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**SOCIAL COGNITION AND PRAGMATIC ABILITIES IN ADOLESCENCE**

TESIS PARA OPTAR AL GRADO DE MAGÍSTER EN ESTUDIOS COGNITIVOS

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*Dedicado a Lucas,*

*que, de una u otra manera,*

*me ayuda a ver la vida*

*con mucho más color.*

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A todos las chicas y chicos que participaron en esta investigación que, a pesar de estar en sus colegios, no duraron en ayudar a que este proyecto se hiciera posible.

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Abstract

**Introduction.** The present investigation is an exploratory study that describes Social Cognition abilities and pragmatic skills in adolescents. The scope of both of these areas has drawn a very diffuse line between them, since they seem to evaluate very similar components. Both areas are focused on the understanding of others, their mental states, and their intentions within a situation or a conversation. Moreover, both need a context, a background, and an ability to comprehend all of this together. **Objective.** To establish the relation between Social Cognition tasks and pragmatic tasks performance in adolescents from 15 to 18 years old in Santiago, Chile. **Methodology.** 15 participants were evaluated between 15 and 18 years old. One test of Theory of Mind and emotional assessment was carried out, along with three tests related to pragmatics, which specifically measured irony, indirect speech acts, and narrative discourse tasks. Moreover, an observational protocol was used to complement the pragmatic assessment. **Results**. In terms of descriptive results, woman obtained better results than men in most of the test of both areas, nevertheless, there was no relation between age and level with the tests held. Furthermore, in the case of correlations, only emotional assessment performance was correlated to indirect speech acts recognition and with the attention part of the irony test. **Conclusion.** The importance of adolescent's profile seems to be clear. The results obtained showed a relation in the areas of study, however, most of them need further evaluation on typical adolescents.

**Key words.** Adolescence, Social Cognition, Pragmatics.

**Introducción.** La presente investigación es un estudio exploratorio que describe las habilidades de cognición social y las habilidades pragmáticas en adolescentes. El alcance de ambas áreas ha dibujado una línea muy difusa entre ellas, ya que parecen evaluar componentes muy similares. Ambas áreas se centran en la comprensión de los demás, sus estados mentales y sus intenciones dentro de una situación o una conversación. Además, ambos necesitan un contexto, un trasfondo y la capacidad de comprender todo esto de manera integrada. **Objetivo.** Establecer la relación entre las tareas de Cognición Social y el desempeño de las tareas pragmáticas en adolescentes de 15 a 18 años en Santiago, Chile. **Metodología.** 15 participantes fueron evaluados entre 15 y 18 años. Se realizó una prueba de Teoría de la Mente y evaluación emocional, junto con tres pruebas relacionadas con la pragmática, que midieron específicamente ironía, actos indirectos del habla y tareas de discurso narrativo. Además, se utilizó un protocolo de observación para complementar la evaluación pragmática. **Resultados**. En los resultados descriptivos, las mujeres obtuvieron mejores resultados que los hombres en la mayoría de los test en ambas áreas. Sin embargo, no hay relación aparente entre edad y nivel en los test que se llevaron a cabo. Además, en el caso de las correlaciones, solo la prueba de evaluación emocional se correlacionó con el reconocimiento de actos de habla indirecto y la parte de atención en la prueba de ironía. **Conclusión.** La importancia de la creación de un perfil adolescente parece ser clara. Los resultados obtenidos demuestran una relación entre las áreas, sin embargo, la mayoría necesita de exploración más profunda en adolescentes típicos.

**Palabras claves:** Adolescencia, Cognición Social, Pragmática.

## 1. Introduction

The present investigation is an exploratory study which its main objective is to establish a relation between aspects of Social Cognition and pragmatic abilities during adolescence. Aspects of Social Cognition such as Theory of Mind and emotional processing are evaluated and related to the results in tasks of ironies' identification, indirect speech acts interpretation and narrative discourse comprehension. It belongs to the Fondecyt project named "Habilidades pragmáticas, cognición social y experiencias psicóticas, en adolescentes de la zona Sur Oriente de Santiago: Un estudio longitudinal" N° 1181240 leaded by Professor Guillermo Soto at Universidad de Chile.

One of the problems during the study of Social Cognition and pragmatic abilities is the diffuse line between their areas of inquiry. Both aspects are highly related since they are based on human communication and understanding. One of the main focuses is the analysis of how people predict other's thinking and reasoning, together with the appraisal of intentionality within communicative skills which also seems fundamental to investigate, given the connection between these areas. Several researches have studied these aspects separately in people with mental disorders, impairments or conditions such as schizophrenia, Autism Spectrum Disorder, dementia, etc. (Barrera & Berrios, 2001; Combs, et. al, 2007; Green, Horan, & Lee, 2010; Silberstein, et al., 2018; Baron-Cohen, Frith, & Leslie, 1985; Pérez & Martínez, 2014; Van den Stock & Kumfor, 2019; Snowden, et. al, 2003). Nevertheless, the studies on adolescents are few in comparison to the investigations of

children and adults' performance and it seems fundamental to understand how Social Cognition and pragmatic abilities might influence their behavior in society.

Social Cognition is an area of study in social psychology that has been described as a set of cognitive functions that allow humans to understand and interact with each other (Fiske & Taylor, 1991). It involves the study of four main aspects that are strongly related to human interaction; these are Theory of Mind (from this point forward ToM), emotions processing, social perception and attribution bias (García, Aliste, & Soto, 2017). On the other hand, pragmatics is a field of psycholinguistics that studies communicative interchanges and it is considered by most researchers as an aspect of information of an utterance conveyed by linguistic units, along with its relation to context and speaker's intentionality (Bara, 2010). A research related to the study of ToM has pointed out its deep connection to language, especially pragmatics (Resches, Serrat, Rostan, & Esteban, 2010). As a result, language determines social interactions that are present in the development of the performance of ToM tasks, helping to create a mental representation of the world. Concerning the definition and the area' scope, some authors have tried to draw a line of what it is considered to be within the field of pragmatics, leaving aside non-verbal language such as interpretation of body language and to consider aspects that are only triggered by linguistic elements (Cummings, 2007).

Stating the main areas of study, the questions is how these both areas

are related and how they affect human life. One of the periods that has not been thoroughly studied is adolescence. This period has been described as a difficult and complex stage with major changes, and with references to the discovery of people's own identity and the construction of social relations with romantic partners. There is an increasing concern about peer evaluation and the notion of social hierarchy appears, both related to several problems in terms of behavior and socialization. As far as the research development goes, investigations are concentrated on family context; behavioral problems, especially related to drug use and abuse; and the impact of puberty (Steinberg & Morris, 2001). Since social interaction is highly important during this period, it is only logical to wonder how Social Cognition and pragmatics abilities have been investigated and what is their relation in the process of development of human beings at this stage. Despite prior research on the connection between these areas, it remains unclear how this connection may affect human development or adolescent behavior within society.

Consequently, the objectives of this research are to explore the areas of Social Cognition and pragmatics within the period of adolescence and therefore, establish a relation between them. This helps to describe and to have a concrete idea of the phenomena, and also, to identify the performance of these areas. This period, as complex as it has been defined, is the key point when it comes to the study of the transition line between childhood and adulthood and that is the reason why it is fundamental to address it within the study of psycholinguistics. To learn how to entangle the processes of cognition and linguistics within adolescence may allow creating a more complete

panorama for the posterior intervention in social cognitive and pragmatic deficits.

As it was mentioned before, the main objective of this investigation is to establish the relation between Social Cognition tasks and pragmatic tasks performance in adolescents from 15 to 18 years old in Santiago, Chile. In order to achieve this goal, it is necessary to identify the performance in Social Cognition tasks and pragmatic abilities tasks in those adolescents. Moreover, in order to create a performance profile, it is necessary to identify differences of sex, age and level in both areas. Finally, a descriptive analysis was made to correlate this information and to answer the principal research questions: ¿Is there a relation between Social Cognition and pragmatic tasks performance? And, are there differences of sex, age and level in Social Cognition tasks in adolescents?

2. Theoretical framework

2.1 Adolescence

Adolescence is a period of life that has been described as a difficult stage with disruptive behavior and psychological disorders (Sebastian, 2015). According to the World Health Organization, it is one of the fastest periods during human development and it requires specific health care, developmental needs, and rights (World Health Organization, s.f.). It generally comprehends the ages from 12 to 18 years, and it is marked by the transition from childhood to adulthood with major changes in terms of both affective and social domains (Tousignant, et al., 2017). Adolescence "is a time when sex, drugs, very loud music, and other high-stimulation experiences take on great appeal" (Dahl, 2004, p. 7). According to that definition, it has been labeled as the onset of puberty which is mainly characterized as emotional and unstable with the presence of risk-taking behavior and the experimentation of depression and anxiety.

Even though the description of this period is based on the asset of biological changes; social transitions, family context, and socio-cultural environments play a fundamental role in the settlement of the main characteristics of this period. Due to the speed of all the changes, sexual and reproductive health problems may appear, along with mental illness. It seems absolutely necessary to have the correct implementation of policies and programs which can support teenagers through all the instability process. Moreover, it is important to address it and analyze young behavior since it is

essential to understand how adolescents act and how they may react to certain situations. Younger adolescents may require special attention since they are vulnerable in the process of facing this new stage and also in the process of developing new skills.

### 2.1.1 Socio-emotional and cognitive changes

The process of adjustment during this period is accompanied by socio-emotional and also neuro-cognitive changes and these are described by Dahl (2004) as enormous and complex. Generally, these have been drawn in terms of interpersonal relations, emotions recognition and behavior along with general cognition developing and brain structure modification.

Concerning socio-emotional changes, adolescence seems to be the most affected period in comparison to any other stage of life (Ross, Kim, Tolan, & Jennings, 2019). Adolescents experiment the discovery of their own identity and the construction of social and complex relations throughout this period (Crone & Dahl, 2013). There is an increasing need for regulation of affection and behavior, especially in their relations with friends and romantic partners that go along with difficulties in socialization and strong concern about peer evaluation.

The role of the significant other is reshaped and the central position occupied by their parents is changed by their peers as the main social support. Even though friendship is also important in childhood regarding socialization processes and adjustment, in adolescence the partner's role gets balanced with the one of their parents. There are suggestions that during adolescence,

there are sex differences in the appreciation of the support figure since girls start to create intensive emotionally helpful contact with few people and in the case of boys, they share an extensive but less supportive network with partners (Helsen, Vollbergh, & Meeus, 2000). Additionally, there is a sense of *false self-behavior* in order to demonstrate a different image, especially around peers. This behavior's alteration may be caused by low self-appreciation such as low self-esteem and moreover, due to the need to please their social partners (Steinberg and Morris, 2001).

Similarly, the definition of priorities is highly important since their worries are focus on new responsibilities and challenges such as the consolidation of competencies, attitudes, and values (Zarrett & Eccles, 2006). During the first stage or early adolescence, there are disruptive changes related to psychological development. This would lead to increased rates of accidents, problems with the use of alcohol and drugs, teenage pregnancy, depression, violence, and suicide. Steinberg (2005), also emphasizes the importance of the social component in this period, which is accompanied by a mayor and a more sophisticated understanding of the world, which includes a concern for reputation and social hierarchy. This understanding prepares them to face the world with different perspectives that are involved with rational judgment, and logical and moral thinking. This stronger reasoning gives them the tools to start setting goals such as long-term academy processes and facing adult life.

A paradox pointed out by Dahl (2004) explains in simple words the process of adjustment mentioned before. He describes that although

teenagers show greater development in comparison to children and there is evidence supporting increasing reasoning very similar to adults in terms of logic and responsibility, they tend to have more reckless behavior than children. This is one of the reasons why adolescence is so interesting to study.

At this point it is important to highlight that a part of the adolescent population does not experience these types of problems, they have normal and typical relations with their peers, parents, and figures of authority. Nevertheless, some portion of them does experience distress, anxiety, and struggle.

Regarding cognitive aspects in adolescence, there are a series of transformations of cognitive thoughts leading to abstract reasoning, although this acquisition is not absolute, since these are shaped by interpersonal experiences. (Spear, 2000). Furthermore, multidimensional, planned and hypothetical thinking is also developed during this epoch (Steinberg, 2005). Continuous development can be seen in terms of consciousness, self-direction and also self-regulation which are often associated with executive functions (Luna, et al., 2004). Choudhury, Blakemore, and Charman (2006), also mention the development of control and coordination of thoughts along with processing speed, working memory, decision-making, and risk-taking and sensation-seeking.

These cognitive changes are associated with structural brain reorganization. During adolescence, the brain continues its development since it shows progressive and regressive maturational changes. One important

aspect is the increase of white matter volume, which has been associated with cognitive processing control such as impulse in boys and girls. Also, there is an increase of myelination –speed rise in neuronal transmission– which allows integrated functions to work in better and more efficient in information processing and complex behavior. In terms of gray matter, there is a thickness presence related to synaptic pruning, especially in frontal and temporal regions, which provides a clue of how information starts to be processed in an integrated and associated way (Luna, 2009). Additionally, there is an increase in the size of the prefrontal cortex, which provides significant insights into cognitive capacity changes such as reasoning, planning and behavioral control as was mentioned before (Yurgelun-Todd, 2007). Limbic system –responsible for pleasure, seeking and rewarding processes– also presents changes during this epoch proving support for changes that may be manifested in terms of emotional processing (World Health Organization, s.f.).

It is important to highlight that these changes belong to an ongoing process. During the last years, several pieces of research have been focused on the study of the brain and there is consistent evidence to support the idea that the activity changes with respect to the brain structure.

### 2.1.2 Research field

The central areas of investigation in terms of adolescent development have been focused on family contexts, behavioral problems and the impact of puberty (Steinberg & Morris, 2001). In terms of behavioral problems, the main investigations are related to recreational drug use and abuse, sexual interest,

emotional intensity, risk for affective disorders in females, novelty-seeking and sensation-seeking related to reward (Palmers et al., 2009; Dahl, 2004). Additionally, there is increasing advancement in studies related to normal development, social maturation, and clinical research focused on behavioral development (Dahl, 2004).

The principal goals of these pieces of research are to describe, explain and also predict the problems that may be present during this period such as the one mentioned previously. It is important to take into account that problems that might be present during this period are not only caused at this stage, having their roots in childhood such as psychological distress and anxiety (Steinberg & Morris, 2001). Throughout these investigations, the main component is social interaction which overlaps what humans perceive respect of the actions and emotions of others with their own similar experiences. A crucial element for understanding this link between the first and third-person experience, and that has not been properly developed at this stage, is the study of Social Cognition (Gallese, Keysers, & Rizzolatti, 2004).

## 2.2 Social cognition

The term Social Cognition refers to a set of cognitive functions that underlie social interaction which allows humans to understand and interact with each other (Fiske & Taylor, 1991; Green, Horan, & Lee, 2010). It is generally related to empathy and it is conceptualized in distinction from high-order cognitive skills such as executive functions. It is focused on the interaction with other people and the awareness of others' feelings and intentions

(Tousignant, et al., 2017). During this decade, Social Cognition has been one of the most studied themes in current experimental psychology research (Martins-Junior, et al., 2011), nevertheless, it has not been studied thoroughly within the period of adolescence (Vetter, et al., 2013). The principal areas that have been mainly studied within are Theory of Mind, emotions processing, social perception, and attribution bias.

