert (1936) studied relevant terms that could help distinguish one human being's behaviour from another, in a full English dictionary. On the other hand, Raymond Catell (1946) started measuring and defining traits, and after collecting 18,000 words, he reached 16 pairs of polar traits called originals through a long process. These traits were considered stable for life and seemed to be influenced by genetic inheritance (Davidoff, 2001).

Among the several theories about personality traits, the Big Five is also known as the five-factor model (FFM) and is the most recognised personality trait theory and used by researchers interested in the relationship between personality and leadership and other areas of personality study. The BIG Five was created by Ernest Tupes and Raymond Christal in 1961 (Brown and Reilly, 2008), although, for some, the history begins with the work of Allport and Odberg (1936) and Catell (1946). The work of Tupes and Christal (1961) reached five factors, (a) Surgency, (b) Agreeableness, (c) Dependability, (d) Emotional Stability, and (e) Culture. The academic world did not widely accept this work until the 1980s. Besides Tupes and Christal, three other groups of independent researchers, Lewis Goldberg, Raymond Catell, Costa, and McCrae, reached remarkably similar and interrelated results of the five traits, although there was a slightly different semantic description (Goldberg, 1990). Since then, the Big Five has become the basic structure behind studies that use personality traits and extremely relevant importance in the last 40 years (Widiger, 2017). In one of the essential works

on the subject “The Oxford Handbook of the Five-Factor Model” (Widger, 2017) with the participation of 48 researchers, including William Revelle, Paul Costa, Joshua Wilt, and Robert McCrae, for example, Thomas A. Widger, the editor of the paper in chapter 1, emphasises the importance of the Big Five for its acceptance, coherence, comprehensiveness and the existing consensus on the ease and usefulness of this instrument for the development of literature and diverse research in the area of personality.

The five traits are described as openness to experience, conscientiousness, extraversion, agreeableness, neuroticism.

1.2.1. Openness to experience

Open people are curious about the world, imaginative, and have different interests. They like to learn new things, enjoy new experiences, and have the facility to deal with abstract and symbolic ideas. They are individuals sensitive to beauty and value art. People who have the opposite of that trait are closed have an interest in ordinary things. They prefer clear, down to earth, concrete rather than ambiguous, complex, or subtle things. (Goldberg, 1990; Benet-Martínez and John, 1998; Soni, 2019). People who have this trait to a high degree are more likely to be leaders due to their ability to create and think differently, besides being more effective (Bass, 1985; Judge et al., 2002).

1.2.2. Conscientiousness

Individuals with a high degree of conscientiousness work hard, plan, are persistent, methodical, responsible, thorough, and are considered intelligent and reliable. Low-grade individuals are considered relaxed, procrastinating, impulsive, careless, and lacking ambition (Goldberg, 1990; Benet-Martínez and John, 1998; Soni, 2019). Jude et al. (2002) state that several studies have pointed out that competence in this trait takes a higher probability of success for the leader. Leaders with conscientiousness are highly likely to be more effective because they have more resilience and persistence.

1.2.3. Extraversion (and introvert)

Individuals with high levels of extraversion are sociable, spontaneous, like to relate to people, are full of energy, talk, and draw attention. On the other hand, individuals who have a low level of extraversion are called introverts. They have qualities, being reserved, quiet, calm, independent, prefer to be alone, and are seen as disconnected from the world (Goldberg, 1990; Benet-Martínez and John, 1998; Soni, 2019). In their research, Judge et al. (2002) claim that extraversion has emerged as the most consistent leadership correlation. Besides, they claim that this is perhaps the quality that most likely makes an individual a leader because it is expressive and can influence positively. In several studies analysed by Bass (1988), this quality was positively related as a predictor of Transformational Leadership.

1.2.4. Agreeableness (and disagreeable):

Individuals with this trait are thoughtful, friendly, generous, cordial, helpful, and trust people. On the other hand, those who have a low level of that trait are called disagreeable and are considered sceptical, self-centred, suspicious, uncooperative, and hostile individuals (Goldberg, 1990; Benet-Martínez and John, 1998; Soni, 2019).

Agreeableness is a trait that is related to Transformational Leadership (Sears and Hackett, 2011) and to LMX (Sears and Hackett, 2011). Perhaps when leaders and members have a high degree of kindness, they develop LMX through relationships in which the communication can be more empathetic, open, including the cultivation of interpersonal affection. While several studies such as Goldberg (1990), Sears and Hackett (2011), Roush and Atwater (1992) affirm that this quality is crucial for leadership and that Judge and Bono (2000) claim that in their study, this is the strongest trait that correlates with Transformational Leadership, other studies show different results. In another study, Judge et al. (2002) state that this was the least relevant among the Big Five's five positive traits to define a leader as a compassionate and friendly leader. This trait for most studies is positive in developing a quality relationship with members, and sometimes it is negative or less critical, which does not necessarily mean a contradiction. Factors such as the company's culture, management model, context, and area in which the leader works, and the members' personality can justify this

difference. Factors such as those described may impact the results to be analysed for any trait, which may cause deviations in the analyses.

1.2.5. Neuroticism

People with a high level of trait neuroticism are generally reactive. They tend to have more intense emotional reactions than usual. They also tend to look at any common situation as threatening, anxious, and poorly handled with the stress (Goldberg, 1990). People with a low degree of neuroticism are emotionally stable, cope well with stress, and hardly feel sad. They are quiet (Goldberg, 1990; Benet-Martínez and John, 1998; Soni, 2019). A high degree of neuroticism probably contributes negatively to the relationships between leaders and members, while a low degree of this trait likely contributes to the relationships' positive quality. On the other hand, even an individual with a high degree of neuroticism can be successful; remember some autocratic, famous individuals who run their countries and who are accepted and validated by an essential part of the population to confirm this fact.

Although some traits seem to be more critical than others for leadership (and for the member), situational factors can moderate personality traits. It means that different traits can be more or less useful according to the context and the adaptive challenge (Buss, 1996). There must be situations in which some traits stand out from the rest. If the challenge is, for example, the relationship between individuals, probably the leader with the trait agreeableness will adapt better to this context. If the context calls for a lot of discipline and hard work, perhaps the conscientiousness individual will adapt better (Buss, 1996). This is for all traits. An individual with more skills can adapt better to different diversity of people. As a group offers a complicated relationship, individuals with different capabilities (traits) also can complement each other.

If, on the one hand, the analysis of the Big Five is extremely positive and presents a theory even superior to the others (Widiger, 2017), there are also other views. Some leading researchers also question its validity. Stogdill (1948), for example, calls into question the effectiveness of this approach, stating that the fact that an individual has a particular trait does not necessarily indicate leadership capacity. McAdams (1992), and other researchers, claim that the Big Five offers confusing elements and

may not represent personality besides being scientifically convincing. This polarization between those who accept a specific approach, and the contradictory results is quite common due to the complexity presented by the social sciences, which involves different cultures, personalities, and contexts in research, which is not always the case exact sciences.

Besides, other reasons that may justify the rejection or non-acceptance by some researchers is the fact that each individual sees and interacts with the world through filters formed by his beliefs and values (Côté et al., 2010; Steel and Guala, 2011; Zhu and Akhtar, 2014) and their psychological type (Jung, 1991, Silveira, 2001). If the term personality itself has numerous definitions reaching the point where each researcher may have his personality theory (Davidoff, 2001), “perhaps” different research may suffer a particular bias from the researcher’s view, which confirms that impartiality would be a fallacy as says Nagel (Steel and Guala, 2011).

Although it is not appropriate in scientific work to make a value judgment, it is fascinating to follow the effort and pioneers such as Catell, Allport, and many others. Works like these have brought significant contributions to the understanding of human complexity and subjectivity.

1.3. Personality Theory – Types

Perhaps the oldest type of theory is that of the four tempers described by Hippocrates, Plato, Aristotle (Glas, 1987), and later Galen (Jung, 1991), who described them as choleric, sanguine, melancholy, and phlegmatic (Reber, 1985; Davidoff, 2001). The tempers are related to each of the four elements, Earth, Water, Air, and Fire, and are associated with the physical body. The Lung is associated with the Earth element, the Hepatic, connected to the Water element, the Renal-Genital, connected to the Air element, and the Cardiocirculatory to the Fire element (Moraes, 2005). According to their preferred temper, each individual has its physiological structure (Glas, 1987) and how to express and behave. This was a theory that served as an initial inspiration for observing individuals and creating the Hallos method.

William Sheldon also developed a type of theory, in which he believed that physiological characteristics determine how people are, subdivided into three physical dimensions, endomorph, mesomorph, and ectomorph (Davidoff, 2001). In his research, Sheldon achieved strong positive correlations in the association between personality and body types. Still, Sheldon's theory is not convincing (Reber, 1985) and does not have the same result confirmed by other studies like Tyler's (1951).

In this line of association between the biological and the personality, a significant contribution was made by Jeffrey Gray (Revelle, 2014; Matthews and Gilliland, 1997; Eysenck, 1998). Gray questioned that a personality's characteristics could not be explained only by conditioning and to prove this. He created a biopsychological theory of personality in 1970, which proved the existence of physiological responses and recognised by other researchers as a significant contribution to the study of personality, which influenced many other researchers (Matthews and Gilliland, 1999). Hans J. Eysenck and Jeffrey A. Gray proposed biological bases' essential theories in personality traits and made relevant associations between associations between brain process and behaviour (Matthews and Gilliland (1999).

Although this was referring to character traits in Gray's case, the association between the biological component and personality is one of the essential points of this analysis. Some researchers reject or do not feel comfortable associating personality with the human biological aspect. Jung (1991) states that temper could not be associated with a human typology, precisely for that reason. According to him, physical and psychic phenomena are separate things, and trying to bring them somehow together would not make the least logical sense, given that the psyche is something abstract. He even considered a certain innocence to try to combine the two elements (Jung, 1991). Many researchers' tempers are more restricted to childhood, which could not be associated with adult personality (Widiger, 2017). Therefore, as Galeno or Sheldon did, one could not distinguish between personality and physical type. In order to differentiate the two, Widiger (2017) states that temper is distinguished from personality because temper refers to individual differences that arise since birth and that remain stable throughout life (Mervielde et al., 2005), while personality develops under the influence of social life (Widiger, 2017).

In contrast to this, McCrae et al. (2000) affirm that there are empirical and conceptual links between children's temper and adult personality. Rothbarth et al. (2000) add that temper is genetic and that each individual's experiences influence adult personality construction. Thus, in this perspective, the biological element would participate in the personality, which would be broader than the temper. In addition to bringing the same association between temper and personality, Marviede et al. (2005) bring an irrefutable final argument. It shall be deemed that there is a great recognition that personality problems in adults are caused by temper, genetic factors, and also development itself. Although there are no arguments against beliefs, much of what was described 50 years ago may change with science evolution. The conclusion is that as it is also proposed by social psychology, physiological characteristics, innate of individuals placed in the psychosocial environment influence the formation of the adult individual and personality.

1.4. Psychological Types of Jung and MBTI

Jung's Psychological Types were developed in more than a decade of patient observations and consist of a system that combines Attitudes and Functions (Hall and Nordby, 1986; Franz and Hillman, 2016).

Jung (1991) says that in his medical practice with nervous patients, there were two types of attitudes called his attention in addition to many individual psychological differences. One was extroversion, which was associated with individuals interested in the outside world and objects of interest. The other was the introversion he associated with individuals directed to their inner, subjective world, and their thoughts and their Selves (Jung, 1991).