Human beings have the capacity to identify other mental frameworks, and not only that, but also to understand, interpret and act on them (Gallese, Keysers, & Rizzolatti, 2004). During the study of human interaction, Social Cognition has tried to explain human social perception and processing with models and theories, especially related to memory storage and processing. It is highly important to emphasize the study of intentions and the signals that humans use during an interaction. Social communication concentrates on the analysis of facial expressions, body posture and, movements, and gaze, among others (Frith & Frith, 2007). As Social Cognition plays such an important role in terms of negotiation in social interaction and the decisions that are taken as a consequence, studies have been focused on neurobiological-development conditions in different stages such as childhood and adulthood (Kilford, Garrett & Blakemore, 2016).

As was mentioned before, during adolescence the aspects described are extremely relevant and they have been related to the development of the commonly called social brain. The social brain presents increasing connectivity, synaptic reorganization and general structure development (Bosco, Gabbatore, & Tirassa, 2014). The presence of gray and white

matter increments, along with cortical and surface area thickness, which are associated with face processing mentalizing and social decision making. This set refers to how people at this age acquires new aspect in face recognition such as judgments of attractiveness or social status in relation to the identification of information about social relevance. Recent studies suggest that Social Cognition would be independent of neurocognition and it would have a mediator role between neurocognition and social behavior (García, Aliste & Soto, 2017).

### 2.2.1 Theory of Mind

Theory of Mind, mostly known as ToM, is one of the most studied areas within Social Cognition and it has been described specifically as the capacity of ascribing mental states to oneself and others (Premack & Woodruff, 1978; Baron-Cohen, Leslie, & Firth, 1985). In other words, it is the attribution of mental states of oneself and others in order to facilitate comprehension of behavior. Although there is still discussion on the subject, ToM skills typically appear during childhood, around the age of 4 years old, with the comprehension of intentions (Roqueta, Clemente, Flores, 2012) and it has been widely studied during this stage and also during adulthood. Problems presented in ToM may provoke several difficulties in communication and in social interactions with peers and society since it may affect the ability to recognize intentions, predict situations and therefore, behave properly in social encounters (Happé, 1993).

The field started in 1978 with investigations of Premack and Woodruff, pioneers in the description of the performance of chimpanzees, evaluating problem-comprehension and problem-solving. After the recognition of the term, this area acquired great importance in the investigations of impairments, conditions and mental disorders. Studies have frequently researched performance in children diagnosed with Autism Spectrum Disorder (ASD) (Baron-Cohen, Frith, & Leslie, 1985; Pérez & Martínez, 2014) and according to the concordant literature, the investigations suggest that neurotypical children –in contrast with ASD children–present protodeclarative gestures and simulation games during the first stage, around the age of 18 months. After that, at 3 or 4 years old, neurotypical children are able to distinguish between their own beliefs and others (First-order false belief) and at the age of 6 or 7, they are capable of having higher-order representations such as irony and metaphors (Second-order false belief) (Rodríguez Sosa, Acosta, & Rodríguez del Rosario, 2011) Afterward, studies focused on schizophrenia and bipolar disorder emerged (Barrera & Berrios, 2001; Combs, et. al, 2007; Green, Horan, & Lee, 2010; Silberstein, et al. 2018) along with studies in frontotemporal dementias (Van den Stock & Kumfor, 2019; Snowden, et. al, 2003).

### 2.2.1.1 ToM in adolescence

Studies in the development of ToM during adolescence show the outstanding importance of social environment outside the family and how the individual, emotional, social and cultural dynamics change. In

consequence, ToM abilities may also change concordantly with human maturation, and the adaptation to this new social needs (Bosco, Gabbatore, & Tirassa, 2014). According to the authors, several tasks related to understanding what others are thinking are still improving during late adolescence, mentioning as an example, reasonable thinking about emotions as guilt. Development of meta-representations and the decoupling of mental states from reality which are helpful in tasks such as first and second-order false beliefs are other important features to consider (Sebastian, 2015).

In terms of sex differences, typically, men have demonstrated satisfactory results in skills related to mathematical reasoning and visuo-spatial processing, unlike women who have always stood out for their linguistic skills and spatial memory. In Social Cognition terms, generally, "females are better than males at the attribution of mental states to others, and in appropriate affective responses to another's affective state" (Russell, et al., 2007, p.1555). One study of pre-adolescents' performance has based their investigation in the evaluation of attribution, role perspective, person perception and empathy. One of the investigation showed that girls of 11-12 years old start to increase the development of self-consciousness and empathy and they performed significantly higher on social and self-understanding tasks. Another study assessed adolescents from 11 to 17 and it also showed significant better performance in girls than boys in all ToM components (Bosco, Gabbatore, & Tirassa, 2014). Despite the aforementioned, the same study mentioned at the beginning showed that in

one of Francesca Happé's tests called "cartoon task", men demonstrate better performance in the task. It is important to mention that this study was carried out in adults with an average age of 34 years (Russell, et al., 2007).

2.2.1.2 Theoretical discussion around ToM

Since the beginning of its conception, ToM has been described as an automatic process that involves inner self-awareness and a constant interpretation, supposedly unconscious, in order to give sense to the behaviors of others (Zilber, 2017). Regarding this context, Michlmayr (2002) describes the three main functions that underlie the process, explaining; 1) the comprehension of others behavior and the confusion and overwhelm that can cause if there are serious problems in this stage; 2) the prediction of others behavior and; 3) the manipulation of others behavior by the action of controlling how much information it is provided and available. Several descriptions and questions have emerged such as what are the underlying processes involved in the interpretation of behavior? How are they acquired and developed in ontogeny? What role do emotions play? etc. These questions have been studied within the different fields, two consolidated theories have raised with explanations of how ToM mechanisms work and they have tried to explain its development. These theories are Theory-Theory and Simulation Theory (Zilbert, 2017).

Theory-theory is a scientific theory related to human development and human understanding of the outside world. According to this perspective, individuals hold a basic theory of psychology, called commonly

by the name of "folk psychology". It is considered as a set of rules and laws that help to infer mental state of others such as beliefs, desires, and emotions. These rules provide information used to understand a) intentions behind a person's actions and b) predict future behavior. It is considered as a cold theory by some authors (Gordon, 1996) which remarks the characteristic of an intellectual process, moved by inferences from a set of beliefs. Generally, it does not incuse the use of the person's capacities of emotions, motivation and practical reasoning. On the contrary, it is oriented to skills such as planning, inhibition, flexibility of thinking, working memory and monitoring what it is not involved in any type of context or emotions (Peterson & Welsh, 2014).

During the approach's description, many discussions have arisen concerning the end-state of ToM's acquisition. Two principal arguments are related to children's learning or native capability. The former relies on how children observe the world, and in doing so, they gather data about that is happening and form a structure about this world. They construct theories according to their own experiences in order to explain what they are observing. Churchland 1991 (Cited in Michlmayr, 2002) explained that the principles of this theory are similar to the ones found in the native language acquisition. There is implicit teaching through others, specifically carried out by the mothers, and children construct structure step by step together during social interactions. On the other hand, the latter refers to native learning of the set of rules. Humans do not know the rules despite the everyday use and they would be implicit and given innately. One of the main arguments

that support this view is that these rules do not vary across cultures or historical areas (Carruthers, cited in Michlmayr, 2002). The author mentions the similarities of these perspectives to the ones presented in linguistics, for example, by Noam Chomsky in the Universal Grammar theory.

Simulation theory, from the opposite position, is related to the executive function-oriented to cognitive processes that are elicited in context, triggered by emotions and motivations (Peterson & Welsh, 2014). The main postulate is that humans understand others' thoughts through the development of a theory using the resources of their own minds in order to simulate others. In simple words, this understanding is made by "putting yourself in the shoes of someone else, [and] simulate them and come to predictions and explanations" (Michmayr, 2002, p. 10) It is an off-line simulation where the decision-making system works and supplies it with pretend inputs. It is called a hot theory, which involves imagining what others would feel, think or do in a specific situation.

### 2.2.1.3 Evaluation's instruments

The tasks that are used to evaluate the performance in ToM have been created in order for a person to identify the mental states of others, in the face of a situation that resembles them. The participant or, in certain cases, a patient who is developing the test, must recognize the mental state and is evaluated according to first-order, as well as second-order tasks.

One of the most used tests so far in the evaluation of first-order false belief tasks is the one developed by Simon Baron-Cohen, Alan Leslie and

Uta Frith in 1985 named *Sally-Anne test.* In brief, this test is a psychological test that evaluates social cognitive abilities in children from 4-5 years old and it was made to study performance in children diagnosed with ASD. During the process, the evaluator introduces two dolls in a room and then asks the first question in which the child must recall their names (naming question). After that, Sally takes a marble and hides it in her basket. Then, she "leaves" the room. When she is outside the room, Anne takes the marble out of the basket and puts it in her own box. She comes into the room and then the child is asked the key question "Where will Sally look for her marble?" (first-order false belief questions). The main idea is to see if the child can take a different perspective that does not correlate with reality. Its main target is to know if *A identifies what B thinks,* considering A as the participant. This test has been made with puppets, as well as with actors' performance and the results do not show a significant variation (Baron-Cohen, Frith, & Leslie, 1985).

Another test used to evaluate second-order false belief tasks was developed by Perner and Wimmer in 1985, especially for the evaluation of children between 5 and 10 years old. This story presents two people; John and Mary who live in a village. Mary wants to buy an ice cream but she has no money, so she goes home to get the money and John stays in the park. When the ice cream man decides to go to another place –the church– John sees him from the park and Mary sees him from her house too. John knows that Mary is going back to the park to buy the ice cream and does not know that Mary saw the ice cream man leaving the place. John goes home to do

homework and needs Mary's help, so he goes to her home. Without finding

her, he asks Mary's mom where Mary is, to which she replies that she is

buying ice cream. This task requires a higher cognitive cost because it is

necessary to identify what *A thinks that B thinks*. It is also designed with

memory questions to verify the correct understanding of the story (Perner &

Wimmer, 1985).

*Strange stories* is another test designed by Happé in 1994 to test the

ability of advanced ToM skills for children and functional adults in addition

to brain-injured patients. In this case, with a test of 24 stories in the original

version, the subject must read a story in which he has to explain why one of

the characters said something using figurative language. In addition to this,

control-type questions are asked to assess whether the subject was able to

identify physical states within the story (White, Happé, Hill, & Firth, 2009).

Baron-Cohen also developed a Faux-pas test, which has versions for

children and adults' evaluation, with special attention in the detection of

children with ASD and in adults with orbit-temporal cortex damage and with

dementia. This is a second-order false belief test and it contains 20 stories,

and in its shortest versions only 10, having situations with incidents, such as

uncomfortable situations with someone making a mistake by saying something

inappropriate. The full explanation will be developed later since it is the test

chosen to evaluate second-order ToM during this investigation (Stone, Baron-

Cohen, & Knight, 1998).

### 2.2.2. Emotional processing

Along with ToM, an important aspect studied in Social Cognition is emotional processing. The ability to recognize emotions seems essential to help human beings to behave properly during life and to create good interpersonal relations. The understanding of own's emotions and others is more complex as it may seem due to its ambiguity. Generally, it requires additional information along with the identification of intentions and proper understanding of context, which would help others to identify mental states. Another important aspect is the knowledge and experiences that people may share together with how emphatic they may be (Olsson and Ochsner, 2007). According to LeDoux (1996, p.11), "emotions are the threads that hold mental life together" and they are able to define how people are in their own understanding and in the understanding of others.

There has been a wide range of debates regarding what emotions are. According to Izard –a renowned psychologist who has dedicated to theorizing the subject of emotions– there are different branches that determine what is understood by emotions. Some of them consider emotions to be the main motivational system of human beings. Others have focused on how troublesome emotions are and how they disorganize life. Likewise, others have argued that they are the motivation and what sustains human behavior (Izard, 1978). Whatever is the case, it is not a simple phenomenon, and it could be described taking into account "three fundamental aspects: a) the experience or conscious feeling of emotion, b) the processes that occur in the brain and

nervous system, and c) the observable expressive patterns of emotions, particularly those on the face" (Izard, 1978 p.4). This last aspect will take essential importance on the study of emotions later on, in different branches of study such as philosophy, psychology, neurology, and so on.

According to Ekman (1999), there are *basic emotions* that share the same characteristics and that are essential within life since "its primary function is to mobilize the organism to deal quickly with important interpersonal encounters" (p. 46). Early in his work, he established the *basic emotions* through studies focused on facial recognition, identifying six of them; anger, fear, happiness, sadness, disgust, and surprise. Later on, he extended those by adding; shame, guilt, embarrassment, and awe stating that all of them share nine distinguished features.

These characteristics help to distinguish emotions from each other and also to differentiate affective states such as emotional attitudes or moods. Also, they are socialized and can change over life, something fundamental to social communication. The nine characteristics are; 1) *Distinctive universal signals* which are based mainly on facial expression differences and how their expression and proper identification seem essential to the regulation in interpersonal relations. 2) *Comparable expressions in other animals* in which research led by Darwin and Plutchik (cited in Ekman, 1992) established some similarities in emotions such as fear, anger, sadness, and happiness presented in both men and animals. 3) *Emotions-specific physiology* which lays on the evidence of distinctive patterns in the nervous system activation

when some emotions are triggered such as anger, fear, and disgust. 4) *Universal antecedent events* that refers to some common elements in the context where emotions are triggered, considering that this may vary across culture and individual characteristics. 5) *Coherence in response system* which despite the contradictory evidence of whether or not there is coherence between expression and automatic changes during emotion, there can be a systematic response during emotional events, that is, these two would not be completely disconnected. 6) *Quick onset* that refers to the nature of the emotion which mobilize humans to respond faster to important events 7) *Brief duration* which refers to emotions response lasting up to 20 seconds in which if it last longer it's a repetition of that emotion again and again (although it does not have solid supporting evidence) 8) *Automatic appraisal mechanism* which must activate the emotion with minimal stimulus possible, and finally, 9) *Unbidden occurrence* which explains how people don't choose what to feel (Ekman, 1992).

He proposes that each emotion is complex showing unique features, but at the same time, they have some coherence as a result of evolution. According to his explanation, some emotions differ from one to another despite these characteristics in common, since all of them may have different expressions, appraisal, probable responses, among others. Most of the investigations clarify that emotional responses are generated unconsciously and happened without the person's willingness who experiences them. Although people put themselves through different situations to experience

pleasure and satisfaction while avoiding situations that can lead to disappointment, sadness or pain, they still have little or almost no control over the emotional reactions to any given scenario (LeDoux, 1996)

### 2.2.2.1 Discussion around emotional processing

Cognitive approaches nowadays are focus on the understanding of the so-called *black box* from sensory input to conscious content passing through unconscious processing not only in terms of psychological explanation but also through neurocognitive aspects (Nersessian, 1995)

From the analysis in psychology, starting with the James-Lange model, emotion is described as the perception of physiological changes, whether they are visceral involving a voluntary or involuntary musculature. One of the most important assumptions of this approach is that without these physiological changes, emotion does not exist, but rather a "cold and neutral state" (Fernández Dols & Ortega, 1985 p. 36) and each of these changes presents patterns that are specifically associated with emotion in particular. Later, Walter Cannon will strongly criticize his assumption, arguing that such visceral changes occur both in states of emotion, as well as not, and also that these visors are structures that are insensitive, claiming the function of the central system as a necessary condition of emotion.

The relationship between cognition and emotion has been studied in various ways, concluding that without the intervention of cognition, there would be no diversity of human emotion. The appraisal concept stands out for being precisely an assessment of the environment that is not only based on objective

characteristics of the situation in question but also a subjective assessment of the event in relation to the person's goals and / or their ability to cope with that said event. Lazarus (cited on Santana, 2000) carried out studies in order to identify this relationship between cognition and emotion and demonstrated the great connection that exists between both areas confirming the fundamental importance of the term *appraisal*. Although a general knowledge that explains the circumstance is needed, it is also necessary that this circumstance is evaluated by the person who is experiencing it with respect to their personal well-being (Santana, 2000).