Although all individuals have introversion and extraversion within themselves, one has been developed and becomes predominant, while the other is asleep. Extroverted individuals like to talk and interact with people and things. On the other hand, introverts feel better alone, are less sociable, and interact less with people.

Jung (1991) observed that extroverted and introverted individuals also differed and found that were caused by different mental processes used by the individual to relate to the external world and its inner world. Thus, in addition to attitudes, Jung considered in his research the existence of four psychological functions that, together with attitudes, define the psychological type of each individual (Hall and Nordby, 1986; Jung, 1991). Two of them, sensation, and intuition, are the non-rational ones because they are apprehended directly without the mediation of a judgment (Lessa, 2003). The other two, thoughts and feelings, are considered rational because they are associated with an assessment or judgments before deciding (Lessa, 2003). Jung (Myers and Myers, 1985) states that all individuals have all these functions, although they have a range of preferences, and this set forms their psychological type. Jung (Myers and Myers, 1985) states that all individuals have all these functions. However, they have a range of preferences, and this set forms their psychological type. According to him (Silveira, 2001), each person sees life through its psychological type, explaining why people have different opinions for apparently equal and apparent things.

The thinking function is associated with decisions based on logic and objective analysis of facts and cause and effect. The feeling function that opposes the previous one is associated with more subjective decisions based on values, that is, on what is essential for the individual (Jung, 1991; Franz and Hillman, 2016). Nise da Silveira, Jung's disciple, says that while thinking uses objective logic, feeling uses the heart's logic (Silveira, 2001). Thus, through the thinking function, the individual may judge someone by facts and ideas, using logic and rationality, or through feeling, he can also judge the other by something he felt, associated with a value (Jung, 1991). An individual's relationship with ideas may be more reflective (thinking) or emotional (feeling), depending on the individual's type. (Jung, 1991).

The sensing function corresponds to the totality of perceptions of external events and facts that reach the individual through the sense organs (Franz and Hillman, 2016). Sensing-type individuals believe in facts and remember them easily. They are practical people, living in the present and realistic (Sharp, 1991; Franz and Hillman, 2016). The intuition function is a process by which the individual's perception is related to ideas and insights incorporated through the unconscious. Intuitive individuals seek meaning

for things, possibilities and have a more general view of the whole (Franz and Hillman, 2016).

The pairs of described functions are associated with perception work in opposition to each other, which occurs in the same way in the judgment functions (Jung, 1991). If an individual uses intuition as the principal function and moves in the world of ideas, he/she will not pay attention to the details or the more concrete things of the sensing function. In the same way, whoever prefers to use the feeling, will not pay attention to the logic of thinking, just as anyone who prefers the logic of thinking will find it inconceivable that someone does not use the logic of facts. It may seem paradoxical, but the four functions have a complementary meaning when looking at the whole of the psyche. An example that can be given is that the sensing brings to the individual what is concrete and factual perceived by the senses; thinking brings the concept and the logical meaning, the feeling function determines whether or not this has value for the person, and intuition brings the possibilities of what to do with this knowledge. (Sharp, 1991, p. 157).

As described, although all individuals have four functions (Jung, 1991; Silveira, 2001), one of these is more developed and aware than the other three. This is called the superior, dominant, or principal function. As the individual develops this principal function, since childhood (Jung, 1991), the environment around reinforces the unilaterality tendencies denominated as “aptitudes” or innates talents. Thus, there is an increase in the superior function and slow degeneration of the other side of personality (Franz and Hillman, 2016, p. 14). On the other hand, if a person is born with “feeling” as a principal function, in a more “thinking” family, he/she will probably be forced to develop this function “thinking” and reject or be frustrated with its primary function. At the same time, he can never become a “thinking” type as a person who takes it for “innate” (Franz and Hillman, 2016; Jung, 1991). In most people, the primary function takes energy from other functions, especially the fourth function (Jung, 1991).

For Jung (1991), the secondary or auxiliary function is on a lower plane than the main one and is useful to serve the superior function and bring balance (not equality) between the perception and judgment functions and between extraversion and

introversion. (Franz and Hillman, 2016). Thus, the individual can adapt to both the external and internal world (Myers and Myers, 1985).

The tertiary function, which has little development concerning the previous ones, acts in addition to the typology's attitudes and functions' conscious and unconscious dynamics. The tertiary is always the function opposite to the secondary. The fourth preference function is called the inferior function and represents the neglected part of the personality (Franz and Hillman, 2016) that becomes unconscious. It is the least developed part that the individual denies, or rejects (Myers and Myers, 1985) called the shadow, and that can act on the individual without any control at the same time represents the enormous potential (Franz and Hillman, 2016). One question that could be asked is, why then do not develop the four functions in a more balanced way? Jung (1991) noted that this is impossible due to their antagonistic character and the fact that if the main one is not well developed and the individual acts for another, only weakness will remain, besides affecting the dynamics of the personality.

According to Jung (1991), this function's pair becomes the last of the four in the dynamic personality structure, that is, the inferior function when choosing the primary function. If intuition is the first (main), the fourth will be the sensing, for example. Furthermore, when choosing the other pair's secondary, such as thinking the other function, the feeling will be the third. In this example, the individual will be intuition as primary, thinking as secondary, feeling tertiary, and sensing as the fourth function. In addition to this choice, that individual may be an introvert or an extrovert. This individual, in this example, is called the Intuition type. Likewise, they occur with all other combinations. This is the logic proposed by Jung for his psychological types. This sophisticated structure is different from the one proposed by the Hallos method, in which all types, not functions, can combine with any other.

Isabel Briggs Myers and her mother, Katharine Briggs, developed an instrument to assess the "Psychological Types," also known as MBTI, and popularised Jung's theory (Myers and Myers, 1985). Their experience in applying the MBTI assessment added another pair of preferences (attitudes) to Jung's types to what they called Judgment and Perception (Myers and Myers, 1985). The "perception" and "judgment" attitudes constitute how the individual deals with the world. Although the individual can

use any of them, perception or judgment may not be used simultaneously. An interesting example of these two attitudes is that the individual who uses “perception” in a lecture will be open-minded and receptive to what he/she is listening to, while another individual who prefers the “judgmental” attitude will be deciding whether what is being said is right or wrong. Although there is a natural preference, any individual can use the same lecture’s perception or judgment attitude. However, he/she has a natural inclination for one of them (Myers and Myers, 1985).

MBTI is a well-founded and widely used instrument (Hautala, 2006; Myers and Myers, 1985; Silveira, 2001) to explain how the various combinations of attitudes and functions form innate psychological types (Brown and Reilly 2008) that influence the understanding of yourself as well as your interaction with others (Myers and Myers, 1985).

Several studies (Roush and Atwater, 1992; Hautala, 2006) show positive results about MBTI and Transformational Leadership, for example. At the same time, other studies do not confirm the same results (Roush and Atwater, 1992). Some psychological types are more transformational in one study. In other studies, the most transformational types are others, which sometimes raises doubts about the instrument’s validity or research.

An interesting (exciting) study that exemplifies these apparent distortions showed that leaders of the sensory and feeling types were transformational. According to Roush and Atwater (1992), this result was not expected because, in general, intuitive are considered more transformational and are recognised as such in situations that require creative solutions and rapidly changing scenarios (Roush and Atwater, 1992; Hautala, 2006). However, there is a justification for this. The study was conducted with military leaders. The authors assume that a military leader is expected to be a logical and impersonal person to deal with areas that require attention to detail, logic, and discipline. When confronted with intuitive leaders, who are people with a more global view and not so interested in details and rules, members tend to see these intuitive leaders as overly imaginative and confused (Roush and Atwater, 1992; Hautala 2006). This example demonstrates the influence of culture, context, and the profile of leaders and members in evaluating a study, which indicates that many correct studies can present different results.

There are numerous nuances to note. For example, in terms of culture, an extroverted leader who appreciates others' opinions may have been seen as more transformational in the West (Hautala, 2006). In the East, the introverted leader who does not need others' opinions may be seen as more transformational (Hautala, 2006). These issues are often observed in at least 20 years of observation and development of leaders and their teams.

Jung's psychological types present a sophisticated and fascinating structure. It is also essential to register Jung's pioneering spirit and courage to bring such a complex study that has helped in personal and organisational development for decades.

1.5. The Hallos typology

The diversity of types is formed by a triad of types (colours). They are associated with archetypes or human systems, cognitive (thinking), affective (feeling), behaviour (acting), as will be presented. Figure 38.



Figure 38 - Human systems

1.5.1. The “Hallos & Triads” Relational Intelligence

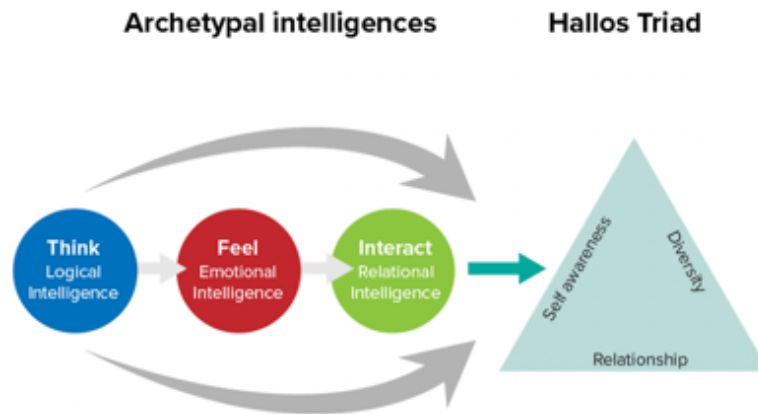


Figure 39 - Intelligences

As written in the introduction, in the past, the relations in the corporate world were influenced by obedience, the more technical jobs, the relationships between leaders and employees were more authoritarian or hierarchical. In more specialised tasks, the companies valued the Logical Intelligence (Sternberg, 2009). Those with a high IQ (Intelligence Quotient) were recognised as professionals with higher potential and a future. However, a high IQ did not necessarily mean that the individual could show competence in interpersonal relations or could be able to motivate people.

With social and corporate changes, the organisations felt the need for leaders who could deal with people and pressure and controlled their own emotions. This happened in an environment still autocracy but towards a more participative culture. Thus, companies began to observe Emotional Intelligence (EQ) in their assessments, especially on leadership. The Emotional Intelligence concept emerged in the early 1990s, suggested by researchers Peter Salovey and John Mayer (1993), and it became popular in 1995 by Daniel Goleman (1995). Since then, hundreds of articles mention reason and emotion, cognition and feelings, and the importance of Emotional Intelligence, such as Mayer and Salovey (1993), Gross, 1998, Côte et al., 2010, Costa e Faria, 2014.

Currently, the technological and social transformations and, especially, the emergence of new generations, have forced once again the companies to look for more participative management models, in which the individuals may express their talents and work with more autonomy. This new management model is necessary to attract and retain

talent. In this new context, being brilliant in thinking (IQ) and controlling emotions (EQ) is not enough to deal with the companies' teams and professionals. Relational Intelligence is also required, that is, thinking (IQ), feeling (EQ), and also possessing the required (necessary) social skills to interact with individuals. This is one of the views that are part of the Hallos method.

Relational Intelligence supposes the ability to interact with different types of individuals. Based on studies on Transformational Leadership, leader-member-exchange, Authentic Leadership, and even Emotional Intelligence, it can be assumed that this may only happen effectively if the individuals have or develop three necessary competencies:

1. Self-awareness is the ability to know yourself, your way of being and acting in the world, and the impacts your behaviours will have on people.

2. Knowledge of the other, that is, the understanding of the needs and way of communicating of different types of individuals and valuing and including human styles' diversity.

3. Experience relationship as a unique dimension, where two beings, with their different aspirations and particular ways of existing, may build something together. This type of relationship, in its most profound sense, is built (made) from the encounter with the other and requires thinking (cognitive), feeling (feel), the will (desire) as well as the ability to interact (act). These are the three archetypal basic dimensions that form the Hallos method.

1.5.2. Synthesis of Hallos Typology

The typology of Hallos, as already described, is based on humans threefold (thinking, feeling, acting) that also belong to the structure of Social Psychology and Personality Psychology. This typology began to be conceived in 1998 and has been used frequently in the last twelve years after observations, studies, and experiences. The typology is formed by five archetypal human types that were given colours as names. They are: White (Thinker), Orange (Accomplisher), Green (Social), Blue (Organizer), and Brown (Integrator)



Figure 40 - The five types and their synthetic concepts

The experience with thousands of individuals in countries like Brazil, Spain, Chile, Argentina, Colombia, Peru, Mexico, the United States, and France in the last 12 years has reinforced the individual's idea in his essence two types. One is predominant and the other complementary, which acts in polarity with the former. Even though the essential types are stable throughout life, the cultural factors, the experiences, which the individuals go through, and maturity influence and stimulate changes and development of the five types. What has been observed is that throughout life, a third type is established, providing support to each one's individual development. Although there may be people who can establish dialogue maturely with all types via personal development, one of Hallos typology tenets is that an individual does not have to have all styles developed. However, instead can recognise the significance of having complementary people at his/her side, especially those types that he /she acknowledges having less.

Hallos typology, as already described, has as its basic tenet to help individuals expand their Self-awareness and to have the perception of how he/she is and not of who he/she is. This typology also has as tenets the view that understanding one's way of being, and other human types, can lead to improved interpersonal relations and operate as an instrument of social inclusion.

1.5.3. Fundamentals of the Hallos & Triads typology

In the same way that each temperament has its behavioural dispositions that will manifest themselves in the world (Glass, 1987; Steiner, 1994), each of the archetypal human types already has in its structure a particular way of being and expressing itself.

In the temperaments, a choleric individual, for example, is imposing, obstinate, decisive, and impatient; the phlegmatic individual is unconcerned, calm, and avoids conflict, that is, quite different. To make an analogy, we know that (for example), an avocado seed already contains all the necessary instructions and elements, which will transform that seed when placed on the ground, into an avocado tree. It will never be an orange tree, always an avocado tree. In the same way for Hallos, the most sensorineural individual (thinking) brings some innate characteristics such as analysis, organisation, and planning capacity. Other types may develop these qualities, but it will be with more effort and less shine.

As Social Psychology proposes, an individual's innate characteristics, when placed in the social environment (land), will potentiate their essence (Franz and Hillman, 2016), and influence their development (Jhangiani and Tarry 2014; Rodrigues et al., 2000). This means that life experiences cause individuals' particular dispositions to transform and acquire their colours without losing their original essence. In Jung's typology, an individual who is born an extrovert may even develop qualities of the introvert; however, he will always remain an extrovert (Franz and Hillman, 2016).

Within the Hallos typology fundamentals, a comparison that can still be made concerning temperaments is that all individuals harbour the four temperaments in their personality (Glas, 1987). However, one of them stands out significantly from the others. Besides, in the case of a choleric individual, as an example, he may also present melancholic and sanguine tendencies, but according to Glas (1987), no phlegmatic expression is seen. Although the choleric characteristic is striking in its expression, two other types of temperaments can also appear in the individual. This is similar to the Hallos typology. The five archetypal Hallos types also exist in the same individual, and one of them stands out from the rest. However, when comparing Hallos' typology concerning temperaments and Jung's psychological types, these theories limit the possible combinations. In the Hallos method, each of its five types can form polarities (pairs) with each other without any restriction, which does not occur in the temperaments, or the psychological types of Jung. This has been confirmed in the thousands of individuals who have used this method. In a survey carried out with 750 individuals, who participated in this project to verify whether they recognised their different polarities (types), the result of the chi-square test indicated that the observed difference was statistically significant

($\chi^2(2) = 958.57, p < 0.01$), where 99.3% of the participants confirmed that they identify with their types, of which 86.1% fully and only 13.2% partially. This confirms the possibility of all types of polarities, proposed by the typology of Hallos.

1.5.4 Human Archetypes x Personality

Hallos is a typology, although some similarities with other theories like MBTI and Big Five have fundamental differences in its taxonomy and how it observes the human being. The differences between the two concepts, including personality theories, and the Hallos typology, were elaborated on the model below.

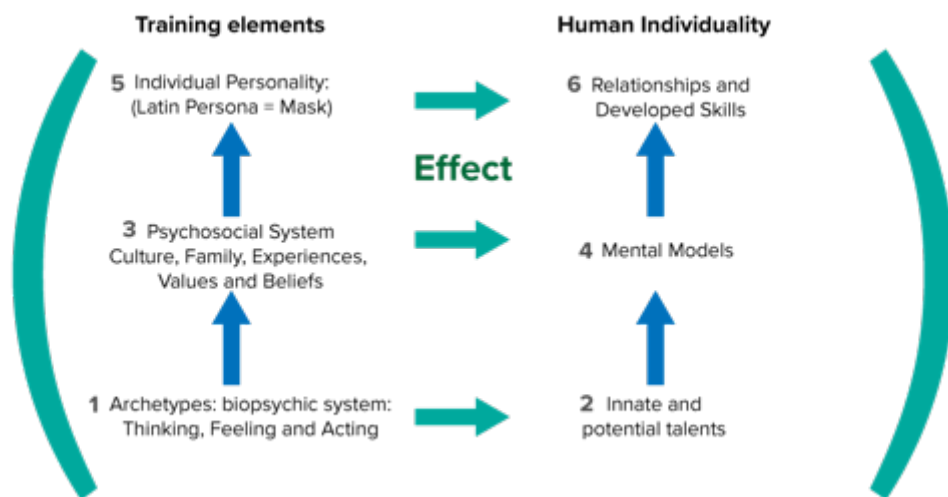


Figure 41 - Principles of the Human System

1. Archetypes: As already described, archetypes configure the basic structure, which all human being has as a standard, that is, systems; cognitive (thinking), affective (feeling) and behaviour (acting/interacting), which in their interrelations promote the existence of human types (Moraes, 2005). There is a consensus in both Social Psychology (Jhangiani and Tarry 2014; Rodrigues et al., 2000) and Personality Psychology (Eysenck, 1998; Wilt and Revelle, 2002) that these three systems are essential elements a from which individuals relate themselves to the world (Burkhard, 2006).

2. Innate talents: As with temperaments, each archetypal type also has its way of thinking, feeling, and acting and brings with its innate skills or aptitudes (Jung, 1991; Franz and Hillman, 2016) that appear in early childhood and are reinforced during life.

These natural talents develop, mix with other abilities, but do not change in essence. An extrovert will always be an extrovert.

3. Psychosocial system: The innate, archetypal talents of each individual will influence and be influenced by the environment in which the individual lives, formed by the family environment, culture, personal experiences, and living conditions (Jhangiani and Tarry 2014; Graves, 2005).

4. Mental model: To survive, be safe, and be accepted by society (Maslow, 2000; Thielke et al., 2011), there is a huge possibility that the individual will accept social conditions, to adapt to be accepted, leaving aside part of his essence. Two remarkably simple examples demonstrate that. The child, eager to please the parents, accepted the conditioning naturally. At school, through reprimands, the teacher, the rules, discipline, and even manipulation, the child leaves a part of who he is to be recognised and accepted by classmates and teachers. These examples can extend into adulthood. Partly it is so the way that are formed the mental models.

5. Persona and Personality: The individual essence transformed by the psychosocial conditioning, form the biopsychosocial system where individuals, via their persona (Aurthur, 2007), present themselves to the world and are seen by it.

6. Human Individuality: Personality and all life experiences provide the development of new skills and abilities. Thus, the adult individual to meet his “social” and organisational needs, sometimes put aside his innate talents and start to act many times using other learned skills, or through their mixture.

This is a natural situation seen in organisations. To be accepted, promoted, and well evaluated, the professional must submit to the company’s culture. After some temple in the company, he/she becomes part of the collective mind. When observing some of the multinationals who participated in this project, it is possible to notice that each one seems to have a similar way of thinking and acting. When these people think about changing jobs, they may not adapt to other companies’ cultures, which maybe happens.

The part repressed from essence by each individual, part of his Self, hidden by the social mask, becomes the shadow (Jung, 1991; Franz and Hillman, 2016; Silveira, 2001) of a person. The real Self, in theory, is rescued via an individuation process (Jung, 1991) around the age of 35, in which each person starts to look at and include these rejected parts of the Self, and accept his vulnerabilities, to assume his true Self (Jung, 1991).

Traditional personality theories and the assessments used by companies are generally interested in (5) persona/personality, and (6) the skills individuals acquire. Hallos' method, in turn, proposes to rescue the innate essence (1 and 2) of each individual via a reflexive process in which he/she expands his Self-awareness. Without this Self-awareness, maybe there is no process of developing the Self with the shadow's integration. In general, this expansion of Self-awareness through the rescue of innate talents generates the necessary understanding for each individual to accept and validate himself and also to validate the existence of the diversity represented by other human types. This change can motivate leaders to develop social skills (relational intelligence) to improve relationships with team members.

1.5.5. Differences between Big five and Hallos

In its taxonomy, the Big 5 has five traits that can be described as positive when they are present in a high degree in individuals (Widiger, 2017; Wilt and Revelle, 2015) and a fifth trait that, to a high degree, represents negative aspects, which is neuroticism. In the Hallos method, all five types represent "complete" human structures, and each of them could present any of the features proposed by the Big Five. Agreeableness, for example, can be in the types, Brown, Green, and White, but Blue and Orange, for different reasons, can also present this characteristic.

In the Big Five case, a high degree shows the trait's positivity, and a low degree can fall in the opposite or negative. To Hallos, the low degree of each type has no negative aspects; it is part of the dynamics of polarity or triad functioning associated with the lived experience. If the individual hardly presents that quality, in this case, it may represent an aspect to be developed, and that may not have been necessary until this stage of his life. The phrase attributed to Paracelsus that "the difference between

poison and medicine is the dose” explains metaphorically that for the Hallos method, it is the excess that, in general, brings problems and conflicts, not the low grade. Concerning the Big Five, each type proposed by the Hallos’ method as a whole form an identity that presents positive aspects and in its excess negative aspects.

Besides, an attempt was made to relate the Big 5’s each feature to the type proposed by the Hallos’ method. However, when looking at, for example, Extraversion associated with the Green (social) type, it presents only a few similar aspects. Agreeableness could in Hallos be, for example, in Brown, White and maybe Green, at least partially. The conscientiousness trait has, in its Description, a mixture between the Blue and Orange types of Hallos. Moreover, neuroticism would be more common in Green and Orange in its excess (negative pole), that is, reverse to the Big Five. Openness to experience is the trait that comes closest to a Hallos type, the White (thinker). This was the possible comparison between the two theories. In terms of research results, as the individual results of each type were not studied, it was not possible to compare the effectiveness of the leader or interpersonal relationships.