In terms of neurocognition, studies show facial processing as a complex task that needs the activation of several brain regions in parallel and simultaneously. As was mentioned before with the explanation of the social brain, also the concept of the *emotional brain* has been studied thoroughly*.* These studies have focused on how emotions are mapping in the brain. Negative emotions such as fear and anxiety show activation in regions of the medial frontal cortex and anterior cingulate cortices in relation to appraisal and expression. Prefrontal cortex is involved, along with the amygdala to "learn and represent relationships between the stimuli and the primary reinforces such as food, drink and sex" (Dalgleish, 2004 p.586). The hypothalamus has had implications with affective defense reaction and other motivations such as sex and hunger. Limbic regions also play a fundamental role involved in generating emotional negative responses (Etkin, Egner and Kalisch, 2011) such us fear, and the consolidation of emotional memories. Studies in vertebrates' brain

establish a large-scale connectional system involving the midbrain, hypothalamus, thalamus, basal ganglia and amygdala which supports the notion that cognition, emotion, and motivation cannot be separated, but rather work-integrated (Pessoa, et al., 2019)

### 2.2.2.2 Emotions in Adolescence

As in the case of ToM studies, investigations about emotion recognition have focused on children and adults with typical neurological conditions and also with diagnoses such as schizophrenia (Marwick and Hall, 2008; Chan, et al., 2010; Kohler, et al., 2000; Penn, 2000) and Autism Spectrum Disorder (Harms, Martin, & Wallace, 2010; Kuusikko, et al., 2009). They generally present functional abnormalities during the action of recognizing and labeling emotions, and at the same time, at the moment of identifying complex social judgment.

In terms of adolescence, studies have shown different outcomes, even though they present some similarities among them. Children and adolescents seem to be less sensitive to emotions such as fear and anger (Thomas, et al., 2007) and other studies revealed sensitivity towards happiness which increases with the years, but no changes in sadness, and disgust (Herba, et al., 2008). Another study showed no difference in the identification of emotions when children grow, but it did have differences in terms of how fast they would recognize an emotion (De Sonneville, et al., 2002).

Sex differences have also shown inconsistency and mixed findings; one study focused on the evaluation of facial recognition showed girls having better

results than boys. They had more sensitive and faster emotional face perception (Lee, et al., 2013). One study of 105 women and 105 men with an average age of 21 years old, evaluated recognition and dynamic facial expressions, representation of other people's mental states, empathy, and identification of one's own emotions. It showed no significant sex differences in ToM or recognition of emotional facial expressions. Nevertheless, women had better results related to empathy (Di Tella, et al., 2020). On the other hand, studies of age differences have stated that complex emotion recognition continues to develop in early adulthood and might due to general cognitive skills such as attention and memory. One study with adolescents and adults from 11 to 24 years old showed fully developed face recognition by the end of early adulthood and that, early adolescents had the strongest relationship between face recognition and emotion than any of the other groups (Meinhardt-Injac, Kurbel, & Meinhardt, 2020).

### 2.2.2.3 Evaluation instruments

Most used and known tests of emotion recognition are divided into two main tasks; labeling emotions according to images and discrimination between two or more emotions (Marwick and Hall, 2008). Most of the evaluations have based on Ekman and Friesen test called *Ekman 60 Faces tests* or *Pictures of Facial Affect (POFA)* (Ekman and Friesen, 1976). This assessment is formed by 60 photographs of 10 actors (6 men and 4 women) who are shown to the person for 5 seconds each. It evaluates 6 basic emotions; happiness, fear, anger, sadness, surprise, disgust, and it has a global evaluation and a separated one by each expression. Some examples of other tests based on

similar tasks are: *Face Emotion Identification Task (FEIT)* (Kerr and Neale, 1993) composed by 19 photographs that are shown to the person for 15 seconds each. There are 15 photographs of negative emotions and 4 of positive emotions (happiness and surprise). *Penn Emotion Recognition Test*, which includes 40 color photographs with 4 emotions –happiness, sadness, anger, and fear. It is a computerized test that measures the identification and the time for the responses. (Gur, et al., 2002). Another recent evaluation is *Emotion Recognition Assessment Test (ERAT), which contains* 56 photographs (28 women and 28 men) and assesses perception of 6 basic emotions, similar to *POFA.* It also contains neutral expressions and it was created to evaluate patients with schizophrenia (Gil-Sanz, et al., 2017).

One of the criticisms that this type of evidence has generated is the static stimuli that they possess, since they present an ecological limitation with photographs that may seem unrealistic by context. This is the reason why a battery called *Reconocimiento de Expresiones Faciales y Corporales (BEFyC)* validated in Argentina in 2017 came up. It is made up of 5 sub-tests: 4 emotional and 1 emotional-controlled, which have five-second videos where a person expresses emotions with his face or full body (Leiva, 2017). On the same line, The Cambridge Mindreading Face-Voice Battery, created to test complex emotion recognition in adults with Asperger syndrome, also evaluates with video clips. It contains 54 video clips of facial expression and 54 audio clips of voices (Golan, Baron-Cohen & Hill, 2006).

2.3 Pragmatics

Along with the analysis of Social Cognition, the importance of communicative skills seems fundamental. During communicative acts of human beings, two main roles underlie a share code between the speaker in active participation: consciousness and intentionality. This means that, in order to generate communication, the speaker must have an intention, and also the hearer must recognize that precise intention (Bach, 2012). In order to achieve this important recognition, it is relevant to consider, first, the linguistic code used; and second, the extra-linguistic elements present in the conversation. Considering this distinction, there must be a series of conditions where the global meaning is settled by the participants and furthermore, where the agent has to make explicit their own communicative intention (Bara, 2010).

Within the analysis and understanding of communication, the study of pragmatics takes an essential role. Pragmatics has been studied by different fields such as Philosophy of language and Psycholinguistics and it has been defined according to the communicative interchanges and within Linguistics as a complementary field along with formal aspects such as phonology, morphology, syntax, and semantics (Escandell, 1993). It considers the extra-linguistic factors that determine the use of language and it is because of this reason that there are many discussions regarding what is the scope within it. Independently of the lack of consensus in its definition, it is considered by most researchers as an aspect of information of an utterance conveyed by language with a strong dependence of conventional meaning, context, linguistic units

and the form, and intentionality in which this utterance is used by the speaker (Cummings, 2007; Cummings, 2014).

The first distinction in order to understand the scope of pragmatics studies is the one made between *grammatical meaning* and *pragmatic meaning.* The *grammatical meaning* can be understood as a constitutive property of linguistic signs, that is to say, it is the literal meaning of expressions within the language system; this is also called the semantic meaning. This meaning is governed by rules and it is explained by formal descriptions. Along with this notion is necessary to see the *pragmatic meaning*, which its main function is to incorporate the grammatical meaning in addition to the role of the speaker, the hearer, and the situation in which the communicative act is embedded. It does not only include formal explanation, but also functional explanation (Escandell, 1993).

The author emphasizes the importance of pragmatics and the nexus between what it is said; that means the grammatical or, as she called it, the literal meaning of the words that a person uses, and what it is meant to say; that means the communicative intention that underlies it. Humans are constantly using strategies conveying context that help to the understanding and the comprehension of sense during the act of communication. It is highly important to also consider the communicative situation in which the communicative act is embedded, the shared knowledge between the speakers, and the interpersonal relationships that they possess. There are different approaches regarding the field of study of pragmatics and they can

be grouped into two; the first sees pragmatics as a relation between the grammatical meaning and the facts that it tries to convey and the second, as the analysis between the form of the expressions and the attitude of the users.

Escandell (1993) presents three main situations in which the full and complete understanding of a phrase cannot be achieved without the addition of a pragmatic component. First of all, the conventional meaning, which establishes a relation between the phonological representation (signifier) and the semantic representation (signified). This idea presupposes that communication is the codification of this information and the author emphasizes that this explanation for a whole system of communication is far too simple. On some occasions, the meaning of the word is not the same as the one that is assigned by the system and in these cases, this is not necessarily a problem in the communication. In this case, the notions of communicative intention, communicative situation, and shared knowledge are fundamental.

The second point is the syntax and its relation to context. Once again, aspects that are merely grammatical such as the order of the words, are determined by another type of factor as the context and the communicative situation. Finally, the third factor mentioned is the reference and deixis in which pragmatics is essential. In order to understand a phrase, it is necessary to have knowledge about the meaning, but also to be able to identify referents. It is important to know to which; objects, facts or situations the utterance makes

reference to and when it becomes indispensable for the comprehension of a phrase.

The conception of pragmatics and the importance described before create a link to other notions that are present within the field of study. For example, the study of social interactions is essential since it provides the understanding of the environment in which language is used as an instrument in the communicative act but also to create bonds and accountability relations. Also, the importance of speakers' convention, who follow rules and regulation in order to use the language within social interactions (Senft, 2014). It is for this reason that pragmatics is a transdisciplinary study among humanities. The combination of different fields such as psychology, philosophy, and sociology allows establishing a better comprehension and understanding of meaning among humans. During the last decades it has also been developed in the clinical field with the name of clinical pragmatics and it has contributed to creating a mapping of disorders that are present in the diagnoses of different conditions and pathologies.

### 2.3.1 Clinical pragmatics

In order to describe the main problems in pragmatic aspects, it is necessary to focus on the clinical population to describe pragmatic disorders across the life span. It is precisely this field the one that studies pragmatic disorders across the life span. This types of disorders may affect people from all ages without discrimination, having cases through a developmental period (0-7 years), older

childhood and adolescence (8-17 years), late adulthood (18-65 years) and finally to advanced adulthood (66-85 year)

During the developmental period, children can face pragmatic disorders especially if they are diagnosed with Autism Spectrum Disorder. As was aforementioned in the development of Social Cognition tasks, children with ASD present problems identifying other's intentionality. This has a strong relation with pragmatic impairments since they present deficits in social communication, social interactions, and therefore non-verbal communitive behavior across multiples contexts. They may not develop functional speech, and they may not have a clear understanding of figurative utterances. Also, they are not able to make inferences related to verbs in certain contexts, inferences in social scripts, and also an impairment understating of metaphors and speech acts. Furthermore, children diagnosed with Specific Language Impairment also may present pragmatic disorders. Generally, children with SLI have structural language problems related to syntax and semantics, but they also present problems in the identification of inferences, implicatures, and Cooperative Principles to a less degree (Cumming, 2014).

In adulthood, pragmatics disorders are studied in diseases such as schizophrenia, neurodegenerative disorders as dementia and brain injuries in the right and left hemisphere. Schizophrenic patients present language impairments in the fields of phonology, syntax, and semantics. However, the most affected area is pragmatics, with deficits such as problems identifying non-literal language, including metaphors, ironies, proverbs, idioms, and

humor. Furthermore, they also present impairments in discourse with tasks of story retelling. These deficits also appear in adults with cerebrovascular accidents and neurodegenerative pathologies such as Parkinson's and Alzheimer's disease (Cumming, 2014).

### 2.3.2 Pragmatic Concepts

Up to this point, it is important to review some concepts related to the study of pragmatic that have settle milestones during the development of the field and that will help to understand how the evaluations of pragmatic normality or disorders are made.

### 2.3.2.1 Irony

Irony has been studied through centuries in language along with several fields such as anthropology, literature, linguistics, psychology, philosophy, among others. The concept has been difficult to describe since it approaches in many ways to other concepts such as sarcasm, humor, satire, etc. As a prior definition, it can be said that it is "a device of both mind and language for acknowledging the gap between what is expected and what is observed (Gibbs & Colston, 2007, p. ix).

According to Colston and Herbert (2017). there are a series of different definitions of irony, depending on the perspectives from which they are studied, such as verbal irony and situational irony. In this work, *verbal irony* will be one to discuss since it refers to the speaker expressing an evaluation about someone or something using language that denotes the opposite sense

of the attitude she or he is occupying. One of the examples that occur when you see someone who has not studied for a test and the night before the exam you say to her or him: "*you will get the highest score tomorrow in the test".* Accompanied by this, it is very important to evaluate the context, explained before, and the shared knowledge of the two of them, that is to say if the hearer knows that the speaker knows that she or he did not study. In addition to this, there is the tone in which the person may have said it since it could perfectly be a kind of comment to encourage him and wish him well in tomorrow's test. This is why irony is such an important aspect to study because the understanding of an ironic sentence requires the knowledge or the ability to know a number of factors to interpret what it is said, how it was said it, and what was the intention to say it.

One of the criteria discussed in defining the concept of irony is that it presents a form of contradiction or opposition to what has been said. As in the case of speech acts that will be mentioned later, it is what was said or what the person means by what he said. These contradictory schemes co-exist since the said phrase of the example above, could be a desire to raise the mood, as it could also be, simultaneously, a phrase establishing exactly the opposite of what was said (Colson and Herbert, 2017)

### 2.3.2.2 Speech acts and Illocutionary force

According to Cummings (2014), the study of pragmatic concepts started by philosophers of language, who examined the concept of *meaning.* In the beginning, during the second half of the twentieth century, this conception was

purely focused through semantics, and the sentences meaning was specified by its truth conditions, that is to say, a series of conditions in the world for a sentence to be true. After this, Austin (1962), among other philosophers, started to wonder if all the utterances needed these conditions, especially considering that many sentences are made to promise, request, ask and threat, etc.

The author in his work *How to Do Things with Words* distinguished two types of utterances; the constative and the performative. The first one responds to states of affairs in the world which can be true or false; and the second, as the name suggests it, constitute the performance of the act itself. The speech acts, then, do not hold to a criterion of truth or falsity but of felicity. This term has to do with the conditions a speech act has to fulfill for being successfully performed. Although at the start was made this distinction between the types of utterances,

Austin himself rejects this idea in a later work, arguing that all utterances were performative in nature, and all of them perform three acts: 1) locutionary act, which is the act of producing a meaningful linguistic expression. One example is *it is so cold in here*, which in this case, is informing a condition through a propositional phrase. 2) Illocutionary act, which is an act or action intended to be performed by an addressee that can be explicitly or implicitly uttered by the speaker. In other words, it refers to the speaker's intention. For example, *can you turn on the heating system, please?* Finally, 3) Perlocutionary, which is an act that produces a certain effect or a certain

influence on the addressee through the uttering of a linguistic expression. For example, t*he other person turns the heating system*. It is precisely the second and last concept which acquired great importance in pragmatics since they address the intention and the impact on the addressee by the linguistic expression in a communicative act.

Later on, these ideas were further developed by Searle (1979) who made a taxonomy of illocutionary acts in his book *Expressions and Meaning*. He profounds the notion of felicity and argued that by questioning a felicity condition, a speaker can perform an indirect speech acts. One example of the indirect acts is a request in a form of a statement; *Can you close the door?* it is not just a question referred to the ability to the hearer to actually close the window or not, but rather a request to close it given a certain previous context.

### 2.3.2.3 Implicature

One of the principal authors regarding communicative acts and meanings is Paul Grice. He describes communicative meaning in his work *Meaning* (1957) distinguishing two categories; natural meaning and non-natural meaning. The former is described as an arbitrary and conventional meaning and the latter, is the meaning beyond what it is said, that is to say, places the focus on the intention within the communication between the speaker and the hearer. For the first time, intentions were considered as core in human communication and it is for this reason that Grice developed the Theory of Cooperative Principles

according to Ariel (2012) in order to address two main problems; being the first the difference between natural and non-natural meaning.