1.5.6. Differences between Jung’s Psychological types and Hallos typology

In part, Jung’s construct of psychological types was very similar to that of Hallos typology. Both arose from watching people and trying to understand their differences. Jung organised a sophisticated and remarkably exciting taxonomy, in which four functions plus two attitudes combine to form a psychological type. Jung identifies eight human types in its organisation, and the MBTI extension of Jung’s work identifies 16 types. In Jung’s types, there may be variations only in the degree of functioning in the chosen functions and the whole. This is an essential difference concerning the typology of Hallos, which has five types. All such types are within the individual who has two of them, forming a new 20 types of identity in his way of acting. When adding a third type form a dynamic triad, there can be 60 different types of individuals.

Even when observing each Jung function concerning a type of Hallos, looking only at the similarities between the types of Intuition (Hallos White) and Sensing (Hallos Brown), as an example, there would be a considerable difference. For Hallos, the types of White and Brown can act in polarity, forming an identity. This goes for any

of your five colours. In Jung’s construct, this would be impossible, as each function never relates to its peer’s polarity. If an individual chooses one of them as the most important, the other will be the most unconscious. The table below shows this Jungian construct. In the example, if Jung’s primary function is intuition, the Sensing function will be the last (fourth), considered the most unconscious. The table below shows this mechanism that applies to any of the two pairs of functions.

Table 67. Functions of the Jungian Typology

1st function (primary), more aware	2nd function, semi- aware or 3rd function, more unaware	4th function, unaware
Thinking	Sensing or Intuition	Feeling
Feeling	Sensing or Intuition	Thinking
Sensing	Thinking or Feeling	Intuition
Intuition	Thinking or Feeling	Sensing

This demonstrates that taxonomies are entirely different. What may be considered in this comparison is the whole and the two theories’ intentions. Jung’s theory of psychological types was built to comprehend individuals’ personalities (Jung, 1991). Through the descriptions and research carried out, theories as MBTI (McCarthy and Garavan, 1999; Myers and Myers, 1985) can promote the expansion of Self-awareness and, when working with groups, improve the interpersonal relationships of individuals. On the other hand, the Hallos method was developed specifically to expand Self-awareness and improve individuals’ relationships through the understanding and inclusion of the diversity of types. Unlike MBTI, Hallos explicitly describes the most appropriate way to communicate and relate to other types of individuals. In the leaders’ case, the Hallos method guides, including engaging the different types and the teams. Despite having different taxonomies, the MBTI positive changes in individuals and leaders by similarities can also be considered in the Hallos method, which is also one of the hypotheses proposed in the study.

1.5.8. Polarity types

“Everything is Dual; everything has poles; everything has its pair of opposites; like and unlike are the same; opposites are identical in nature, but different in degree; extremes meet; all truths are but half-truths; all paradoxes may be reconciled.” The Kybalion.

“When everyone knows beauty as beautiful, there is already ugliness;
When everyone knows good as goodness, there is already evil.

“To be” and “not to be” arise mutually;
Difficult and easy are mutually realized;
Long and short are mutually contrasted;
High and low are mutually posited; ...

Before and after are in mutual sequence”. Lao-tsu (Whatts, 1985)

1.5.8.1 Polarity conceptual understanding

Of all the concepts presented in this study, perhaps none compared to polarity. If the focus, the Hallos method, aims to promote the expansion of human consciousness in the first place, this knowledge is probably the most impactful in the view of the workshop participants. The polarity that way is one of the central points of human typology understanding and the Hallos method. In observations performed for more than ten years with hundreds of coaching sessions and team buildings development works in organisations, it was possible to check that leaders express themselves in various situations so that sometimes they can seem incoherent by members. It is as if the leader was two different people or even a person who spoke different bipolar people.

Some leaders may, at times, be charming and social with members and the next point in time, demand compliance with rules, demand efficiency, and appear cold and disciplinary. Some seem democratic and, in the next point in time, autocratic. This kind of attitude generates criticism, insecurity, and conflicts due to the member expect a leader to have a unique way of being clear, coherent, and easy to identify.

This observation was very relevant to develop the Hallos method, as it suggested that, despite a unique and permanent identity, there was a dynamic, polar, and evolutionary process in individual attitudes. In 1995, Rudolf Steiner's (1996) work and view on polarities, and later, Fritz Pearls (1977) arose another look at this dual human dimension in interpersonal, intrapersonal relations and the social environment overall.

Polarity concept has been used with different naming, including duality, dichotomy, opposites, alterity, contraries, paradox, and bipolarity (Carvalho, 2012, p.116), and it has been studied by several philosophers and significant history personalities, including Heraclitus of Ephesus (Natanblut, 2013; Laërtius, 2008), Lao Zi (Taoism), Hermes Trismegistus (Hermetism), Rudolf Steiner (1996, 1998), Gaston Bachelard (Carvalho, 2012) and Fritz Pearls (1977; Zinker, 2007), among others. Although some of the naming above-mentioned can be used in this project, the term polarity was more recurring in works researched and chosen as representing a better Hallos method proposal.

According to the perspective of several authors abovementioned, the human being makes his/her choices, and experiences life phenomena, through polarities, as day and night, past and future, reason, and emotion, hot and cold, male, and female, left and right, individual, and collective, among many others.

In a broader sense, to Heraclitus (Natanblut 2013, p. 43), the world is formed by disparate parts, among which there is a force tension that enables the existence of a harmonious unit. Such antagonist forces exist in dualities that are presented in alternation in every point in time, like, for instance, hot and cold, awake, and asleep, humid, and dry, but never at the same time. This point approached by Heraclitus is very relevant, as, within the human type individual scope presented by the Hallos method, it can be seen that polarities are also presented in an alternated way, but never at the same time.

Heraclitus also comprehends that unity besides, it is presented in apparently contrary polarities, yearn to meet the other (Nietzsche, 2011, p. 525). He also states that we could not understand the essence of an element without corresponding polarity. Thus, if there were no evil in the world, there would be no need to understand the concept of good (Natanblut 2013, p. 43). Polarities are interconnected, and to Heraclitus, the cold

would just be a hot (Nietzsche, 2011, p. 593). Besides creating world unity, such force tension is also responsible for its ongoing transformation, logic, and can also be applied to an individual's development, as proposed by the Hallos method.

Gaston de Bachelard states that dynamic transformation results from the ambivalence of meeting between diverging polarities, and those paradox ambiguities foster and move knowledge dynamization (Carvalho, 2012, p. 6868 e 6440). Bachelard also states that the actual scientific method can contradict itself and use the existing tension among multiple polarities it covers to promote human knowledge evolution (Carvalho, 2012). From an individual perspective, using different types presented in divergence or in a conflicting way, it is essential, not only as a challenge but also to the development itself. Polarity, within the perspectives described by such authors, can be looked at as a phenomenon associated with development, whether to the individual, science, or society.

In his work, Rudolf Steiner approaches polarity within human existence scope, in which sympathy and antipathy (Steiner, 2002), analysed in the dimension of the relationship, individual and collective, and microcosm and macrocosm stand out. In this last, Steiner states that the same forces that live in the microcosm can be found in the universe and the social environment (Steiner, 1988). He suggests that “if an individual is willing to know the world, he/she must know him/herself, and if he/she is willing to know him/herself, he/she must know the world” (Bos, 1990, p. 11). This view provides a relevant contribution to understanding psychosocial development, the formation of individuals' mental model, and culture and social development in general.

Besides existing polarities in individual interactions with the world and society, the relationship between different people also forms polarities. For instance, Jung provides the relation between an extroverted and an introverted type that, according to him, seems to speak a different language (Jung, 1971, p 49). The extroverted, according to Jung, is attracted by new situations, the exterior, and in general, acts before reasoning. The introverted always think before acting. He/she is hesitant and has more difficulties in adapting. He suggests that the marriage between an extroverted and an introverted is an encounter between complementary polarities, and this meeting can

include conflicts, learning, and development. As described before, Jung considers that inside an introverted, there is also the extroverted element and vice-versa.

In this perspective, restating Steiner in polarities observation, everything found inside each individual exist in all society (Steiner, 1998) and vice versa. Thus, the "good" man would have the evil seeds inside him, and the "bad" man would have the good seeds. Thus, Jung (1991) states that the human being is a dual entity. A being has a conscious side and another unconscious one, which they don't know anything about, even though it is often visible to other individuals. He also states (1971, p. 54) that the "problem of opposites (polarities) as a principle inherent in human nature constitutes one more step in the development of our process of self-knowledge" and the Self.

The same ideas can be represented in Taoism, by polarities formed by Yin and Yang. Yin represents feminine energy, intuition, tenderness, contraction, and grant. Yang represents masculine energy, rational, though, hardness, expansion, and assertiveness. Here, there is also the view that both contain the other elements, i.e., there is some Yin inside the Yang, and some Yang inside the Yin (Davis, 2003). Tao also adds that every phenomenon circulates in its opposite, a balance tension state when one flows to another, is an essential process to human nature (Davis 2003, p. 11). Contraries (Yin and Yang) harmonise in a single universal totality (Cabral & Rezende, 2012), in a transformative dynamic. This harmony process is something continuous, dynamic, and in constant change (Tung, 2006, Chin & Rowley, 2018). In this view, the unbalance would be performed only by extreme actions or Yin and Yang excess, which could provide conflicts, destabilisation, and disharmony in Tao (Ma & Tsui, 2015). The view on excesses in polarity as possible conflict and unbalance generators in dynamic is also one of Hallos' method basic elements. When a polarity is used in excess, and the other is neglected or denied, it can lead to negative behaviours and conflicts, as it shall be presented.

Another relevant point to understand polarities is the different vision between West and East. While in the East, polarities are perceived as life and Universe natural elements. In the West, they are viewed as dilemmas and conflict generators between and for individuals so that any unbalance observed gives the feeling that there is something to be corrected (Pearls 1977, p.34). It is as if the unit or the whole had broken in the Western view, and it needed now to be united or integrated again. In this dual perspective

that arises before each individual of the West, he/she asks him/herself, for instance, in his/her choices: what is right or better? Being 'left' or 'right'? Rational or emotional? Religious or atheist? In the West, despite attempting to understand parts and interconnection to the whole, linear thought is valued, as if we should always choose aside and not the other, and as if we had only one answer to give (Pearls 1977). Thus, polarity can also foster one pole's domain over the other, like, for instance, good over evil, light over darkness, boss over a subordinate. In this view, any individual is asked by his/her peers and society to have single and objective choices, not to be ambiguous. It is as if this other part did not have the right to exist; it had to be denied. In the current world, this attitude has intensified with people in social media, attacking who thinks differently on any topic, in detriment of dialectic thought. This one-sided choice, i.e., choosing one side, automatically rejects rejection by the other part, and this polarity denial is established as an apparent individual and social paradigm. Thus, dialectic, dichotomy, and paradoxes, that provided intellectual capacity and human knowledge development, been increasingly rejected in the West. That also happens in a professional environment, in which the individuals are invited and even conditioned to act in a specific way and block certain behaviours rejected by organisational culture.

Polarity, as seen, causes an individual to move to a direction without considering the opposite force, generating distortion and conflicts, whether about one's own choices or concerning the other. In its harmonious totality, that represents the Universe, according to Heraclitus (Natanblut, 2013; Laêrtios, 2008), or I itself, the aspect rejected or not honoured turns to the individual him/herself.

Fritz Pearls (1977) suggests, in contraposition with one-sided thought, if a person wants to be in the centre of a situation and understand it, he/she should become ambidextrous. Thus, he/she could see both sides of each event and see that the light cannot exist without non-light (p. 35). According to Pearls (1977), if there were only light, we would not realise it. Thus, the relevance of light and darkness alternation (p. 35), and the right 'cannot exist without the left'.

Thus, a polarity solution does not lie in choosing one part and not the other, or integrating it, as if it was possible to merge both. The solution lies in supporting such opposites (Jung, 1971; Pearls, 1977) and understanding all the dimensions as parts of the

same unit that flow among them in a dynamic and continuous process. In this context, it is essential to comprehend that polarities' conflicts and dilemmas are an inherent and natural part of human development. The tension between contraries produces energy and motion, i.e., no energy is produced if there is no tension (Jung, 1971, p. 49). Heraclitus states that existing things are put in harmony through such antagonist currents (Laërtios, 2008). The philosopher notes that the come to be is determined by the opposite conflict, and everything flows like a river (p. 253). Jung adds that "the Self manifests itself in the opposites and in the conflict between them; it is a "coincidentia oppositorum" (the coincidence of opposites). Therefore, the path to the Self begins with conflict" (Sharp, 1991, p. 46). Without such tension, the development process would be inhibited. In all such contexts, the conflict would only be negative if it interfered in regular conscience operation.

The abovementioned shows that the polarity concept represents a relevant dimension in individual development study, interpersonal relations, and the human psychosocial system.

The perspectives described lead to some relevant assumptions:

1. Polarity is a fundamental element in individual development and psychosocial systems.
2. Each component of polarities is presented in an alternated way, never at the same time. There is no hot and cold or individual and collective simultaneously; however, one does not exclude others. It is not one or other, but one and other acting in a continuous and dynamic flow.
3. As one observes, no polarity is better than the other one between individual and collective polarities. They are all essential and useful in a specific context.
4. The tension between polarities produces energies, motion, and internal conflicts, required for individual development.
5. The solution for polarity conflict does not lie in choosing one of them and reject the other, or in their integration, what would be impossible.
6. Rejecting one polarity or excessive use of one of them fosters unbalance in the unit and causes 'diseases' to the individual and society.

Polarity is, thus, a concept and a restorative practice in individual development, knowledge progress, and society itself. Likewise, polarity is the crucial part of the Hallos typology method without which it would not be conceived.

1.5.8.2 Polarities in practice

A practical model of understanding polarity, inspired by Rudolf Steiner's texts, can be represented by a lemniscate (infinite symbol) (Bos 1990; Briault, 2010). Lemniscate fosters the idea of a continuous circular motion, like Yin and Yang's figure. Figure 42 below shows, for instance, this motion between both polarities formed by individual and collective perspectives in the work environment or society. The top part of a polarity (1) represents its positive pole, and the lower part, its negative pole (2). From the negative pole of a polarity (2), the flow is aimed at another polarity positive pole (3) in a circular motion, from top to bottom, from positive to negative, and crossed from negative to positive of the other polarity.

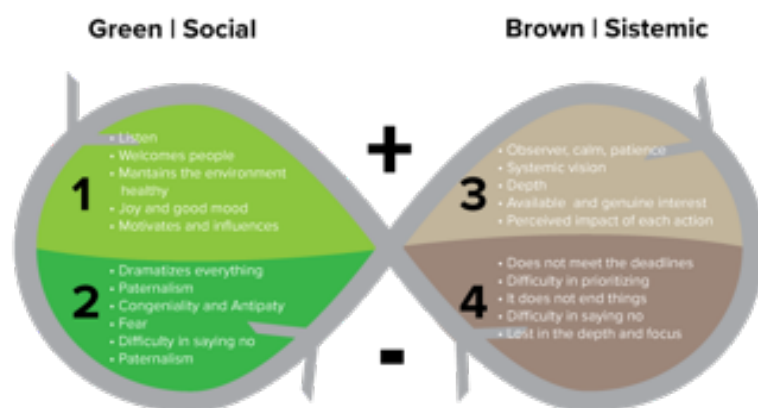


Figure 42 - Polarity dynamic

A representation adapted from the Daniel Ofman model was built to understand the flow and polarities easier (Merlevede & Bridoux, 2013) and similar from Johnson (1996). Ofman proposes that we all have an essential and complementary quality that acts in polarity. Excessive usage of essential quality leads to what he called a trap, would be the drop-in polarity negative pole. It would be necessary to go towards the complementary polarity positive pole to leave this negative situation. Likewise, an excessive

complementary polarity usage leads to trap (negative pole) of this polarity, and again, the exit is through the essential quality positive pole. Figure 43 represents this model.

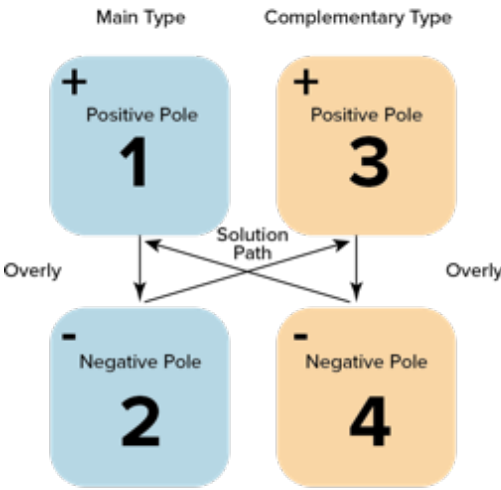


Figure 43 - Relationship between polarities

In theory, the model proposes a circular movement between the polarities and their positive and negative poles. However, in some situations, the movement could occur within the positive quadrants or negative quadrants. When an individual can act on the positive pole of the two polarities, they would be positively potentialized, and in the opposite direction, when an individual falls into the trap or negative pole of the two polarities, there would be a negative potentization, which was seen on rare occasions, but it has not yet been studied. In this case, instead of falling from the positive to the negative pole of polarity, the movement occurs from higher graduations to smaller ones, either in the two positive poles of the two polarities or the two negative poles.

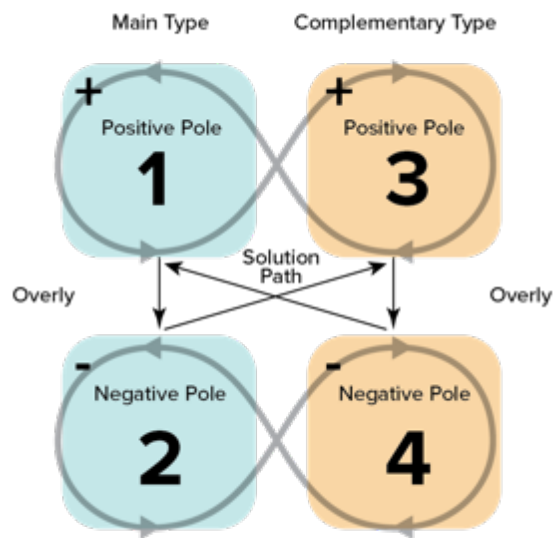


Figure 44 - Polarity potentization

As presented as classic polarities, the corporate world has some dilemmas introduced in workshops on the Hallos method. Relations or results, vertical (hierarchical) or horizontal (collective) management, valuing individual or collective and short-term vs long-term. In general, one or two of them are presented in the workshops on the Hallos method, and the individuals as asked to fill in four-quadrant positive and negative poles. For a more simple and practical understanding of such polarities, two are presented below in workshops.

The first one is the individual vs collective. This is a dilemma that exists in organizations that participated in this study. What is more important? Is it valuing individual or collective work nowadays? As one asks the question on what the most relevant polarity is, in general, most answers are the "collective". However, as this polarity mechanism is analysed and understood, it is possible to expand participant individual mental models, as well as their Self-awareness on the way of acting and relevance of each one of them.



Figure 45 - Polarity between Individual x Collective

In this case, it can be seen in quadrants 1 and 2 Individual polarities, and in 3 and 4, Collective polarity. In quadrant 1, individual polarity positive aspects are described, with the freedom of doing a task in one's way, quick choices and decisions, better time management, and individual growth. On the other hand, when a professional work only individually, without exchange with other individuals, excess possibly would lead to negative behaviours (quadrant 2), with centralization, creativity limitation, arrogance, and individualism, for instance. The solution to leaving this negative pole (quadrant 2) is not in returning to the positive pole (quadrant 1) but moving towards to collective polarity positive pole, where attitudes including sharing and cooperation, collective intelligence diversity, and creativity, stress reduction, for instance, are observed. On the other hand, if an organization values only the work and collective decisions, such excess shall lead participants to quadrant 4, presenting as characteristics, delay in making decisions, lack of individual responsibility, procrastination, and endless meetings. When, in collective negative pole (quadrant 4), the solution lies in efforts aiming at quadrant 1. That means that both polarities are relevant. Individual work is required, and it can be valuable, as well as exchanges and collaborative attitudes. Working only individually is more efficient, but that does not potentialize the best ideas, solutions, and results. It can be stated, thus, that each polarity has specific characteristics and complementary quality. None is better than the other one, and due to that, one polarity should not be chosen despite the other. It is vital to understand each one's relevance, potentialize positive poles, and be aware of triggers and situations that lead to negative poles. As organizations and professionals understand this mechanism and expand their Self-awareness, they can

realize when they act in each of the poles to remain longer in positive poles, and consequently, have high-quality relations.

The polarity functioning process is something that represents human life practical reality, and at the same time, a challenge of how to act in the existing dynamic between positive and negative poles. To prevent traps from acting negatively and even remain in it, a precious instrument to any leader is expanding Self-awareness, which will act as an alert instrument to realize where he/she is acting and foster behavioural changes' development.

This polarity presented represent one of the biggest dilemmas in organizations, and they have been given in workshops, as part of Hallos methods, to expand comprehension and expand the mental model of leaders and their teams, to enable, in a second point in time of the workshop, understanding human archetype type polarity operation.

1.5.8.3 Polarities and Hallos method

As presented previously, each individual has, in essence, two of five existing types, a basic and a complimentary, that act in polarity, forming new identities and different human types. Unlike Jung's view, a function is the main one or higher, and the other one, lower (Jung, 1967); Hallos method taxonomy both have the same relevance and only different functions. As mentioned above, the diversity of types is one of the three essential pillars whose purpose is to understand how human beings are and act and, consequently, foster individual Self-awareness.

To understand the polarity operation mechanism in types proposed by the Hallos method, two of the most common ones were chosen, Green (Social) and Orange (Achiever/ Accomplisher).

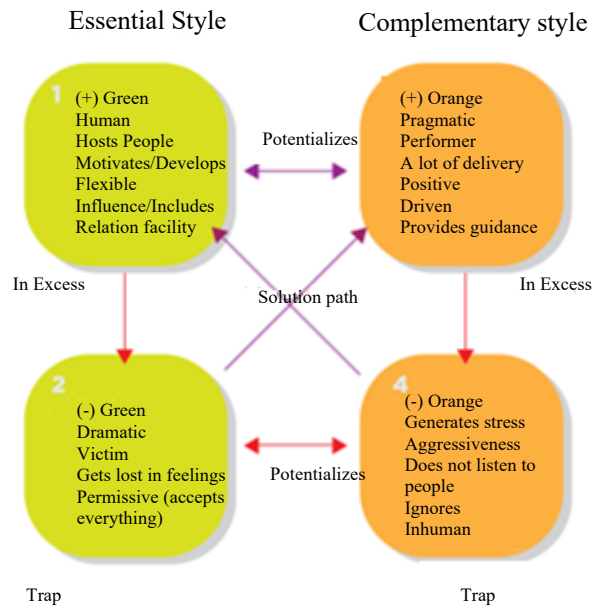


Figure 46 - Polarity between Green and Orange

In quadrant 1, some of Green type positive qualities are described, including empathy, genuine interest in people, active listening, humanism, flexibility, and natural talent to influence, care, and develop people. When an individual has Green Type and acts in excess from this colour, he/she goes to quadrant 2, representing the Green negative pole, and begins to act with characteristics including victimization, excessive problem dramatization, and permissiveness (accept everything), fear of conflicting and saying no. To leave this negative pole, the individual does not return to the positive pole (quadrant 1). His/her own will or cognitive structure will lead his/her to another positive colour pole, in the case of this example, Orange (quadrant 3).