This theory attempts to explain people's interaction in social situations achieving effective and successful communication during conversations. This principle is divided into four maxims of conversation that must be accomplished during a conversation in order to have a mutual understanding. (1) *Maxim of Quantity*, which refers to the amount of information provided by the speaker, it must be precise with no more or less information than the necessary. (2) *Maxim of Quality*, which refers to the conditions of truth in the information, in other words, the speaker cannot state something if it may be false. (3) *Maxim of Relevance*, which refers to how relevant and precise is the information related to the central topic of the conversation. Finally, (4) *Maxim of Manner*, which refers to the clearness of the utterance, this means that the information must be clear, organized, brief with the intention to avoid ambiguity.

The second problem addresses the point of how the speaker is able to convey more than the explicit linguistic code. Grice explained the maxims in order to have a proper communicative act, nevertheless, he later proposes another theory in order to justify a possible maxim violation or alteration in *Logic and Conversation* (Grice, 1975). The concept of implicature is called *Theory of Conversational Implicature* and it is used to describe how the addressee, during a conversation, must derive extra meaning from the words

of a speaker, that is to say, more than the actual linguistic unit encodes. This inferential theory is based on the interlocutor's intuition.

All these concepts are helpful to define what is the typical behavior of communication and to extend the theory of the practice, and the real impairments that a person may encounter if those are affected, creating problems in socialization and a proper understanding of the world.

### 2.3.3 Pragmatic evaluation

Pragmatics –as it was mentioned before, has been studied thoroughly during childhood and adulthood. Unfortunately, there is no test specially created for or adapted to assess the period of adolescence, but rather to evaluate children's pragmatics acquisition and for adults to assess a possible deficit in these aspects in clinical population or with some type of condition.

Taking into account test in Spanish, mainly all of them are focused on the following aspects; *Protocolo pragmático de Prutting and Kirchner* (Prutting & Kirchner, 1987) pioneers in pragmatic evaluation, including most of the topics on pragmatics such as speech acts, turn-taking, linguistic styles, among others. In children, the evaluation of –CCC and CCC-2 (Mendoza & Garzón, 2012) contemplates the same that the former ones, including social communication; and Protocolo de evaluación pragmática here in Chile (Martinez, 2001), which can be used in children and in adults as well. Other evaluations concentrate on clinical population such aphasic patients – *Metaphas* (Vicent & Hernández, 2014), which evaluates linguistics aspects and the pragmatics in terms of context adaptation; and on adults with Asperger

condition –*CCP* (Rodríguez, 2012) that incorporates most of the elements from Prutting and Kirchner. Most of these evaluations are observation protocols or comparison guidelines that do not have a performance scale or some cut-off score that helps to carry out quantitative research in the field.

## 2.4 Social cognition and pragmatic abilities

From a theoretical point of view, both of these areas, as it has been mentioned before, share a common field: the study of intentions and mental states from the speaker as well as the hearer. Ivern (2018) states that the application of ToM for pragmatic studies is fully justified because to understand the meaning of a sentence, it is important to attribute a state of mind and a communicative intention. The importance in the stages of language acquisition, especially of pragmatic abilities, is to get the intentionality of the words beyond its literality (Ivern, 2018). The mention of the intention is fundamental to, later on, understand specific tasks related to Social Cognition as ToM and emotional processing tasks. He proposes that these studies may answer questions such as: what mental processes make it possible to share meanings and to communicate? On the other hand, some other theories mentioned that language determines social interactions that are present in the development of ToM tasks. The acquisition of pragmatic abilities would help to create a mental representation of the world, that is to say, would be previous to the development and posterior performance of ToM (Resches, Serrat, Rostan, & Esteban, 2010).

Regarding research fields, generally, studies that have investigated the possible relation of Social Cognition and pragmatics have developed their investigation among clinical population. Some studies have focused on executive functions research together with Social Cognition and pragmatic impairments.

In one of the cases, a study compared participants with ASD and attention deficit hyperactivity disorder. Both of them showed impartments in ToM tasks, along with problems of coherence and inappropriate beginnings (Roselló, et.al., 2017). Some studies with patients with Traumatic Brain Injuries have found a clear connection of emotions recognition and the identification and comprehension of sarcasm and lies (McDonald, et al., 2013). Other studies focused on deficits presented by a population with a diagnosis of schizophrenia have also established a clear relationship between aspects of Social Cognition, such as ToM, with aspects of language and speech. Generally, patients show an organizational and conceptual disorder, from which are derived problems in formal aspects such as syntax and semantics. In turn, they present problems in the domains of contextual factors and interaction factors, conceptualized in the domain of pragmatics. An example of these is the deficit to interpret sentences, the inference of the interlocutor's intention, and especially, in non-literal language. Patients with schizophrenia fail in the related tasks in ToM and in the understanding of idioms, metaphors, and ironies, among others (Bosia, et.al., 2016)

3. Objectives and hypotheses

The following section presents the methodology used during the investigation, including the main objectives and hypotheses that led the project. Furthermore, the characteristics of the population are included and the different types of instruments and procedures that were applied, in order to measure both; Social Cognition and pragmatic abilities.

General objective:

· To establish the relation between Social Cognition tasks and pragmatic tasks performance in adolescents from 15 to 18 years old in Santiago, Chile.

Specific objectives:

· To identify the performance in Social Cognition tasks in adolescents from 15 to 18 years old in Santiago, Chile.

· To identify the performance in pragmatic abilities tasks in adolescents from 15 to 18 years old in Santiago, Chile·

· To identify differences of sex, age and level in social cognition tasks in adolescents from 15 to 18 years old in Santiago, Chile.

· To identify differences of sex, age and level in pragmatic tasks in adolescents from 15 to 18 years old in Santiago, Chile.

Hypotheses:

· There is a relation between Social Cognition tasks and pragmatic tasks performance in adolescents from 15 to 18 years old in Santiago, Chile.

· There are differences of sex, age and level in social cognition tasks in adolescents from 15 to 18 years old in Santiago, Chile.

Research questions:

· Is there a relation between Social Cognition tasks and pragmatic tasks performance in adolescents from 15 to 18 years old in Santiago, Chile?

· Are there differences of sex, age and level in Social Cognition tasks in adolescents from 15 to 18 years old in Santiago, Chile?

4. Methodology

    4.1 Participants

The investigation had the participation of 15 students from 15 to 18 years old (9 women and 6 men) recruited from a second, third, and fourth grade at a school in the southern part of Santiago, district La Pintana (see table 1). The participants were chosen in Santiago, according to the population who belong to the Hospital San Alberto Hurtado, by the demands of Fondecyt project. They were contacted by psychologists who work at the hospital and they were informed about the main purposes of the project. The ones evaluated received all the information and they decided willingly to participate during the investigation with the compromise of having no physical or psychological damage whatsoever and with the clause of leaving the study whenever they wanted. According to the ethical standards of investigation, all the participants signed an informed agreement authorizing the evaluation with the proper and formal permission of their parents with an informed consent.

**Table 1**. Description of the participants' characteristics

| Participants | Criteria | | |
|---|---|---|---|
| | Sex | Age | Level/Grade |
| S1 | Female | 16 | 3rd |
| S2 | Female | 15 | 2nd |
| S3 | Male | 17 | 4th |
| S4 | Female | 17 | 4th |
| S5 | Male | 17 | 4th |
| S6 | Male | 16 | 2nd |
| S7 | Female | 15 | 2nd |
| S8 | Female | 15 | 2nd |
| S9 | Male | 17 | 4th |
| S10 | Female | 17 | 4th |
| S11 | Female | 17 | 4th |
| S12 | Male | 17 | 4th |
| S13 | Female | 18 | 4th |
| S14 | Male | 17 | 4th |
| S15 | Female | 15 | 2nd |

## 4.2 Materials and procedures

Each student was evaluated individually on three different occasions. The first part of the evaluation consisted of an intellectual test performed by psychologists from Hospital San Alberto Hurtado according to each student's age. This was considered as an exclusion criterion, in order to work with participants that presented typical parameters of verbal comprehension,

reasoning, memory, and processing speed. The second part evaluated Social Cognition task and finally, the third part consisted of three tests regarding pragmatic abilities.

The first test took approximately 120 minutes, while the second and the third, 30 minutes each. All of them were held individually and within the installations of the school in a room free from noise and any other disturbance. Additionally, all of the instances were recorded by audio in order to create a faster and non-disturbing evaluation and, to assure the posterior checking of the answers. These evaluations took around one month and counted with the participation of five people in total; two psychologists, three linguists and, one speech therapist. The inter-rate reliability process was addressed with former training and the realization of a pilot test one month before the start of the school's evaluations. Regarding difficulties, the team did not encounter any major difficulties, having a quiet and calm evaluation in all the instances, and having a good disposition from the participants. Originally, the study counted with 16 students, but one of them decided to stop her participation since it took time from classes once in a while.

4.2.1  Exclusion criterion.

·   Wechsler Adult Intelligence Scale (WAIS-IV) and Wechsler Intelligence Scale for Children (WISC-V)

Firstly, WAIS is a psychometric test developed by David Wechsler, which describes an intellectual scale used to calculate participant's CI. It is administrated between the ages of 16 to 89 years old and it has four subtests

that measures; verbal comprehension, perceptual reasoning, working memory, and processing speed. They are analyzed together having as a result a total intelligence index. Its latest version (WAIS-IV) was published in English in 2008 and the Spanish version in 2012. They have been used in different domains such as clinical assessment, health, education, forensic investigations, and human resources evaluation. The application takes around 120 minutes (Wechsler, 2008)

Secondly, WISC is a WAIS adaptation and it was created in order to evaluate children until 16 years old. Since it is an adaptation, the general characteristics and structure are very similar to the ones presented in WAIS, and it only varies in the difficulties of the tasks. The last version (WISC-V) was published in 2014 and it is one of the most used instruments in clinical and educative contexts. The application takes approximately 90 to 110 minutes (Wechsler, 2014)

### 4.2.2   Inclusion criterion.

· Adolescents between 15 and 18 years old

· Adolescents in high school from 2nd grade to 4th grade

· Adolescents who had signed an informed agreement

### 4.2.3   Tests:

#### 4.2.3.1 Mini – sea

The Social Cognition and Emotional Assessment in its second version was developed by Bertoux, et al., in 2012 and it is a neuropsychological battery

used to assess impaired social and emotional functions in frontotemporal dementias. The first part of the test contains ten faux-pas' stories, which describe a possible awkward situation where one person says or does something. The participant's task is to recognize if one of the characters of the story said something awkward, who said it, why did he/she say it and three more questions related to the identification of others' mental states. Additionally, the participants must answer two control questions that measure attention and comprehension (Table 2)[1]. Punctuation was between 0 and 1, being 0 as incorrect and as correct.

**Table 2**. Faux-pas story' sample

Miguel, un niño de 9 años, comenzó a asistir a un nuevo colegio. Él estaba en uno de los sillones de la sala de descanso, al lado de la puerta de entrada. Javier y Pedro, otros dos niños, entraron y se pararon a hablar al lado de esa puerta. Javier dijo "¿Conoces al niño nuevo del curso? Su nombre es Miguel. ¿No parece extraño? ¡Es tan pequeño!". Miguel se paró del sillón y Javier y Pedro lo miraron. Pedro dijo "¡Hola, Miguel! ¿Vas a jugar fútbol ahora?".

¿Alguien dijo algo que no debería decir o algo torpe?

**Si es sí,** pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

- ¿Por qué piensa que él/ella lo dijo?

- ¿Cuándo Javier hablaba a Pedro, sabía que Miguel estaba en sillón al lado de la puerta?

- ¿Cómo cree que Miguel se sintió?

**Preguntas Control:**

- En la historia, ¿dónde estaba Miguel mientras Javier y Pedro hablaban?

- ¿Qué dijo Javier sobre Miguel?

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[1] For the rest of the tests see Annex 1

In the second part of the evaluation, the participant must identify 35 facial expressions according to the following alternatives: alegría, sorpresa, tristeza, miedo, disgusto/asco, rabia or neutro (happiness, surprise, sadness, fear, disgust, anger or neutral). and decide which of these emotions represent the best each image (Bertoux, et al., 2012). Punctuation was between 0 and 1, being 0 as incorrect and as correct. These images are based on Ekman and Friesen's Faces tests or Pictures of Facial Affect.

### 4.2.3.2 Irony test

This test was developed by Kreuz and Glucksberg, translated and adapted by López and Saavedra in 2013 and it was designed to measure the identification of irony within 20 stories. Each story may or may not have an ironic phrase at the end of it and the participant's task is to choose between three alternatives that explain the last phrase, which is to say, which is the one that represents the best the last utterance of the text. Furthermore, the participant must answer a control question in order to measure the attention to the task (Table 3). Punctuation was between 0 and 1, being 0 as incorrect and as correct.

**Table 3.** Irony story's sample

El paseo a la playa

Paula y su amiga Clara planeaban un viaje a la playa para el día siguiente. "El tiempo estará agradable mañana", dijo Clara, quien trabajó dando el tiempo en una emisora de televisión.

Al día siguiente amaneció frío y lluvioso. Mirando por la ventana hacia afuera, Paula dice: **Hoy el tiempo está hermoso, ciertamente.**

A)      Le encanta la lluvia y el viento.

B)      El tiempo está agradable.

C)      El tiempo está horrible.

¿Dónde fueron Clara y Paula?

## 4.2.3.3 Indirect speech acts

This test was designed by Ferreres et.al in 2007 and it belongs to the Protocol for Communicative Evaluations of Montréal (MEC). It has been used to evaluate the participant's capacity to comprehend direct and indirect speech acts taking into account situational context.

The test has 20 short situations in which; ten of them include direct speech acts, that is to say, that the communicative intention of the speaker coincides with the utterance that she/he said, and other ten situations that contain indirect speech acts, in which the communicative intention of the speaker is not explicitly enounced. In this case, it is necessary to interpret the verbal information said in the frame of the real communicative situation. These situations are presented in a random order where the participants have to explain if the meaning of the last phrase which contains an indirect speech act or not and afterwards, choose between two options to answers, a literal and

direct interpretation or an indirect interpretation considering context (Ferreres, Abusamra, & Cuitiño, 2007). Some terms in the test were adapted and changed to bring them closer to the reality of the participants, that is, by words with which they were familiar.

The score of this test has scales of 0.1 and 2 in the part that requires the participant's explanation. Score 0 is when the participant cannot explain what is meant by the indirect speech act, 1 is when they understand that it is an indirect speech act but do not understand what it means, and 2 when they correctly identify and explain the meaning of the final sentence (Table 4).

**Table 4.** Indirect speech act story' sample

| Direct speech act | Indirect speech act |
|---|---|
| El señor Rodríguez está en la cocina cuando el teléfono comienza a sonar. Entonces, le dice a su mujer: "Yo contesto" ¿Qué piensa que quiere decir el señor Rodríguez?<br><br>    0    1    2<br><br>a.    Quiere decir que él contesta<br><br>b.    Quiere decir que su mujer debe contestar | Oscar se muda el próximo sábado. Sabe que le espera un duro trabajo ya que debe llevar varias cajas a su nueva casa. Se encuentra con un amigo en la calle y después de contarle que se muda, le dice: "Qué haces el fin de semana?". ¿Qué piensa que quiere decir Oscar?<br><br>    0    1    2<br><br>a.    Quiere saber qué va a hacer su amigo el fin de semana.<br><br>b.    Quiere que su amigo lo ayude con la mudanza |

### 4.2.3.4 Narrative discourse

It also belongs to the Protocol for Communicative Evaluations of Montréal (MEC), and it was designed to evaluate the participant's capability to comprehend and recognize a narrative text and also to value the production of narrative speech. During the first part of the test, the participant must hear a trickery story and then retell it with her/his own words. During the second part, they have to answer twelve brief questions related to the test, and the creation of a title the story at the beginning of the questionnaire and then at the end of it (Ferreres, Abusamra, & Cuitiño, 2007). This test was used as a complement to pragmatic abilities since it evaluates inferences and also measures general linguistic abilities (Table 5). Punctuation was between 0 and 1, being 0 as incorrect and as correct.