In quadrant 3, some Orange style positive qualities are described (Achiever / Accomplisher), out of which focus, delivery capacity, result drive, resilience, will, and enthusiasm stand out. When the individual that has Orange type uses this colour in excess, and not another colour, in the case, Green, he/she acts from quadrant 4, that represents negative colour pole and presents characteristics, including being impatient, intolerant, stress generator, not listening and ignoring people, and looking inhuman. When the individual is in a negative pole (quadrant 4) of Orange colour, this pole exit is performed by moving towards the positive Green pole (quadrant 1).

In practical terms, a leader that is in Orange negative pole (quadrant 4), and that seems not to listen to people and act impatiently, via a member alert, or by an internal mechanism, moves to Positive Green (quadrant 1), and returns to empathy process, becomes aware of exaggerations, when acting through negative Orange, and it is possible, to ask excuses to the person that mistreated or to the team. Next, from the positive Green (quadrant 1), the individual can move to positive Orange (quadrant 3), and he/she can act positively again. By using the opposite example, if an individual is in Green negative pole (quadrant 2) and seems to be in internal rumination and victimization process, sometimes acting dramatically, through an alert to someone else, or by an internal mechanism, moves to positive Orange (quadrant 3), and begins to direct the attention to the outside, to what needs to be done, to alternatives, putting energy and focus on activities.

In this model presented, two points stand out. The first one is when the individual is in a negative pole of colour, he/she does not return to the positive pole of the same colour. In exercises used in workshops, attendants report that. A negative pole motion is always towards another colour positive pole. The second one is that the primary colour has greater importance than the others in this movement. If a person has Green as the first colour, as one moves from Green's negative pole (quadrant 2) to Orange positive pole (quadrant 3), he/she does not necessarily fall in Orange negative for excessive use. It is generally more typical that this individual moves from Orange positive to the Green positive, forming a triangle.

What has been noted is that the individual acts dynamically between their polarities, leaving the positive pole to be negative and moving towards another polarity positive pole. Thus, there is no positive pole stability of any colour, corroborating concepts described by Perls, Jung, or Heraclitus, that this motion generates learning and development.

1.5.8.4 Polarity and Self-awareness

From this learning, attendants can better understand how they communicate and relate with other people through real-life exercises. According to attendant reports, they can also perceive some of their internal conflicts and idiosyncrasies, which sometimes cause ruminations and nuisances. Moreover, they start to understand why their attitudes seem

contradictory to other people. Such reasoning and learning enable Self-awareness increase of participant individuals of the Hallos method.

1.5.8.5 Polar type description

There are twenty polar types because if someone is Orange-White, it is different from whom is White-Orange. Next, synthetic descriptions are presented of some of these polar types to understand the Hallos method better.

The White-Orange type is someone who, in general, fosters changes and innovations. He/she associates a capacity of thinking “outside the box”, conceiving and innovating a drive for putting ideas into practice. This polar type major problem is that there is an extreme contrast between White and Orange styles. While the first is calm down and distant (White), the second is always intense, anxious, and driven (Orange). Thus, the movement from one colour to another is not smooth, neither for the person with these two styles, for people with whom he/she relates, that end up more impacted with such transition – sometimes, it is even scary. Example of this type: Steve Jobs. On the other hand, the Orange-White wants to put in action what they need to do, and, in this process, they think in alternatives and innovative ways to make this.

Blue-Orange type is an extremely competent manager, as it gathers the capacity of planning and organizing, and Blue discipline and efficiency, to the ability to undertake and perform Orange. The opposite, the Orange-Blue, in the first place, thinks about what one is willing to do, performs an analysis, organizes ideas, and only then takes action. In this polarity, it can be observed that Blue-Orange types do not take an attitude without thinking. On the other hand, the Orange-Blue is too anxious, and there is a trend to do things impulsively and without "thinking." The Blue side acts next, putting the order in chaos. The metaphor known is “ending the plane during the flight.” This explanation shows how the first colour influences polarity.

Green-Orange type has an outstanding combination, as it gathers the capacity to deal with people, listen to them, and work in a team of Green and the determination and focuses on delivering results of Orange. They are motivated people, that created happy and competitive environments, optimal do business. The Green-Orange first interacts

with the people, listens, exchanges ideas, and then, with his/her enthusiasm, motivates, and provides guidance to achieve results.

They are motivated people, that created happy and competitive environments, optimal do business. When this polarity is reversed for Orange-Green in the first place, the individual anxiously thinks about what he/she wants to accomplish and only then thinks about who the best people for his/her team are.

White-Blue people are professionals acting based on their principles, have an innovative view, and are very organized. They are generally calm, balanced, and cold people in the relations and activities they perform. The type of White-Blue, first of all, has an insight or thinks about a new conceptual idea, for example, and then plans how the processes and implementation will be. On the other hand, Blue-White individual first plans in detail what he thinks to do, with logic and efficiency, and then thinks if there are innovative ways to accomplish the task.

Note: White-Blue presents an apparent paradox between innovation (White) and a Cartesian way of being (Blue). Thus, he/she lives an internal fight between what is idealized and what is rationally possible to perform.

Blue-Brown adds planning, analysis, and organization skills of Blue, with Brown's deep knowledge and systemic view. That makes this type a natural strategist. Blue-Brown is considered cantered, efficient, and in-depth, making him/her a natural consultant of his/her workmates. He/she starts any activity by planning and organizing what needs to be done and then searches for information that provides in-depth and systemic knowledge on the topic. The Brown-Blue, on the other hand, first researches and searches deeply for all the information it needs and only after that do thorough planning.

1.5.8.6 Third colour psychosocial construction

As described in the beginning, each individual has a principal and complementary colour that we call essence, and a third one developed through life.

As mentioned above, the first colour represents how each individual observes, filters, and sees the world. It is the colour that defines how each one interacts and communicates with life in all its dimensions. The second colour represents mobilization for development. It is the complementary style that acts in polarity with the first colour and challenges, conflicts, and fosters individual development. It adds new talents and forms an identity with the first colour. The third colour represents balance and pacification and represents the type developed via life. This third dimension provides a new dynamic to polarity formed by two essence colours and fosters stability and balance, whenever experienced.

Even if the polarities are essential and act as individual development dialectic stimulators, the system only enters balance when the individual uses dynamically three dimensions or colours.

In polarity, we cited, for instance, about reason or emotion, freedom, or equality, present or future, and thinking or acting. As one looks at the system as a whole, one can ask: How would it be, for instance, the present and future without the past? How would the past and future be without living the present? Or how would it be to think and act without feeling empathy mediation: How would freedom and equality be without fraternity?

In the triad formed by past, present, and future, the ideal would be that individual lived his/her life learning from the past, dreamed his/her future, and lived the present. In the triad formed by thinking, feeling, and acting, the ideal would be that the individual, in a hypothetical situation of conflict with another person, would have the freedom to think what they want about other, but use the empathy in the area of the feeling. This will enable that they live the fraternity in the field of behaviour. Without the empathy (feeling), there could be impulsiveness and a disaster. Without acting, the individual could think, be motivated, and not implement anything. Thus, the 3rd dimension, whether in life or Hallos typology, provides balance to the system and pacification of conflicts generated by polarity.

Each of the three colours has a vital role in this pacification. Individuals. When the third colour is Blue, individuals report that they feel at peace as they stop and

organize what they need to do. The third colour is Green, as another example, reports that when they leave individuality, beginning to exchange and share ideas and do their works with other people, they feel that everything calms down. That is valid for Orange, that invites for task completion, to Brown, that offers a system view in everything one is performing and their connections, and finally White, that fosters discoveries and a different way of doing things.

Even though it is part of the Hallos method taxonomy, the third colour only started being calculated by an algorithm approximately three years. Since then, it has also been used in workshops.

1.5.8.7 Other two colours and totality:

The other two colours represent relations with totality. They are colours to which an individual has more trouble to associate, and sometimes reject. They represent the challenge life gives, so that every person can learn, value, and include people with these three different types as a complement to one's own.

It is important to remember that any individual can reject any of the other colours at any time. In this case, as described, this rejection returns with him/her.

1.5.8.9 Contribution of the Hallos typology to leaders

Based on the theories of Jung and Big Five and the assumption that personality affects the relationships between leaders and members (Tekleab et al., 2007; Brett and Atwater, 2001), it is likely to consider that the Hallos typology, even though different, can also promote at least the same positive results as other theories.

When reflecting on human relations, it is possible to consider the challenge for a leader as White, for instance, to deal with a team of members most of the Orange type or a leader of the Orange deal with the Brown type people. In this sense, empowering leaders on how to deal with each human type as is done in workshops e coaching sessions through the Hallos method opens a new perspective in understanding and including the diversity of human types and understanding the importance of diversity of

complementary talents.

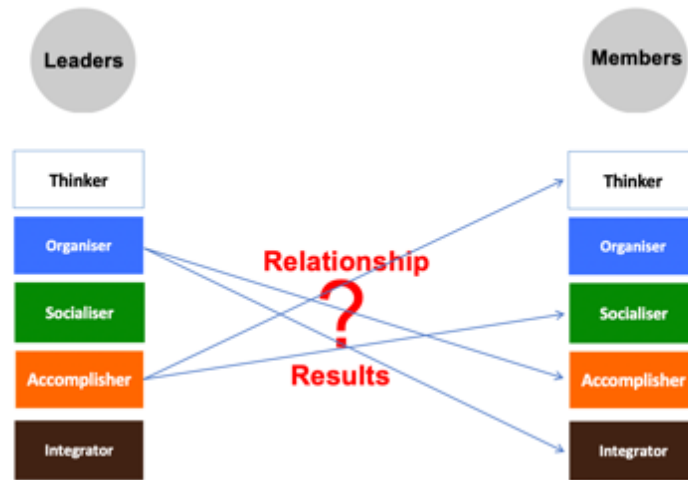


Figure 47 - Relationship between different types

On the Hallos archetypes' question, they complement and form a unity as they were developed. It is essential to reflect on how the world would be without White's inspiration, vision, and capacity of innovation, without Green's joy, empathy, and humanism, without Orange's pragmatism and perseverance, without Blue's efficiency and capacity for an organisation or without Brown's systemic and integrating vision.

All types significantly benefit the world. All are necessary for our personal development and humanity. Our evolution relies on our capacity to comprehend everyone's importance and contribution and the awareness that it is necessary to include each one to form the whole.

Appendix 2 - Questionnaire I - Self-report

Research: Hallos Experience and Self-awareness

Dear Participant

This questionnaire is part of a doctoral research at the "Alliance Manchester Business School" conducted by Marco Antonio Camacho de Figueiredo.

The purpose of this study is investigating the effects of the expansion of Self-awareness promoted by Hallos Assessment Method in the relationship between leaders and their team members.

You participate in this is voluntary and you are free to withdraw at any time. **Your anonymity will be treated with strict confidentiality. No personal data will be revealed in the reporting of the results.**

You will use 5 to 7 minutes to complete this questionnaire.

In case of doubt please contact me: MarcoAntonio.Figueiredo@postgrad.mbs.ac.uk or marcoantonio@hallos.com.br

Thank you for your cooperation,

Marco Antonio Camacho de Figueiredo

Part 1 - Demographic Information (Put an "x" in the chosen field)

- 1 – **Name:** _____ 2 – **E-mail:** _____ Date: / /
3 – **Country:** __USA__ UK ___ France__ Germany__ Brazil___ Spain___ Chile___
Argentina__ France ___ Other
4 – **Gender:** Male () Female () 5 – **Born:** dd/mm/yyyy

6 – **Education:** __Elementary/Middle School __High School__ Undergraduate __
MBA__ Master__ Doctoral/PHD

7 – **Leadership level** (in case): __ Supervisory/Coordinator ____ Junior Manager
____ Middle Manager ____ Senior Manager __ Director __ Vice President
____ CEO/President

8 – **Area/Division:** Sales__ Marketing__ Customer Service ____ Trade Marketing
____ Finance__ Industrial__ RH__ Supply ____ Logistic ____ Medicine ____
University ____ Consulting____ Coaching____ Other ____

Part 2 - Results of the Assessment Hallos ((Put an "x" in the chosen field)

9 – What is your essence (colour) according Hallos Assessment?

1st colour: White ____ Blue ____ Green ____ Orange ____ Brown ____
2nd colour: White ____ Blue ____ Green ____ Orange ____ Brown ____

10 – Do you feel that the result of the Hallos Assessment shows the essence of who you are?

Yes () No () Partially ()

11 – How would you rate your level of Self-awareness?

**Self-awareness is the level of perception a person has of himself, of his strengths and weaknesses, and of the impact of his conduct on others.

Before taking part in the Hallos workshop: __1. None __2. Low __3. Moderate
__4. High __5. Very High

After taking part in the Hallos workshop: __1. None __2. Low __3. Moderate
__4. High __5. Very High

12 – How much do you recognize and value the diversity of types in your daily practice? (Put an "x" in what it best represents)

Before taking part in the Hallos workshop: _1.Not at all_2.Very little_3.Somewhat_4.Much_5.Very much

After taking part in the Hallos workshop: _1.Not at all_2.Very little_3.Somewhat_4.Much_5.Very much

13 - To what extent do you think the knowledge of Hallos can help you to improve the quality of your relationship with members of your team and also with other people?

__ 1. nothing __ 2. almost nothing __ 3. Somewhat __ 4. very __ 5. Significantly

If you filled out the Hallos questionnaire more than six months ago, please answer this question:

14 - How much did this knowledge bring change in the quality of your relationship (communicate) with people and your life?

__ 1. Nothing __ 2. Low __ 3. Moderately __ 4. Brought changes __ 5. Many changes

15 - In what areas of your life has Hallos promoted positive change?

__ 1. Personal __ 2. Professional __ 3. Both

16 – Do you remember the year that filled out the questionnaire?

__ 1. No __ 2. 2016 __ 3. 2017 __ 4. 2018 __ 5. 2019

17. Any experience to share with us? (describe if you want):

I authorize the use of the responses of my questionnaire for the DBA project of Marco Antonio Camacho Figueiredo to Alliance Manchester Business School without my personal information.

Appendix 3 - Member-report questionnaire

Assessment Questionnaire

Dear Participant

This questionnaire, part of the Doctorate of Marco Antonio Camacho de Figueiredo for "Alliance Manchester Business School". This research is interested in factors that influence the relationship between leaders and their team.

You are invited to participate in this survey as a team member. Your participation is voluntary. You are free to think about whether or not you want to take part and can withdraw at any time. Your data will be treated with strict confidentiality. No personal data will be revealed in the reporting of the results.

The questionnaire should only take about 10 to 12 minutes to complete.

Maybe better: If you have any questions, please contact me

MarcoAntonio.Figueiredo@postgrad.mbs.ac.uk or marcoantonio@hallos.com.br

Thank you for your cooperation,

Marco Antonio Figueiredo

PARTICIPANT

Name: _____

E-mail: _____

- I agree to take part in the above project, and I authorize the use of the responses of my questionnaire for the DBA project of Marco Antonio Camacho Figueiredo to Alliance Manchester Business School.

Authorization (resend email)

Date

Demographic Information (Put an "x" in the chosen field)

1 – **Name:** _____ 2 – **E-mail:** _____ Date: / /

3 – **Country:** __USA__ UK ___ France__ Germany__ Brazil__ Spain__ Chile__
 Argentina__ France ___ Other

4 – **Gender:** Male () Female () 5 – **Born:** dd/mm/yyyy

6 – **Education:** __Elementary/Middle School __High School__ Undergraduate__
 MBA__ Master__ Doctoral/PHD

7 – **Leadership level** (in case): ___ Supervisory/Coordinator ___ Junior Manager
 ___ Middle Manager ___ Senior Manager ___ Director ___ Vice President
 ___ CEO/President

8 – **Area/Division:** Sales___ Marketing___ Customer Service ___ Trade Marketing
 ___ Finance___ Industrial___ RH__ Supply ___ Logistic ___ Medicine ___
 University ___ Consulting___ Coaching___ Other ___

Instructions for completing the questionnaire about your leader

The questionnaire has 26 questions, and we estimate that you will need about 10 minutes to complete it. For each of the questions you choose on a scale of 1 to 5, where 1 represents the lowest score and 5 the highest score.

Note to examiners: The sequence of questions was mixed. Except for LMX, because the scales were very different.

About your leader: (Name) _____

01. Communicates a clear and positive vision of the future,
 Never/ Rarely Occasionally Sometimes Fairly Often Very Often/Fully
02. Has a good understanding of the emotions of people around him/her.
 Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
03. He / She seeks feedback to improve interactions with others
 Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
04. Is able to control his/her temper and handle difficulties rationally.
 Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully

05. Treats staff as individuals, supports and encourages their development,
Never/ Rarely Occasionally Sometimes Fairly Often Very Often/Fully
06. Can always calm down quickly when is very angry.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
07. Shows he/she understands how specific actions impact others.
Never/ Rarely Occasionally Sometimes Fairly Often Very Often/Fully
08. Is a good observer of others' emotions.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
09. Gives encouragement and recognition to staff.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
10. Always knows the emotions based on the behaviours from team members.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
11. Fosters trust, involvement, and cooperation among team members,
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
12. He / She accurately describes how others view his/her capabilities
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
13. Encourages thinking about problems in new ways and questions assumptions,
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
14. Is quite capable of controlling his/her own emotions.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
15. Is clear about his/her values and practices what he/she preaches,
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
16. Is sensitive to the feelings and emotions of others.^[11]_{SEP}
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully
17. Instils pride and respect in others and inspires by being highly competent.
Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully

18. He / She knows when it is time to re-evaluate his or her position on important issues.

Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully

19. Has good control of his/her own emotions.

Never/Rarely Occasionally Sometimes Fairly Often Very Often/Fully

Part II (LMX)

20. Do you usually know how satisfied your leader is with what you do?

Rarely Occasionally Sometimes Fairly Often Very Often

21. How well does your leader understand your job problems and needs?

Not a Bit A Little A Fair Amount Quite a Bit A Great Deal

22. How well does your leader recognize your potential?

Not at All A Little Moderately Mostly Fully

23. Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?

None Small Moderate High Very High

24. Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out," at his/her expense?

None Small Moderate High Very High

25. I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?

Strongly Disagree Disagree Neutral Agree Strongly Agree

26. How would you characterize your working relationship with your leader?

Extremely Worse Than Better Than Extremely
Ineffective Average Average Average Effective

Appendix 4 - Study I - Socio-demographic

Among the variables analysed in Study I, the only one that brought some interesting information to analyse was gender. Therefore, this is the variable presented in this study.

Differences between genders

It was intended to investigate in what measure change levels on diversity relevance were statistically different to men and women. Data indicates that men had higher growth when compared to women (Table 73).

Table 73. Descriptive statistics of differences between self-report before and after intervention separated by gender.

Sex	Before Assessment		After Assessment		After Assessment – Before Assessment		Approximate change percentage
	Mean	SD	Mean	SD	Mean Difference	SD	
Male	3.12	0.88	4.23	0.60	1.11	0.84	35.5%
Female	3.26	0.92	4.22	0.63	0.97	0.78	29.4%

The change was statistically significant to both sexes (Diversity, $W = 124337$, $p = 0.02$), and it was higher to men (Wilcoxon's $Z = -2.442$, $p = 0.05$).

Gender Difference:

Concerning gender evaluation, between points in time 'before' knowing Hallos method and 'after' knowing it, in the Likert scale, Self-awareness increase overall average was 35.8% for men, and 29.4% for women. Even though men's growth was higher, we expected that due to women's participation and attitude during the workshops, that they would have a higher Self-awareness level than men, and that was confirmed in initial self-assessment. Women's initial average was 3.19, and men's, 3.10. On the other hand, we also expected that the average progress level was higher among women, which did not happen. Women reached 4.13, and men, 4.21. Perhaps this can be explained by the fact

that in the workshops, experiences of themes such as empathy, flexibility, and the relationship seemed more natural for women than for men, who are often more impacted than women with the learning of the Hallos method. If the qualities proposed for leadership in current times such as empathy, recognition, attention to the followers, are more natural qualities or talents for women (Brandt and Laiho, 2013; Eagly, 1987) even though the numbers between men and women do not present significant differences this does not diminish the fact that there is a claim at present that women have higher leadership skills (Sharpe, 2000; Eagly et al., 2003) than men and Self-awareness in this regard is an essential quality for leadership effectiveness (Gardner et al., 2005).

Appendix 5 - Study II - Socio-demographic

In Study II, two socio-demographic factors brought interesting results to be analysed. Gender and leadership level (middle management and senior management). Gender is presented through the sub study II - 1 and the leadership level through company "A", (II-3) which was monitored for a year.

Sub Study II - 1. Gender

Table 74 shows the descriptive statistics of men and women in both points in time of evaluation. It can be seen that the growth rate of men varied between 5.37% and 5.86%, while women varied between 4.01% and 4.91%. The ANOVA results (Table 74) for mixed designs showed that there were significant effects of Hallos, gender, and the interaction between Hallos and gender.

It was tested whether the gender of the evaluator influences the results of the evaluation of leaders after they know the Hallos method.

Table 74. Descriptive statistics of the Hallos effect divided by the gender of the evaluator.

Variables	Respondent's Gender	N	Before Intervention		After Intervention		After Int. – Before Int.	
			Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	Men	270	3.78	0.72	3.98	0.71	0.20	5.37%
	Women	200	3.56	0.89	3.70	0.88	0.14	4.01%
Transformational Leadership	Men	270	3.85	0.70	4.06	0.72	0.21	5.43%
	Women	200	3.63	0.77	3.80	0.75	0.17	4.73%
Emotional Intelligence	Men	270	3.75	0.73	3.97	0.73	0.22	5.86%
	Women	200	3.56	0.83	3.72	0.82	0.16	4.41%
LMX	Men	270	3.67	0.64	3.87	0.65	0.20	5.45%
	Women	200	3.59	0.73	3.77	0.73	0.18	4.91%

The gender effect was significant for the variables of Self-awareness, Transformational Leadership, and Emotional Intelligence. This shows that, without considering the point in time of the evaluation, the difference between men and women is significant in these variables. In this case, men showed higher scores than women. The interaction effect (between Hallos and gender) tested whether the groups evolved at different rates. The results indicated that men evolved more than women in the variables Self-awareness, leadership, and transformational and Emotional Intelligence. However, it is important to consider the effect size. Interaction effects exhibited very small effect sizes (partial η^2 of 0.01 and 0.02), which indicates that the difference in growth between men and women is very small. The largest effect sizes observed are from the Hallos method.