**Table 5**. Narrative discourse story' sample

1.      Juan es un campesino del norte. Desde hace varios días, está ocupado cavando un pozo en su campo. El trabajo está casi terminado.

2.      Una mañana, Juan llega al lugar para terminar con su tarea y nota que, durante la noche, el pozo se desmoronó y que el hueco está lleno de tierra hasta la mitad.  Juan está muy desanimado. Piensa durante algunos minutos y se dice: "Tengo una idea". Coloca su camisa y su sombrero al borde del pozo, esconde el pico y la pala y se trepa a un árbol donde permanece escondido.

3.      Un tiempo después, un vecino que pasaba por el campo, se acerca a hablar un poco con su amigo Juan. Al ver su sombrero y su camisa, piensa que Juan está trabajando en el fondo del pozo.

4.       El vecino se acerca, se inclina y al ver el pozo con tierra hasta la mitad grita con todas sus fuerzas: "¡Socorro! ¡Socorro! ¡Amigos, vengan rápido, Juan está enterrado en un pozo!". Los

vecinos corren hasta el lugar y comienzan a vaciar el pozo para llegar hasta el desafortunado de Juan.

5. Cuando terminan de vaciar el pozo, Juan se baja del árbol, se acerca y dice a sus vecinos: "Muchísimas gracias, ustedes me fueron de gran ayuda".

### 4.2.3.5 Protocolo Rápido de Evaluación Pragmática Revisado (PREP-R).

This test was developed by Fernández, et.al in 2015 and it is part of a qualitative evaluation base on pragmalinguistics. It is a fast detection screening of pragmatic aspects in order to diagnose communicative deficits. It evaluates intentionality, grammar, and interaction (Fernández, et al., 2015). This test was reduced to aspects that had not been measured in the previous evaluations, such as the pragmatic statement with the evaluation of declarative acts and articulation; the evaluation of textual grammar with the use of vocabulary, morphology and grammatical concordance; and finally, the evaluation of interactive pragmatics with the evaluation of turn agility, adequate turn-taking, and complementary gestural use, among others.

The tests presented were chosen through a prior search carried out in databases such as PubMed, Science Direct, Scopus, and Web of Science in 2018 to find tests for the evaluation of Social Cognition and pragmatics in Spanish for adolescents. Unfortunately, no test specially created for or adapted to the range of adolescence was found. Mainly all of them are focused on the following aspects; 1. Clinical population such as aphasic patients – Metaphas (Vicent & Hernández, 2014), and on adults with Asperger condition –CCP (Rodríguez, 2012). 2. Evaluation of children –CCC and CCC-2

(Mendoza & Garzón, 2012) or adults such as Protocolo pragmático de Prutting and Kirchner (Prutting & Kirchner, 1987) pioneers in pragmatic evaluation, and Protocolo de evaluación pragmática here in Chile (Martinez, 2001). Most of these evaluations are observation protocols or comparison guidelines that do not have a performance scale or some cut-off score that helps to carry out quantitative research in the field.

### 4.3 Analysis of the results

The temporal process of the analysis can be described as follows:

1. Creation of an Excel document with all the information of the participants and the results of each of the tests answered by them, along with a report of each participant with the pragmatic protocol evaluation.

2. Creation and adaptation of the database to an SPSS model.

3. Identification of the variables and its nature, that is to say, nominal, ordinal, etc.

4. Descriptive analysis to generate the general base of the results with a demographic description of the participants according to sex, age, and education level.

5. Creation of cross tables to achieve the characterization of each test.

6. Bivariate analysis: t-test (U Mann-Whitney), Kruskal-Wallis test, Correlation (Spearman).

7. Correlation with a cross of all variables (Spearman).

8. Construction of the descriptive report.

9. Generation of the correlations.

Due to the fact that there were only 15 cases collected in this study, it was chosen to perform a bivariate analysis of a non-parametric nature called the Spearman's RHO correlation. This type of correlation is recommended to be used specifically when it is not possible to obtain a normal distribution (Badii, et al., 2014) and in this case, it was assumed because of the number of interviews in the total universe.

5. Results

The presentation of the results, in accordance with the exploratory level of this investigation, has been carried out by statistical analysis at a descriptive level in order to visualize the results achieved during the interviews. To begin, there will be an overview of the overall results of each test. Then, there will be a descriptive characterization of each of the results. Finally, in the last section, a bivariate analysis is presented where the main objective is to answer the questions derived from the research and to describe the possible relation between each of the tests.

In reference to the statistical processing that was conducted, it is important to clarify that variables such as *age* (which are generally used at a quantitative level-scale) have been used as a nominal variable. This decision was made based on the short-range that the variables present, which does not have necessary the statistical dispersion that a quantitative variable requires.

Furthermore, in addition to the presentation of the results, the qualitative results obtained from the PREP-R observation protocol will be presented with the aspects evaluated and with the cases that showed deficits or a certain type of atypical behavior.

5.1 General results

The first section shows a demographic description of the participants and an overview with the overall results of each test, order firstly by Social Cognition

(Faux-pas and Emotional assessment) tests and, secondly by pragmatic tests (Irony, indirect Speech Acts and Narrative discourse) (Table 6).

**Table 6.** Description of the tests used in the investigation

|  | Participants | Range |
|---|---|---|
|  | Mean (SD) | Min-Max |
| Age (N = 15) | 16.40 (0.99) | 15-18 |
| Sex (N = 15) | 9F/6M |  |
| Level/Grade (N = 15) | N2= 5<br>N3= 1<br>N4= 9 | 2-4 |
| Mini Sea (N = 15) |  |  |
| Faux-Pas (N = 15) | 46.73 (8.33) | 32-58 |
| Emotional Assessment (N = 15) | 27 (2.64) | 23-32 |
| Irony (N = 15) |  |  |
| Recognition (N = 15) | 14.93 (2.68) | 11-19 |
| Attention (N = 15) | 14.46 (2.41) | 12-20 |
| Indirect speech acts (ISA) (N = 15) |  |  |
| Recognition (N = 15) | 10.06 (1.38) | 16-20 |
| Explanation (N = 15) | 34.33 (4.28) | 25-40 |
| Narrative Discourse (N = 15) |  |  |
| Story Retelling (N = 15) | 8.73 (2.49) | 5-13 |
| Comprehension (N = 15) | 10.53 (1.18) | 8-12 |

SD: standard deviation

The total number of participants had an average age of 16.4 years old, where the youngest was 15 and the oldest was 18 years old. In addition, in terms of sex, 9 participants were women and 6 were men, while, at the

educational level, 5 of them belonged to 2$^{nd}$ grade, 1 to 3$^{rd}$ grade, and 9 to 4$^{th}$ grade of high school in La Pintana, Santiago.

Furthermore, the results of the test in Table 6 showed: a) At the Social Cognition level with mini-sea test, Faux-Pas test obtained on average a result of 46.73 (SD: 8.33) on a total score of 60 points (77.88 %), while the Emotional Assessment test obtained 27 (SD: 2.64) on a total score of 35 points (77.14 %). b) At the pragmatic level: irony test obtained on average total value of 14.93 (SD: 2.68) point in irony's recognition (74.65 %) and 14.46 (SD: 2.41) in attention item (72.3 %), both on a total of 20 points; At indirect Speech Acts level in the section of recognition, the average was 10.06 (SD: 1.38) of 20 total points (50.03 %) and in the explanation dimension the participants scored on average 34.33 (SD: 4.28) points on a total of 40 (85.83 %); Lastly, the narrative discourse task obtained an average of 8.73 (SD: 2.49) points on a total of 13 in the story retelling section (67.15 %) and 10.53 (SD: 1.18) of 12 in the comprehension section (87.75 %).

## 5.2 Descriptive results by test

The second section of this analysis is intended to delve into each of the tests carried out (Table 7). In order to characterize the results, in each of the tests were analyzed to see if there was any relationship at the demographic level.

**Table 7**. Description of the results –Mini–sea

|  | Faux pas | Range | Emotional Assessment | Range |
|---|---|---|---|---|
|  | Mean (SD) | Min-Max | Mean (SD) | Min-Max |
| Sex |  |  |  |  |
| Women | 47.67 (6.93) | 36-57 | 27.89 (2.76) | 24-32 |
| Men | 45.33 (10.65) | 32-58 | 25.67 (1.97) | 23-29 |
| Age |  |  |  |  |
| 15 | 52 (4.97) | 46-57 | 27.75 (2.63) | 24-30 |
| 16 | 40.50 (3.54) | 38-43 | 26.50 (3.54) | 24-29 |
| 17 | 45.38 (9.83) | 32-58 | 26.13 (2.10) | 23-30 |
| 18** | 49 |  | 32 |  |
| Level/Grade |  |  |  |  |
| 2 | 50.20 (5.89) | 43-57 | 28 (2.35) | 24-30 |
| 3** | 38 |  | 24 |  |
| 4 | 45.78 (9.27) | 32-58 | 26.78 (2.77) | 23-32 |

** Minimum base (1)

Table 7 shows two tests according to the Mini-sea protocol, where a Faux pas type test was asked, as well as the Emotional Assessment. In all requested variables, bivariate analyzes were conducted by a U de Mann-Whitney, a non-parametric test used to find relations between nominal variables.

Faux pas test shows in the variable of sex, women (M: 47.67 SD: 6.93) score slightly higher than men (M: 45.33 SD: 10.65). In terms of age, the youngest participants (15 years old) obtained the highest score (M: 52 SD: 4.97) in contrast to those of 16 years old, who had the lowest score (M: 40.5

SD: 3. 54). 17 and 18 years old obtained medium scores with 45,38 (SD: 9.38) and 49 points respectively.

Finally, in terms of level, the participants who were in 2nd grade have the highest result in Faux pas (M: 50.20 SD: 5.89) while the only student of 3rd grade obtains the lowest result (M: 38).

Secondly, table 7 also shows the results obtained in the Emotional Assessment test. Where it is possible to see that; women recognized, on average 27.89 types of emotions (SD: 2.76) while men slightly less with an average of 25.67 (SD: 1.97) of a total of 35 emotions. The oldest participant (18 years old) was the one who obtained the highest score identifying 32 emotions of 35 in the test, in contrast to the 17-year-old participants who averaged 26.13 (SD: 2.10). In terms of the level variant, 2nd-grade participants achieved the best results (M: 28 SD: 2.35) once again.

The next results are derived from the irony test, which is constituted by two items: the identification of irony (from now on, recognition) of the test and the attention scale (Table 8). Among the results of the recognition dimension, it can be noticed that men had an average of 15.17 (SD: 2.79) while women of 14.78 (SD: 2.77) on a total of 20 points. In terms of participant age, it was the 18-year-old students who obtain the highest score (M: 17), while the lowest is given by those who are 17 years old (M: 14.50 SD: 2.88). Finally, in the level variant, is the 2nd-grade level who had the highest score (M: 16 SD: 2.00) while the respondent belonging to the 3rd-grade level has the lowest (M: 11).

On the other hand, in the Attention dimension, it is noticeable that women score slightly higher with a mean of 16.11 (SD: 2,62) than men with a score of 14.50 (SD: 1.87) on a total of 20 points. In age, participants who are 16 years old also obtain the lowest score (M: 12), while the 18-year-old participants obtained the highest (M: 19). And finally, in terms of level, it could be observed that once again the only participant from 3rd-grade level obtained the lowest score (M: 12), in contrast to the 2nd-grade level who obtains once again the highest result (M: 16 DS: 2.92).

**Table 8.** Description of the results – Irony

|  | Irony (Recognition) | Range | Irony (Attention) | Range |
|---|---|---|---|---|
|  | Mean (SD) | Min-Max | Mean (SD) | Min-Max |
| Sex |  |  |  |  |
| Women | 14.78 (2.77) | 11-18 | 16.11 (2.62) | 12-20 |
| Men | 15.17 (2.79) | 12-19 | 14.50 (1.87) | 12-17 |
| Age |  |  |  |  |
| 15 | 16.25 (2.22) | 13-18 | 17 (2.16) | 15-20 |
| 16 | 13 (2.83) | 11-15 | 12 | 12-12 |
| 17 | 14.50 (2.88) | 11-19 | 15.13 (1.73) | 13-18 |
| 18** | 17 |  | 19 |  |
| Level/Grade |  |  |  |  |
| 2 | 16 (2.00) | 13-18 | 16 (2.92) | 12-20 |
| 3** | 11 |  | 12 |  |
| 4 | 14.78 (2.82) | 11-19 | 15.56 (2.07) | 13-19 |

** Minimum base (1)

The following results are derived from indirect Speech Act test (ISA), which had two dimensions: an explanation of the ISA and an alternative selection of the correct explanation of the situation (from now on, recognition) (Table 9).

At the explanation dimension, it is noticeable that women (M: 35.22 SD: 4.24) scored slightly higher than men (M: 33 SD: 4.38). At age variant, those who were 18 years old achieved the highest score (M: 37) while those of 17 years old had the lowest score (M: 33.75 SD: 3.99) on a total of 40 points. While in terms of level, 3rd-grade level participant obtained the lowest average (M: 34) and 2nd-grade score, the highest one (M: 34.80 DS: 5.81).

In the case of the recognition dimension, it is observable that men also obtained a slightly higher score (M: 19.17 SD: 0.75) compared to women (M: 19 SD: 1.73). At age variant, students of 16 years old (M: 18 SD: 2.83) were the ones who obtained the lowest score, contrasting the performance of those who were 17 years old (M: 19.38 SD: 0.74) with the higher scores. Lastly, in the student levels, those who were studying in 4th grade (M: 19.33 SD: 0.71) had the highest ISA – recognition results of all, while the student who was on 3rd-grade level obtained the lowest result (M: 16).

**Table 9**. Description of the results – Indirect Speech Acts

| | ISA (Explanation) | Range | ISA (Recognition) | Range |
|---|---|---|---|---|
| | Mean (SD) | Min-Max | Mean (SD) | Min-Max |
| Sex | | | | |
|     Women | 35.22 (4.24) | 26-40 | 19 (1.73) | 16-20 |
|     Men | 33 (4.38) | 25-37 | 19.17 ( 0.75) | 18-20 |
| Age | | | | |
|     15 | 34.25 (6.55) | 26-40 | 19 (2.00) | 16-20 |
|     16 | 35.50 (2.12) | 34-37 | 18 (2.83) | 16-20 |
|     17 | 33.75 (3.99) | 25-37 | 19.38 (0.74) | 18-20 |
|     18** | 37 | | 19 | |
| Level/Grade | | | | |
|     2 | 34.80 (5.81) | 26-40 | 19.20 (1.79) | 16-20 |
|     3** | 34 | | 16 | |
|     4 | 34.11 (3.89) | 25-37 | 19.33 (0.71) | 18-20 |

** Minimum base (1)

Narrative discourse test is a compound of two dimensions, on the one hand, the story retelling activity and on the other hand, comprehension questions related to the story (Table 10). The results show that in the first-named dimension (story Retelling), men scored higher (M: 9.33 SD: 2.94) than women (M: 8.33 SD: 2.24) on a total scale of 13 points. In terms of the age variant, subjects with 18 years were the ones with the lowest score (M: 8) in contrast to the 17 years old group who averaged 8.88 points (SD: 2.59) in this dimension. Lastly, in level variant, the participant of 3rd-grade level reached the highest score (M: 11) while in 2nd-grade level there was a significant drop in the average (M: 8.20 SD: 2.86).