Table 75. ANOVA with Hallos effects and gender

Effect	Variable	df1	df2	<i>F</i>	<i>p</i>	partial eta ²
Time	Self-awareness	1	468	113.16	0.00	0.19
	Transformational Leadership	1	468	174.82	0.00	0.27
	Emotional Intelligence	1	468	147.60	0.00	0.24
	LMX	1	468	120.79	0.00	0.21
Gender	Self-awareness	1	468	12.36	0.00	0.03
	Transformational Leadership	1	468	13.31	0.00	0.03
	Emotional Intelligence	1	468	9.89	0.00	0.02
	LMX	1	468	2.14	0.14	0.00
Interaction	Self-awareness	1	468	3.45	0.06	0.01
	Transformational Leadership	1	468	1.70	0.19	0.00
	Emotional Intelligence	1	468	4.08	0.04	0.01
	LMX	1	468	0.47	0.49	0.00

Crossed Genders

This study aimed to verify how males team members evaluate male and female leaders separately, as well as female members, evaluate male and female leaders. To investigate how the gender of leaders and employees impacted the Hallos effect, four groups with different gender combinations were analysed. The first group was composed of male employees and leaders (n = 226). The second group was formed of male members led by women (n = 44), the third group was composed of women led by men (n = 122), and the fourth group was formed of female employees and leaders (n = 78). Table 76 shows the descriptive statistics for each group. It can be noted that the percentage of growth for each group varied between 3.6% and 6.2%.

Table 76. Descriptive statistics by gender of leaders and non-leaders

Variable	Respondent's Gender	Leader's Gender	N	Before Intervention		After Intervention		After Int. – Before Int.	
				Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	Men	Men	226	3.76	0.73	3.97	0.73	0.21	5.61%
	Men	Women	44	3.86	0.63	4.02	0.59	0.16	4.12%
	Women	Men	122	3.47	0.88	3.60	0.88	0.12	3.60%
	Women	Women	78	3.68	0.91	3.85	0.88	0.17	4.61%
Transformational Leadership	Men	Men	226	3.84	0.71	4.04	0.73	0.20	5.31%
	Men	Women	44	3.92	0.65	4.15	0.62	0.24	6.05%
	Women	Men	122	3.61	0.73	3.77	0.74	0.15	4.25%
	Women	Women	78	3.64	0.84	3.84	0.76	0.20	5.48%
Emotional Intelligence	Men	Men	226	3.73	0.73	3.95	0.75	0.22	5.79%
	Men	Women	44	3.82	0.71	4.06	0.61	0.24	6.17%
	Women	Men	122	3.48	0.82	3.64	0.83	0.15	4.35%
	Women	Women	78	3.67	0.84	3.84	0.79	0.17	4.49%
LMX	Men	Men	226	3.67	0.64	3.87	0.64	0.20	5.39%
	Men	Women	44	3.65	0.65	3.86	0.71	0.21	5.79%
	Women	Men	122	3.58	0.72	3.73	0.71	0.15	4.05%
	Women	Women	78	3.61	0.75	3.83	0.77	0.23	6.24%

The results of ANOVA (Table 77) showed significant effects on the differences between the point in times of assessment, gender groups, and on the interaction of the time of the evaluation with gender groups. All variables showed statistically significant growth between the pre-intervention and the post-intervention. There were statistically significant differences between gender groups in all variables except LMX. This effect tests the general variation of groups, without considering the point in time of evaluation. The post hoc tests for multiple comparisons showed that women with male leaders attributed significantly lower averages to their leaders when compared to groups where employees were men. This result occurred in Self-awareness, Transformational Leadership, and Emotional Intelligence. In Self-awareness, the group with female employees and male leaders also had lower averages than the group where both employees and leaders were women. In the variable Transformational Leadership, the group with female employees and leaders assigned lower scores for leaders than the groups with male employees.

The interaction effect indicates whether any group exhibited significantly different growth than other groups. The Self-awareness and Emotional Intelligence variables showed statistically significant interaction effects. Self-awareness groups with male and female followers and leaders led by women showed more significant growth than groups of women led by men and female employees and leaders.

Table 77. ANOVA results between time and gender of leaders and non-leaders

Effect	Variable	df1	df2	<i>F</i>	<i>p</i>	partial eta ²
Time	Self-awareness	1	466	75.84	0.00	0.14
	Transformational Leadership	1	466	137.31	0.00	0.23
	Emotional Intelligence	1	466	110.87	0.00	0.19
	LMX	1	466	93.62	0.00	0.17
	Self-awareness	3	466	5.67	0.00	0.04

Gender combination	Transformational Leadership	3	466	4.75	0.00	0.03
	Emotional Intelligence	3	466	4.59	0.00	0.03
	LMX	3	466	0.89	0.45	0.01
Interaction	Self-awareness	3	466	1.69	0.17	0.01
	Transformational Leadership	3	466	1.07	0.36	0.01
	Emotional Intelligence	3	466	1.42	0.24	0.01
	LMX	3	466	0.93	0.43	0.01

Analysis of gender (Discussion)

Most demographic variables, such as leadership and generations brought little relevant information, to the project. Only the gender variable brought some discoveries. As the results of the studies are very similar, we chose to present only gender this analysis through sub-study II-1, which has the largest sample.

In the evaluation by gender (n = 470), although there was growth in all the variables studied, the main finding is that there is an important difference in the evaluation scores chosen by women in relation to the evaluation made by male members when filling out the member-report questionnaire about their leaders.

In the Self-awareness variable, the average assessment made by men "before" knowing the Hallos method was 3.78 while the assessment of women was 3.56. Likewise, the average increase "after" the intervention assessed by men is 3.98, while for women it is 3.70. This leads to an increase in Self-awareness when evaluating men by 5.37% and 4.01% for women. In Transformational Leadership, the average growth rate for men was 5.43% while women rated growth as 4.73%. In Emotional Intelligence, the growth assessed by male subordinates was 5.86%, and that of women 4.41%. Finally, in LMX, men assess the average growth of leaders at 5.45% and women rate the growth at 4.91%.

This result is that in the sample studied, the average evaluation of the growth made by women team members is always lower than the average evaluated by men. Apparently, women team members were more critical than men in their assessments, or perhaps they had different criteria than men.

Based on this finding, it was also planned to analyse how women on the team would evaluate women and men leaders, and how male subordinates would evaluate men leaders and women leaders, to investigate more in-depth if there was any gender bias.

In this investigation, only in the variable Self-awareness, subordinate men assessed those male leaders had higher growth (5.61%) after knowing the Hallos method, than female leaders (4.12%). In all the other variables, subordinate men assessed those women leaders had more significant growth than men. In Transformational Leadership, male subordinates rated the growth of women leaders as higher (5.31% Men x 6.05% Women), in Emotional Intelligence (5.79% Men x 6.17% Women), and the case of the LMX variable (5.39% Men x 5.79 Women). Although the results are very close, it can say that men as team members rated women leaders better than male leaders. This shows that there was no rejection or prejudice on the part of male team members when evaluating women leaders or vice-versa.

In the case of women team members, they assessed those women leaders had greater growth than men in all variables. In Self-awareness (4.61% Women x 3.60% Men), in Transformational Leadership (5.48% Women x 4.25% Men), in Emotional Intelligence (4.49% Women x 4.35% Men) and in LMX (6.24% Women x 4.05% Men). This demonstrated that for this sample, men and women recognize that women leaders had a greater growth trend in all variables than men, except in the case of Self-awareness for men.

At the same time, without exception, it was repeated as in the general gender study, that women made lower initial average assessments for all variables "before" intervention using the Hallos method, and also "after" intervention in relation to male assessors. It can infer from this study that women evaluators had a different evaluation criterion than men, maybe more critical or demanding with both genders. This also

brings an important confirmation and clarification, because when looking at the first gender table, it could be misinterpreted that men grew more than women in all variables

Sub Study II - Company “A” - Comparison between Middle Management and Senior Management

The descriptive statistics of the management levels can be seen in Table 78. The average management level exhibited a reduction in the scores in the post-test in the Transformational Leadership variable but showed a growth between 1.62% and 2.86% in all other variables. On the other hand, the senior management level showed growth rates between 12.37% (LMX) and 20.36% (Emotional Intelligence).

Table 78. Descriptive statistics separated by level of management

Variables	Management level	Before Intervention			After Intervention		After Int. – Before Int.	
		N	Mean	SD	Mean	SD	Mean Diff	Growth percentage
Self-awareness	Middle	12	3.85	0.52	3.92	0.48	0.06	1.62%
	Senior	14	3.84	0.65	4.50	0.46	0.66	17.21%
Transformational Leadership	Middle	12	3.93	0.71	3.75	0.53	-0.18	-4.55%
	Senior	14	3.60	0.88	4.21	0.63	0.61	17.00%
Emotional Intelligence	Middle	12	3.75	0.72	3.84	0.49	0.09	2.50%
	Senior	14	3.46	0.77	4.17	0.53	0.71	20.36%
LMX	Middle	12	3.75	0.50	3.86	0.44	0.11	2.86%
	Senior	14	4.04	0.33	4.54	0.44	0.50	12.37%

Table 79 shows the results of the mixed-design ANOVA. The time effect was significant in all variables except Transformational Leadership. The seniority effect was statistically significant only in the LMX variable. And the effect of the interaction between time and seniority was significant in all variables.

The effect of time indicated that the growth observed in the variables Self-awareness, Emotional Intelligence and LMX was statistically significant. The effect of

seniority indicated that the difference in LMX averages between the middle and senior management was statistically significant in the two assessment points in times. The interaction effect between time and seniority indicated that, in all variables, the growth rate of senior management was significantly higher than that of middle management.

In summary, senior management exhibited significantly better use of the Hallos workshop than average management in all variables. Senior management also exhibited better levels of LMX than average management at both assessment times. And despite the difference in performance, both groups showed significant growth in the variables Self-awareness, Emotional Intelligence, and LMX. This confirms other studies that demonstrate that higher-level Leaders would be perceived to practice more frequent Transformational Leadership (Lowe, Kroeck and Sivasubramaniam, 1986, p. 407) and that more mature professionals respond better to feedbacks and change processes.

Table 79. ANOVA results by leadership level

Effect	Variable	df1	df2	<i>F</i>	<i>p</i>	partial eta ²
Time	Self-awareness	1	24	12.08	0.00	0.33
	Transformational Leadership	1	24	2.27	0.14	0.09
	Emotional Intelligence	1	24	12.39	0.00	0.34
	LMX	1	24	17.11	0.00	0.42
Seniority	Self-awareness	1	24	2.40	0.13	0.09
	Transformational Leadership	1	24	0.08	0.77	0.00
	Emotional Intelligence	1	24	0.01	0.93	0.00
	LMX	1	24	10.26	0.00	0.30
Interaction	Self-awareness	1	24	8.26	0.01	0.26
	Transformational Leadership	1	24	7.55	0.01	0.24
	Emotional Intelligence	1	24	7.26	0.01	0.23
	LMX	1	24	7.16	0.01	0.23