On the other hand, in the Comprehension questions dimension, it is possible to observe that in terms of sex, men are again those who had the highest score (M: 10.67 SD: 1.03) in comparison to women who averaged 10,44 points (SD: 1.33). In terms of age variant, it is the youngest participants who managed to obtain the highest result with a total of 11.50 points (SD: 0.58) of 12, also obtaining a fairly low range, which denotes reliability in the average. On the contrary case, participants of 16 years old averaged 9.50 points (SD: 0.71) being the lowest in the sample. Lastly, it is observed that the 2nd-grade level obtained the highest score by averaging 11 of 12 points in total (SD: 1.22), in contrast to 3rd-grade level, which reached 10.[2]

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[2] Regardless of the results shown in this section at the descriptive level, they cannot be extrapolated to an absolute reality where a relationship actually exists due to the number of cases. The tables in the annexes show that there is no relation between the tests.

**Table 10**. Description of the results – Narrative Discourse

|  | Story retelling | Range | Comprehension | Range |
|---|---|---|---|---|
|  | Mean (SD) | Min-Max | Mean (SD) | Min-Max |
| Sex |  |  |  |  |
|     Women | 8.33 (2.24) | 5-12 | 10.44 (1.33) | 8-12 |
|     Men | 9.33 (2.94) | 6-13 | 10.67 (1.03) | 9-12 |
| Age |  |  |  |  |
|     15 | 8.75 (2.99) | 5-12 | 11.50 (0.58) | 11-12 |
|     16 | 8.50 (3.54) | 6-11 | 9.50 (0.71) | 9-10 |
|     17 | 8.88 (2.59) | 6-13 | 10.25 (1.28) | 8-12 |
|     18** | 8 |  | 11 |  |
| Level/Grade |  |  |  |  |
|     2 | 8.20 (2.86) | 5-12 | 11 (1.22) | 9-12 |
|     3** | 11 |  | 10 |  |
|     4 | 8.78 (2.44) | 6-13 | 10.33 (1.22) | 8-12 |

\*\* Minimum base (1).

### 5.3 Correlations

In terms of the correlation analysis, section three shows the relationship between each test and its dimensions (Table 11). As it has been said, due to the number of cases that were presented in the investigation with a total of 15 participants, it was decided to do a bivariate analysis of a non-parametric nature called Spearman's RHO correlation. This type of correlation is recommended to be used specifically when it is not possible to obtain a normal distribution (Badii, et al., 2014) and in this case, this effect will be assumed due to the number of interviewees in the total universe.

**Table 11.** Bivariate analysis results - Correlation

|  |  |  | FP | EM | ISA (Exp) | ISA (Rec) | ND (SR) | ND (Comp) | Irony (Rec) | Irony (Att) |
|---|---|---|---|---|---|---|---|---|---|---|
| Rho de Spearman | FP | Correlation coefficient | 1,000 | ,117 | -,198 | ,068 | ,271 | ,334 | ,330 | **,543**[*] |
|  |  | Sig. (bilateral) |  | ,678 | ,479 | ,811 | ,329 | ,223 | ,230 | ,036 |
|  | EM | Correlation coefficient | ,117 | 1,000 | ,492 | **,767**[**] | -,287 | -,145 | -,084 | ,304 |
|  |  | Sig. (bilateral) | ,678 |  | ,063 | ,001 | ,299 | ,605 | ,765 | ,271 |
|  | ISA (Exp) | Correlation coefficient | -,198 | ,492 | 1,000 | **,592**[*] | -,297 | -,432 | ,164 | ,195 |
|  |  | Sig. (bilateral) | ,479 | ,063 |  | ,020 | ,282 | ,108 | ,559 | ,485 |
|  | ISA (Rec) | Correlation coefficient | ,068 | **,767**[**] | **,592**[*] | 1,000 | -,159 | -,459 | -,163 | ,112 |
|  |  | Sig. (bilateral) | ,811 | ,001 | ,020 |  | ,571 | ,085 | ,561 | ,692 |
|  | ND (SR) | Correlation coefficient | ,271 | -,287 | -,297 | -,159 | 1,000 | ,251 | ,109 | ,222 |
|  |  | Sig. (bilateral) | ,329 | ,299 | ,282 | ,571 |  | ,367 | ,699 | ,427 |
|  | ND (Comp) | Correlation coefficient | ,334 | -,145 | -,432 | -,459 | ,251 | 1,000 | ,359 | ,343 |
|  |  | Sig. (bilateral) | ,223 | ,605 | ,108 | ,085 | ,367 |  | ,188 | ,211 |
|  | Irony (Rec) | Correlation coefficient | ,330 | -,084 | ,164 | -,163 | ,109 | ,359 | 1,000 | ,348 |
|  |  | Sig. (bilateral) | ,230 | ,765 | ,559 | ,561 | ,699 | ,188 |  | ,203 |
|  | Irony (Att) | Correlation coefficient | **,543**[*] | ,304 | ,195 | ,112 | ,222 | ,343 | ,348 | 1,000 |
|  |  | Sig. (bilateral) | ,036 | ,271 | ,485 | ,692 | ,427 | ,211 | ,203 |  |

[*]. The correlation is significant at the 0.05 level (2 tails).
[**]. The correlation is significant at the 0.01 level (2 tails).

### 5.3.1  Faux-pas relation and Emotional assessment

Within the analysis of Social cognition areas, the result was the following:

a.  In the case of Faux-pas test and Emotional assessment, the result of
    p was greater than 0.05 (0.678), therefore, with 95% confidence, **it is
    not possible to affirm that there is a relationship** among these test.

### 5.3.2  Faux-pas relation and pragmatic tasks

In terms of Faux-pas and pragmatic tasks relations, the results were the following:

a.  In the case of Faux-pas test and ISA –Explanation, the result of p was greater than 0.05 (0.479), hence, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

b.  Similarly, in the case of Faux-pas test and the ISA –Recognition, the result of p was greater than 0.05 (0.811), therefore, with 95% confidence, also **it is not possible to affirm that there is a relationship** among them.

c.  In terms of Faux-Pas and Narrative Discourse –Story Retelling, the result of p was greater than 0.05 (0.329), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

d.  Similarly, in the case of Faux-pas test and Narrative Discourse – Comprehension, the result of p was greater than 0.05 (0.233), consequently, with 95% confidence, **it is not possible to affirm that there is a relationship** among them

e.  In the case of Faux-pas test and Irony –Recognition, the result of p was greater than 0.05 (0.230), therefore, with 95% confidence, **there is no evidence which supports a relationship** among them.

f.  Similarly, in the case of Faux-pas test and Irony –Attention, the result of p was greater than 0.05 (0.036), consequently, with 95%

confidence, **there is no evidence which supports a relationship among them**

### 5.3.3 Emotional assessment relation and pragmatic tasks

In terms of Emotional assessment and pragmatic relations, the results were the following:

a. In the case of Emotional Assessment test and ISA –Explanation, the result of p was greater than 0.05 (0.063), hence, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

b. Contrary to this result, in the case of Emotional Assessment test and ISA –Recognition, the result of p is less than 0.05 (0.001), and with 95% confidence, **it is possible to establish a relationship** among them. In addition, they have the highest correlation coefficient in the study, which means in other words, that it can be said that it exists a strong relationship between these variants.

c. In the case of Emotional Assessment test and Narrative Discourse – Story retelling, the result of p was greater than 0.05 (0.299), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

d. In the case of Emotional Assessment test and Narrative Discourse – Comprehension, the result of p was greater than 0.05 (0.605), consequently, with 95% confidence, **there is not enough evidence to establish a relationship** among them.

e. In the case of Emotional Assessment test and Irony –Recognition, the result of p was greater than 0.05 (0.765), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

f. In the case of Emotional Assessment test and Irony –Attention, the result of p was greater than 0.05 (0.271), therefore, with 95% confidence, **there is not enough evidence to establish a relationship** among them.

### 5.3.4  Pragmatic tasks

In terms of pragmatic relations, the results were the following:

a. In the case of ISA –Explanation and ISA –Recognition, the result of p was less than 0.05 (0.020), therefore, with 95% confidence, it is possible to conclude that **there is a relationship** among them.

b. On the contrary, in the case of ISA –Explanation and Narrative Discourse –Story retelling, the result of p was greater than 0.05 (0.282), therefore, with 95% confidence, **there is not enough information to affirm a relationship** between them.

c. Similarly, in the case of ISA –Explanation and Narrative Discourse – Comprehension, the result of p was greater than 0.05 (0.108), therefore, with 95% confidence, **there is not enough information as well to affirm a relationship** between them.

d. In the case of ISA –Explanation and Irony –Recognition, the result of p is greater than 0.05 (0.599), therefore, with 95% confidence, **there is not enough information to affirm a relationship** between them.

e. Similarly, in the case ISA –Explanation test and the Irony –Attention, the result of p was greater than 0.05 (0.485), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

f. In the case of ISA –Recognition test and the Narrative Discourse – Story retelling, the result of p was greater than 0.05 (0.571), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

g. In the same way, in the case of ISA –Recognition test and the Narrative Discourse –Comprehension, the result of p was greater than 0.05 (0.085), therefore, with 95% confidence, **it is not possible to affirm that there is a relationship** among them.

h. In the case of ISA –Recognition and Irony –Recognition, the result of p was greater than 0.05 (0.561), therefore, with 95% confidence **it is not possible to affirm that there is a relationship** among them.

i. Similarly, in the case of the ISA –Recognition and Irony –Attention, the result of p was greater than 0.05 (0.692), therefore, with 95% confidence **it is not possible to affirm that there is a relationship** among them.

j.  In the same case, in terms of Narrative Discourse –Story retelling and Narrative Discourse –Comprehension, the result of p was greater than 0.05 (0.367), therefore, with 95% confidence **it is not possible to affirm that there is a relationship** among them.

k.  In terms of Narrative Discourse –Story retelling and Irony – Recognition, the result of p was greater than 0.05 (0.699), therefore, with 95% confidence **it is not possible to affirm that there is a relationship** among them.

l.  In the case of Narrative Discourse –Story retelling and Irony – Attention, the result of p was greater than 0.05 (0.407), therefore, with 95% confidence **there is no evidence to affirm a relationship** among them.

m.  In the case of Narrative Discourse – Comprehension and Irony – Recognition, the result of p was greater than 0.05 (0.188), therefore, with 95% confidence **there is no evidence to affirm a relationship** among them.

n.  In the same case, in terms of Narrative Discourse – Comprehension and Irony – Attention, the result of p was greater than 0.05 (0.211), therefore, with 95% confidence **it is not possible to affirm that there is a relationship** among them.

o.  Finally, in the case of Irony –Recognition and Irony – Attention, the result of p was greater than 0.05 (0.203), therefore, with 95%

confidence **there is not enough information to affirm a relationship** among them.

The results, as previously mentioned, do not have statistical significance, however, trends and relations between the aspects evaluated are appreciated. This can be derived from the participant's profile, who have typical intelligence indicators.

## 5.4 PREP-R results

Along with the results of the tests aforementioned, an observational protocol to evaluate pragmatic skills was given. This protocol is a short version of the PREP-R (Fernández, et al., 2015) selected specifically to assess only the variants that were not contemplated in the quantitative investigation, and therefore, it is a complement of the previous results.

In the first section, enunciative pragmatic was evaluated with an analysis of Speech Acts in terms of production. This part evaluates (1) if the *speakers are able to articulate correctly the words* in an understandable way (enunciate acts); if *they can find the correct words and use proper grammar to convey meaning* (propositional acts); and *correct use of the pauses and silences*. In this case, only one of the sixteen students (participant n°3) presented some problems with having long and awkward pauses during the conversation with the interviewer.

In the second section, one part of textual pragmatics was evaluated related to one aspect; *morphology and word formation*: In this case, there is

an evaluation *if the participants were able to construct words completely*, specifically using the endings of nouns, adjectives, and verbs, respecting the time, sex or number concordances, as well as the proper use of articles. In this case, none of the participants presented any time of complication, showing a typical construction of words and the use of proper grammatical rules during the whole assessments.

The final section was referred to Interactive pragmatics, where six aspects were evaluated. (1) If the participant is capable of having appropriate *turn agility*, that is, that the conventional interaction takes place at an agile and fast dialogical rhythm. (2) It is evaluated if the *speaker has a fluent turn-taking*, which means if the participant does the turn-taking at the right time, without noticeable interruptions or delays. (3) *Predictability:* In this case, the evaluation is related to the use of both, predictive and predicted shifts appropriately. (4) *Priority*: This item is associated with the evaluation if the participants design their shifts according to principles of conversational priority. (5) *Natural gestures:* The evaluation consists of the use of gestures, facial expressions, and nonverbal communication as complements and not as a substitution of what is supposed to be said. (6) *Communicative use of the gaze:* Consisting of the evaluation of using the gaze communicatively, to confirm listening and understanding, to yield or ask for the turn.

Only one participant (n°3), presented some problems in item (1) (2) since he took long time to respond to some questions having an influent conversation. Furthermore, he presented plain behavior along with plain facial

expression and some problems with holding his gaze with the interviewer (item 6).

It is further documented that one of the students (participant n°1) exhibited a responsive and passive attitude toward the assessment. There was a constant complaint about the test and a lack of interest in responding to the activities. Additionally, the participant obtained low results in all the evaluation, especially in the speech act evaluation where there was a low explanation result and in the irony test where presented low attention results.

6. Discussion

The present investigation concentrated on the description of Social Cognition and pragmatic abilities through different tasks in adolescents from 15 to 18 years old and later on, on the identification of a possible relationship among those areas of study.

6.1 Demographic analysis

6.1.1 Sex influence in Social Cognition tasks

According to studies related to the performance of adults in Social Cognition tasks, there is a marked tendency that women have had significantly higher results than men in first and second-order false belief ToM tasks. Even though the results in the present study were not significant, there is a slight tendency of women having better results in those areas. In Faux-pas tasks, women scored around 47 points while men 45 of a total score of 60 points, presenting less difficulty in answering the questions, identifying the awkward situations, and having better results in the control questions that measured attention on the task. In the case of emotional processing, women also presented higher results, consistent with the literature, identifying on average 27 of 35 facial expressions, while men 25. The highest scored on this task was performed by an 18 years old woman of 4th grade with the identification of 32 facial expressions.

This is consistent with previous results were pre-adolescents have shown a serious tendency of girls having better results in Social Cognition related tasks. Leanne (2000) evaluated 128 children from 6th grade that

were around 11-12 years old. On the one hand, girls showed an increasing development of self-consciousness and empathy, however, they began to present low appreciation of themselves in terms of self-esteem, besides of good familiar environment and good academic results. On the other hand, boys have had better results in tasks related to perspective taken. Summarizing, girls had better performance in tasks related to social skills and self-understanding. Similarly, another study assessed 80 adolescents; 40 males and 40 females from 11 to 17 years where girls performed significantly better than boys in all ToM components (Bosco, 2014).

Generally, studies related to emotional processing have been often developed in children and adults. One study concentrated on the difference between accuracy and speed on facial recognition between children from 7 to 10 years old and adults of 25 years old average. Even though accuracy did not improve from children to adults in terms of facial recognition, speed did. Consistent with different other studies, adults had better results than children in the tasks (De Sonneville, et al., 2002). Another study in 2013, evaluated 2010 adolescents with neurotypical behavior, showing girls having higher results than boys with more sensitive and faster emotional face perception (Lee, 2013).

6.1.2 Age influence in Social Cognition tasks

Within the analysis of age influence in the results of ToM tasks, there is no consistency in the performance of the participants. 15 years old students had higher results with 52 scores on average and 16 years old the lower

scores with 40 points on a total of 60. It is supposed that the performance increases according to age. Bosco (2014) evaluated the incidence of age in the results of ToM evaluation, obtaining that adolescents' performance increased with age in first-order, and second-order false beliefs. This effect applies to the group of 11 and 13 years old, then again goes –as it was expected– at 15 years and then the performance stabilized. This information may explain the non-consistent results in terms of age of the present study. Similarly, another investigation evaluated the different performance between younger adolescents –14 years old, adolescents –17 years old and younger adults –20 years old showing better results in each of the progressive ages in working memory and false belief and language tasks (Valle, et al., 2015). In terms of emotional processing, one study on pre-adolescent development evaluated 504 students from 8 to 11 years old with the objective of assessing recognition and affective reaction to emotional facial expressions. The overall results showed increased recognition of emotions, particularly neutral and sad expressions (Manici, et al., 2013)

### 6.1.3 Level influence in Social Cognition tasks

The results in level influence in ToM tasks are not lineal, similar to the age variant. 2nd-grade along with 4th-grade participants obtained the bests results in Faux-pas tests with 50 and 45 points on average on a total of 60 respectively. The only 3rd-grade student obtained 38 points obtaining the lowest score within the total population of participants. This can be explained by the responsive and passive attitude that she presented along

with the entire tests. This will be complemented in the observational protocol later on in the discussion. There was no information found comparing pragmatic abilities at different levels or grades within the educational system to which adolescents belong.

### 6.1.4 Sex influence in pragmatic tasks

The first test to consider is Irony test, with the identification and recognition of ironies said in short stories. The results showed that men obtain a higher score (15.17) with a difference of only one point with women (14.78), which does not indicate an essential difference between both sexes. In addition, in terms of attention to the test, which contains questions to affirm that the participants understood the story correctly, there are also very small differences with better performance in women with a score higher than only two points (woman: 16.11 and man: 14.50).

In terms of recognition of indirect speech acts, as it has been a trend in sex differences, women got a higher result than men, obtaining a score of 35.22 out of a total of 40. One of the girls (participant n°10) was the only participant to achieve the full test score in both recognition and explanation. During the second part when participants had to choose options, both groups had similar scores obtaining 19 correct answers out of a total of 20, which can be deduced due to the alternatives that were presented to them. It seems to be easier for the participants if the option is given instead of explaining which is the irony in their own words. Both groups had participants who achieved a total score of 20 points in this part of the test.

The last test to measure pragmatic aspects was Narrative Discourse, the test contains a linguistic component that indicates if it could have a deficit in the handling of language that could affect the performance of the other tests. In this sense, in the story retelling, men scored higher than women with 1 point of difference with a total of 9.33 and 8.33 out of a total of 13 points respectively. Nevertheless, men and women obtained similar results in understanding the story and also in the questions of the deceit presented in the story. The comprehension of insincere communication is closely related to Social Cognition aspects since it requires an understanding of other's thoughts, intentions, and emotions. One study focused on neurodegenerative disease showed that patients presented severe impairment in ToM tasks, as well as in the inability to identify sarcasm and lies (Shany-Ur, 2012).

### 6.1.5 Age influence in pragmatic tasks

In terms of the age of the participants, no congruence was found from older age/higher performance in identifying irony, indirect speech acts and, story retelling, and comprehension in the narrative discourse story. There was no greater ease of completing tasks or higher scores with varied results at each age level.

In tasks of irony, the results between the different age groups are similar. Although the 18-year-old student did score higher on both tests - recognition and attention - there is still inconsistency between the groups of 15 to 17 years.

In indirect speech act test the results were similar to the case of the irony tests, where there is no relationship between score and age. Although the 18-year-old student did show higher performance in the part of the explanation of the indirect speech acts, it was not so in the part of the recognition of them. The lowest score was obtained by the 16-year-old group in both parts of the test.

In Narrative Discourse, the scores showed a similar trend, where the highest scores were obtained by 17-year-old participants in recounting the story and 15-year-old participants in comprehension questions.

### 6.1.6 Level influence in pragmatic tasks

The results in recognition of irony showed, similarly to those obtained in Social Cognition tasks, a better performance by 2nd-year students with 16 points out of a total of 18, while those in 4th-grade also presented high results with an average of 14 points. Again, the 3rd-year participant obtained the lowest score (11 points). In the attention item, it can be seen the same trend that in recognition with 2nd-year students obtaining the best results and 3rd-year student having the lowest.

In terms of indirect Speech Acts, in the explanation item presented an equal performance with a score of 34 points. In recognition 4th-grade students obtained the best results, presenting no linear distribution.

Finally, in narrative discourse analysis; story retelling and in comprehension questions, similarly with the last presented information, 2nd

and 4<sup>th</sup> grade students obtained the best results, and 3<sup>rd</sup> obtained the lowest score with 11 and 10 points respectively. It's worth mentioning that generally the results in comprehension questions were high and this could mean good performance in linguistic abilities.

Generally, the literature consistent with the performance of pragmatic skills, either in the evaluation of irony, metaphors, acts of indirect speech, etc., have concentrated on the clinical population. No record was found of pragmatic studies comparing variables of sex or age or educational level. Typical development data was found compared to pathologies or conditions such as patients with brain damage or patients diagnosed with ASD, children diagnosed with a SLI, etc.

By way of a summary, the data shows slight trends that women perform better than men on tests of Social Cognition and pragmatics. Furthermore, there is no substantial or linear trend in the results obtained by the participants in terms of age or school level influence. It is systematic that in the age variable, 4<sup>th</sup>-year participants obtain better results, but it is not possible to compare it with existing literature. In addition, the low performance of the only student belonging to the 3<sup>rd</sup>-grade is also systematic, which can be attributed to the bad disposition described above.

## 6.2 Correlations

During the analysis of the results, a low correlation of the tests carried out in the study was found. Either among the tests that evaluate Social Cognition and pragmatics, as well as among the same tests that evaluate the same aspects.

It is not possible to state that there is a relation between Social Cognition and pragmatic abilities. It is not possible to conclude that there is a relationship between tests of Faux-pas and Emotional assessment, incongruently with the literature on Social Cognition aspect. Moreover, there is not enough evidence to conclude that there is a relationship in any of the tests in the pragmatic evaluation, which supposedly evaluates the same abilities and skills in the participant. As it was mentioned repeatedly before, this might be caused by the lack of cases on the study and the little dispersion on the groups evaluated.

In terms of the relation between Social Cognition and pragmatic abilities, one of the relations found was between the performance on Faux-pas and the attention item of irony. In this case, the relationship may be caused by a series of elements not precisely derived from a real connection of the aspect, due to the lack of pragmatic abilities during this part of the test. The attention item is assessed to measure –as the name mentions- how much attention the participant is putting on the tasks and to conclude if this item may have an incidence in the performance of the task per se.

Another relationship was between Emotional Assessment and the item of recognition in indirect Speech Acts. During this part of the tasks, the participant had to choose which alternative was the most appropriate to describe the indirect speech act, in this sense the questions referred to as "what do you think the person means by using the last sentence? is related to interpreting another person's mental state. This interpretation is associated with Social Cognition tasks such as ToM and emotional processing and it is

strange and inconsistent how the results are related only in this aspect and not in Faux-pas test. Another inconsistency is the lack of relationship with the rest of the rest, which is the explanation of the indirect Speech Acts since it requires similar abilities. One possible explanation could be the difficulty of that part of the test since it does not present alternatives but only the explanation of what the participant understood of the story. Furthermore, the way in which the interviewer asks these type of questions is fundamental, since it could affect the results.

Finally, the last correlation found was between the test of indirect speech acts where its explanation and recognition task had correlated results. It is possible to explain since both parts of the test measure the same, but only in different ways such as an explanation of the story heard or the election of some options that explains what was said in the story.

In order to understand the behavior of the trends, seems clearly difficult to establish a relationship between the aspects investigated in this study. This idea seems to be inconsistent with the literature found. Even though there are not enough studies supporting the performance of adolescents in these areas, there are data that supports a relationship between these areas in children and adults.

The discussion presented around correlations with the analysis of the results does not present consistency with the available literature on the topic. Most studies have shown relation in the performance of Social Cognition and pragmatic components. Despite none of them are focused on the period of

adolescence, they have explored different clinical populations and have had as result the possible correlation between the areas aforementioned.

One of them studied 16 adolescent patients with Traumatic Brain Injuries and 16 healthy participants. Despite the main focus of the article is to prove the efficiency of a test, it shows a clear connection in the tasks of emotions recognition and the understanding of sarcasm and lies; both related to pragmatic skills (McDonald, et al., 2013) Similarly, an investigation carried out on children also demonstrated a connection between mentalizing and, discourse and irony understanding (Matthews, Biney, & Abbot-Smith, 2018).

Furthermore, investigation in adults with a diagnosis of schizophrenia, dementia, and multiple sclerosis has also confirmed a correlation between Social Cognition and pragmatics. The first one assessed performance in discourse comprehension and non-literal language associated with pragmatic abilities. The results showed that 77% of the patients fell below the cut-off score and 30% of them also presented deficits in Social Cognition tasks (Bambini, et al., 2016). In the same way, another study concentrated on 34 patients with dementia found a significant association between ToM and pragmatic tasks. The specific correlation was perceived in the patients who could not solve second-order false belief tasks, since they also presented problems to do tasks related to verbal compression, memory, abstract thinking, and pragmatics (Cuerva, et al., 2001). Finally, another investigation concentrated on patients with multiple sclerosis, specifically 42 diagnosed patients and 42 participants as a control group. In this case, the focus of the

article was to find pragmatic impairment in these patients, and it was also noticeable the connection between ToM tasks of second-order false belief and pragmatic deficits (Carotenuto, et al., 2018).

Taking into account the investigations related to the correlation between the areas of study, it was expected to find relations between the tasks performed. Unfortunately, no relations were found in any of the cases, not even the most apparent ones such as ToM's tasks with irony or indirect speech act's tasks. As the results are not significant and being identified in a small sample, it would be unwise to refute the specific results from previous research. Rather, this lays the foundation for continuing the investigation and corroborating if there really is no relation in this age range –adolescence or if it is possible to find agreement with the literature presented.

6.3 PREP-R Analysis

As a complement of the tests that were held during the investigations, the observational protocol PREP-R was carried out with the purpose of assessing the pragmatic elements that were not included in the quantitative analysis.

The majority of the participants did not present any untypical behavior in any aspect of the protocol. 13 of 15 students presented typical enunciate acts, propositional acts, and correct use of pauses and silences. Furthermore, the same number of participants referred good assessment to textual pragmatics –morphology and word formation and interactive pragmatics –turn agility, predictability, priority, natural gestures and communicative use of gaze.

As an exception. participant n°3 presented some irregular behavior with problems a deficit of respecting pauses and silences, without responding in proper time to questions asked and having a plain facial expression during the entire evaluation. He had low results in the Faux-pas test (36 points on a total of 60), in the Emotional assessment test (25 points of 35), indirect speech acts test (19 of 20 in the recognition of indirect speech, however, 25 of 40 on the explanation aspect), irony recognition test (13 points of 20 and 15 points of 20 in the additional attention part). In narrative discourse aspect, he does not present difficulties having 12 points of 13 in the retelling of the story and full score in the comprehension of the story. This may be explained of the linguistic abilities that this text measures that are related to structural aspects more than pragmatic aspects of language in use for purposes.

Another case was participant n°1 who presented a responsive and passive attitude and that it was reflected in the results that she obtained in each of the tests. This is important to highlight since she was the only participant in the 3rd grade, and it may influence the comparison of the results. In the faux-pas test, she obtained 38 points of 60, in emotional assessment 24 facial recognitions of 35. Furthermore, in pragmatic tests, she scored 16 of 20 points in the recognition of indirect speech act and 34 of 40 points in the explanation of the recognition; 11 points in recognition of irony and 12 in the attention part of the test, both on a total of 20 points. Lastly, in Narrative discourse, similarly to the case of participant n°3, she obtained 11 of 12 points in the story retelling and 10 out of 12 points in the comprehension of the story, showing possibly a typical linguistic ability with no impairment.

## 6.4 Contributions, limitations and projections of the study

The purpose of this study was to provide a descriptive analysis of what happens in adolescence, a period that was described as turbulent with substantial changes in people's lives. This study sets out the foundations to begin the study of performance in adolescents who have a typical development, without evaluating them in contrast to patients who have some kind of clinical diagnosis. It can be seen that as a result of this research, the performances according to the sex, age and educational level of the participants can be described in a certain way and that in the future they could be evaluated more broadly to obtain conclusive and solid information of how these fundamental skills are developed to understand people's mental states, behaviors, and socialization.

In terms of limitations, as mentioned above, one of them was the number of participants that composed this study, obtaining descriptive but not significant results to be able to make conclusive statements on the performance of the tests or on the relationship that exists between that performance and the areas evaluated.

In turn, another limitation when conducting this research was the scarcity of tests done for adolescents, especially in the area of pragmatics. Taking into account test in Spanish, unfortunately, no test specially created for or adapted to the range of adolescence was found, but rather to assess children in Social Cognition and pragmatics acquisition and for adults to

assess a possible deficit in these aspects in clinical population or with some type of condition.

An idea derived from this difficulty present in the study is that, generally, the pragmatic evaluation is used to evaluate deficits, therefore it is carried out in the clinical population in contrast to the typical population. In addition, it is evaluated in children to measure acquisition of skills, that is, to answer questions such as; how they are acquired pragmatic abilities, at what age they do that, among other questions. In the case of adults, as mentioned above, it is to compare typical and atypical development in possible diagnoses of conditions or pathologies and treatments.

This leads to the discussion of research projections, which are fundamentally based on; firstly, the breadth of the sample, that is, an evaluation of at least 30 participants in order to carry out the tests with the minimum statistical requirement. It is in this way that the descriptive level can be exceeded and thus generate concrete definitions of the differences and / or relationships that exist between both aspects evaluated.

Secondly, this research found a deficiency of information related to pragmatics in adolescents, in order to describe these skills in this period, either in the typical or atypical population. This may lead to investigations focused on the description of pragmatic abilities during adolescence and the creation of an adolescent profile. Furthermore, this work demonstrates a lack of standardized tests in Spanish that allow evaluations to be carried out for this age group, which could contain cut-off scores as batteries of evaluations and

which could be a complement to the already used and useful tests such as the comparison guidelines. and observation protocols.

7. Conclusion

The relation between Social Cognition abilities and pragmatic skills seems to be fundamental for the investigation of communicative interaction. Furthermore, studies of these areas focused on adolescence, a period described as complex and full of changes, are scarce. This stage of life in psycholinguistics is the one who needs furthest development and this does not suppose a simple task, but rather, investigations with an interdisciplinary approach and the creation of additional material of evaluation.

ToM abilities change according to human maturation, and during this period there is an adaptation for new social needs. Also, there is a development of meta-representations of reality that may help to ToM abilities. Furthermore, emotions recognition seems to be in increasing development at this stage, showing similar identification of facial emotions than children but improvements in the speed of that recognition. In terms of the characteristics, it was stated that research found that women typically present better results in these tasks than men and that are more sensitive to emotional face perception and also are more empathic, a clue aspect for both skills. In terms of age in both of these areas of Social Cognition, generally, it seems that the result in tasks is increasing over time, from childhood to adolescence and early adulthood, that may be because of general cognitive skills maturation such as attention and memory.

Pragmatics studies presented similar results, although there are not many investigations of this period. Children with impairments present deficits

in social communication, social interactions, and therefore non-verbal communicative behavior. At the same time, in adulthood, there are problems with the identification of non-literal language, such as metaphors, ironies, proverbs, and idioms. The complementary studies in the adolescent's profile are fundamental because of its contribution to the existent literature, but also to the clinical investigation of pathologies and conditions associated to Social Cognition and pragmatic disorders or impairments. These profiles require also about characteristics between them with variants such as sex, age, among others.

The present investigation stated in its theoretical framework the characteristics of the concepts studied from its theory until the experimental investigations made generally in clinical population. From the theory, it is clear the interconnection that Social Cognition and pragmatics has, due to both of them are focused on communicative intention and the understanding and interpretation of one's and other's mental states. Both are involved in human being's interaction at its fullest, considering also context and shared background. From the experimental point of view, investigation concentrated on the relation between these areas that have found relations from ToM tasks and emotions recognition to pragmatic concepts such as irony, sarcasm, lies, and metaphors. Additionally, in terms of differences in sex, age, and level, the literature indicates women having better results than men in both areas, but there is no clear information about the rest of the variants in the adolescence period.

This study presented tendencies that are not statistically significant but that demonstrate some relations that were expected and some of them that were not. In the case of a general description of these areas, in Social Cognition tasks, women followed the tendency of previous research and obtained higher results than men in most of the evaluations, especially in emotions recognition. There is also no consistency or linear results in the case of age, nevertheless, the oldest participant had the best results in the study. In terms of pragmatics, the results are consistent with the one presented in Social Cognition tasks. Correlations did not present significant results, there are trends of some relations such as emotional assessment and indirect speech acts and faux-pas and irony, nevertheless, there were no other within the rest of the investigation. It seems clearly difficult to affirm that there is a relationship among those areas, but it is possible to say that there is a concordance with previous literature. Complementary of these analyses, the protocol also demonstrates a certain relation between the cases of low performance and the ones that have presented some impairments observed in the evaluation.

These results contribute to the research already established and present a great opportunity to continue exploring this stage of human development. In addition, it opens doors for the creation of possible evaluations that can measure these areas in adolescence, which may include specific aspects and that may contemplate the changes that are detected at this time.

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> Test MINI-SEA
>
> Bertoux, et al. (2012)

Consigna: **"Le voy a leer 10 historias breves, para cada historia le preguntaré si alguien metió la pata o no. En algunas de ellas, alguien metió la pata y en otras no. Luego le haré algunas preguntas. Usted debe encontrarlas y explicarlas".**

**(Prueba) HISTORIA 0 –** Miguel, un niño de 9 años, comenzó a asistir a un nuevo colegio. Él estaba en uno de los sillones de la sala de descanso, al lado de la puerta de entrada. Javier y Pedro, otros dos niños, entraron y se pararon a hablar al lado de esa puerta. Javier dijo "¿Conoces al niño nuevo del curso? Su nombre es Miguel. ¿No parece extraño? ¡Es tan pequeño!". Miguel se paró del sillón y Javier y Pedro lo miraron. Pedro dijo "¡Hola, Miguel! ¿Vas a jugar fútbol ahora?"

*¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él/ella lo dijo?

_____

- ¿Cuándo Javier hablaba a Pedro, sabía que Miguel estaba en sillón al lado de la puerta?

_____

- ¿Cómo cree que Miguel se sintió?

_____

**Preguntas Control**:

- En la historia, ¿dónde estaba Miguel mientras Javier y Pedro hablaban?

_____

- ¿Qué dijo Javier sobre Miguel?

_____

**HISTORIA 1 -** Victoria estaba en una fiesta en casa de su amigo Alberto. Ella hablaba con Alberto cuando una mujer se acercó a ellos. Era una de las vecinas de Alberto. La mujer dijo "Hola" y se volvió hacia Victoria diciéndole: "Parece que no nos han presentado. Soy María, ¿cuál es tu nombre?". "Yo soy Victoria". Alberto preguntó: "¿alguien desea algo para beber?".

*¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él/ella lo dijo?

_____

- ¿Sabía Alberto que Victoria y María no se conocían?

_____

- ¿Cómo piensas que se sintió Victoria?

_____

**Preguntas Control**:

- En la historia, ¿dónde estaba Victoria?

_____

- ¿Victoria y María se conocían?

_____

**HISTORIA 2 -** Juan estaba comprando una camisa para combinarla con su traje. El vendedor le mostró varias camisas. Juan las miró y, finalmente, encontró una del color adecuado. Pero, cuando fue al probador y se la probó, no le quedaba bien. "Me temo que es muy pequeña", le dijo al vendedor. "No se preocupe" dijo el vendedor. "La próxima semana tendremos más en una talla más grande". "Bien, volveré entonces" dijo Juan.

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Cuándo se probó la camisa, sabía Juan que no la tenían en su talla?

_____

- ¿Cómo crees que se sintió Juan?

_____

**Preguntas Control**:

- En la historia, ¿qué estaba buscando Juan?

_____

- ¿Por qué volvería la semana que viene?

_____

**HISTORIA 3 -** Jimena se acaba de cambiar a un departamento nuevo. Jimena fue de compras y compró cortinas nuevas para su dormitorio. Cuando recién había terminado de decorar su departamento, llegó Elisa, su mejor amiga. Jimena le hizo un recorrido por el departamento y le preguntó "¿Te gusta mi dormitorio?". Elisa dijo: "Esas cortinas son horribles, me imagino que vas a comprar unas nuevas!".

_- ¿Alguien dijo algo que no debería decir o algo torpe?_

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Sabía Elisa quien había comprado las cortinas?

_____

- ¿Cómo crees que Jimena se sintió?

_____

**Preguntas Control**:

- En la historia, ¿qué es lo que Jimena acababa de comprar?

_____

- ¿Hace cuánto que Jimena vivía en ese departamento?

_____

**HISTORIA 4 -** Sandra es una niña de tres años, con cara redonda y pelo corto y rubio. Estaba en la casa de su tía Carolina. El timbre de la casa sonó y su tía Carolina fue a atenderlo. Era María, la vecina. "Hola," dijo la tía Carolina, "Qué amable de tu parte pasar a saludarnos". María dijo, "Hola", y miró a Sandra diciendo, "Oh, parece que no me han presentado a este niñito. ¿Cuál es tu nombre?".

_- ¿Alguien dijo algo que no debería decir o algo torpe?_

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Sabía María que Sandra era una niña?

_____

- ¿Cómo crees que se sintió Sandra?

_____

**Preguntas Control**:

- En la historia, ¿dónde estaba Sandra?

_____

- ¿Quién pasó de visita?

_____

**HISTORIA 5 -** Patricia había tenido un rol principal en la obra de teatro escolar del año pasado, y ella deseaba mucho el rol protagónico este año. Tomó clases de actuación, y en la primavera, audicionó para la obra. El día en que se publicaron los resultados, se fue antes de clases a mirar la lista de quienes habían quedado en la obra. No había quedado como protagonista y, en vez de eso, había obtenido un papel menor. Ella corrió a encontrarse con su novio en el pasillo y le contó lo que había sucedido. "Lo siento", dijo él, "debes estar desilusionada". "Sí", respondió Patricia, "tengo que decidir si tomo este papel".

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Sabía el novio de Patricia que ella no había obtenido el rol?

_____

- ¿Cómo crees que se sintió Patricia?

_____

**Preguntas Control**:

- En la historia, ¿qué papel obtuvo finalmente?

_____

- ¿Qué tipo de rol tuvo el año anterior?

_____

**HISTORIA 6 -** Jaime estaba en la biblioteca. Encontró el libro que estaba buscando acerca de escalar el monte Aconcagua y fue al mesón del frente para registrarlo y llevarlo. Cuando miró su billetera, se dio cuenta que había dejado su tarjeta de biblioteca en la casa. "Lo siento", le dijo a la mujer detrás del mesón, "parece que he dejado mi tarjeta de biblioteca en casa". "Está bien," dijo ella. "dígame su nombre, y si nosotros lo tenemos en el computador, puede llevarse el libro sólo mostrándome su carné de identidad".

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Cuándo Jaime fue a la biblioteca, se dio cuenta de que no tenía su tarjeta?

_____

- ¿Cómo crees que se sintió Jaime?

_____

**Preguntas Control**:
- En esta historia, ¿qué libro quería conseguir Jaime?

_____

- ¿Podría sacarlo finalmente?

_____


**HISTORIA 7 -** El primo de Claudia, Gustavo, la estaba visitando y Claudia hizo un pastel de manzanas, especialmente para él. Después de la cena, ella dijo, "Hice un pastel solamente para ti, está en la cocina". "Mmm," dijo Gustavo, "Huele bien! Adoro los pasteles, excepto el de manzanas, por supuesto".

_- ¿Alguien dijo algo que no debería decir o algo torpe?_

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Cuándo Gustavo sintió el aroma de la tarta, sabía que era de manzanas?

_____

- ¿Cómo crees que Claudia se sintió?

_____

**Preguntas Control**:
- En la historia, ¿qué tipo de tarta hizo Claudia?

_____

- ¿Cómo se conocieron Claudia y Gustavo?

_____

**HISTORIA 8 -** Daniela compró una fuente de cristal a su amiga Ana como regalo de matrimonio. Ana recibió muchos regalos y no sabía quién le había dado cada uno de ellos. Alrededor de un año más tarde, Daniela fue invitada una noche a la casa de Ana a cenar. Daniela dejó caer por accidente una botella de vino sobre la fuente de cristal y ésta se quebró. "Lo siento, quebré la fuente", dijo Daniela. "No te preocupes," dijo Ana. "nunca me gustó de todos modos. Alguien me la regaló para mi matrimonio"

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Se acordaba Ana que Daniela le había regalado la fuente de cristal?

_____

- ¿Cómo crees que se sintió Daniela?

_____

**Preguntas Control**:

- En la historia, ¿qué le regaló Daniela a Ana para su casamiento?

_____

- ¿Cómo se rompió la fuente de cristal?

_____

**HISTORIA 9 -** Tomás estaba en un restorán. Él derramó café en el piso por accidente. "Le traeré otra taza de café", dijo el mozo. El mozo se ausentó por un momento. Jorge era otro cliente en el restorán, parado cerca del cajero, esperando pagar. Tomás fue hacia Jorge y dijo "Derramé café cerca de mi mesa, ¿puede usted trapearlo".

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- ¿Sabía Tomás que Jorge era otro cliente?

_____

- ¿Cómo piensas que se sintió Jorge?

_____

**Preguntas Control**:

- En la historia, ¿por qué estaba Jorge esperando cerca de la caja?

_____

- ¿Qué fue lo que Tomás volcó?

_____

**HISTORIA 10 -** Leonora estaba esperando en la parada del bus. El bus estaba atrasado y ella había esperado mucho tiempo. Ella tenía 65 años y estaba cansada de estar parada por tanto rato. Cuando el bus finalmente llegó, estaba lleno y no tenía asientos vacíos. Ella vio a un vecino, Pedro, parado en el pasillo del bus. "Hola Leonora", dijo él, "¿estuviste esperando mucho rato?". "Alrededor de 20 minutos", dijo ella. Un hombre joven que estaba sentado, se levantó. "Señora, ¿le gustaría tomar asiento?".

*- ¿Alguien dijo algo que no debería decir o algo torpe?*

**Si es sí**, pregunte:

- ¿Quién dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué él/ella dijo algo que no debería decir o algo torpe?

_____

- ¿Por qué piensa que él / ella lo dijo?

_____

- Cuando Leonora se subió al bus ¿Sabía Pedro cuánto tiempo había esperado ella?

_____

- ¿Cómo piensas que se sintió Leonora?

_____

**Preguntas Control**:
- En la historia ¿Por qué Leonora esperó en la parada durante 20 minutos?

_____

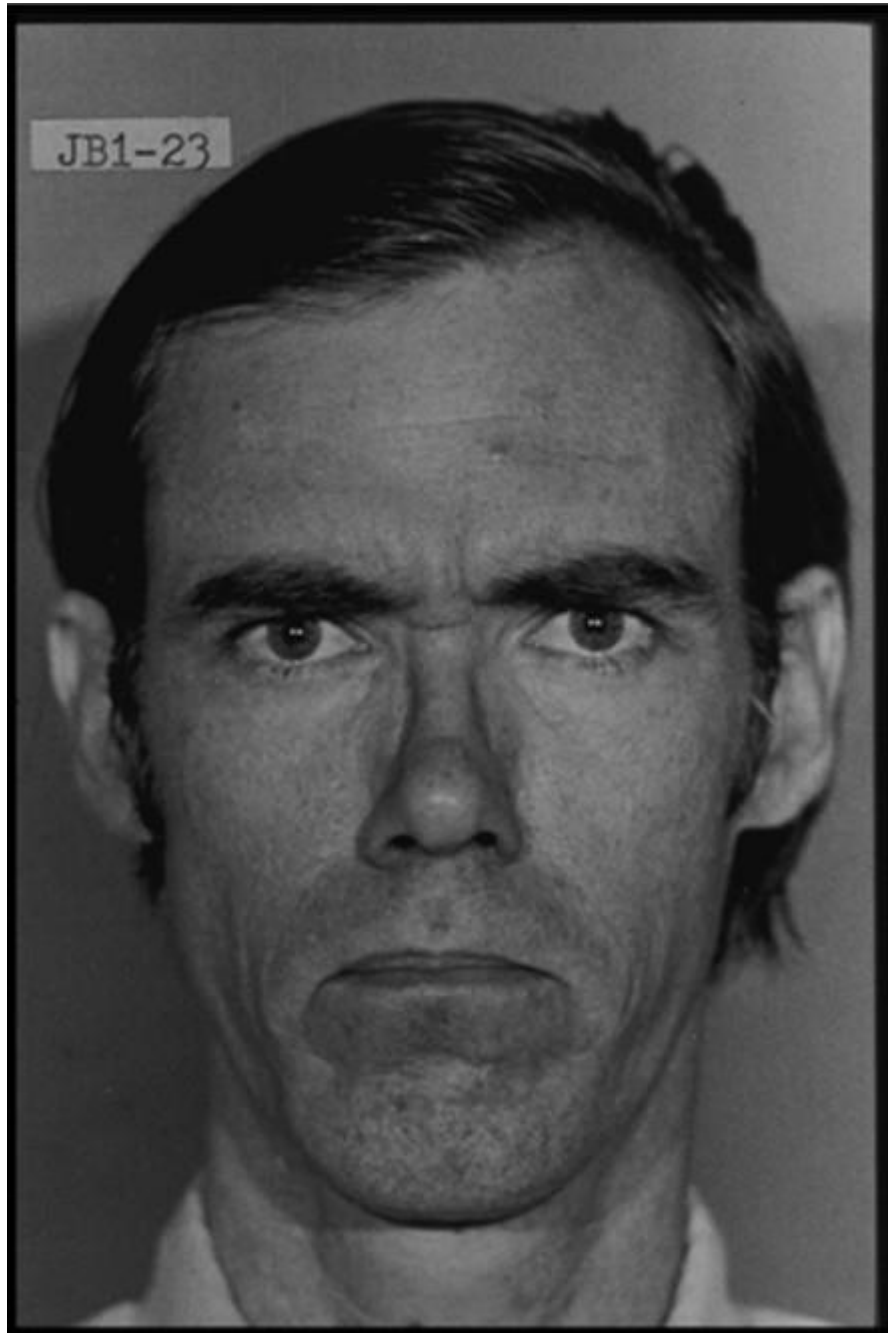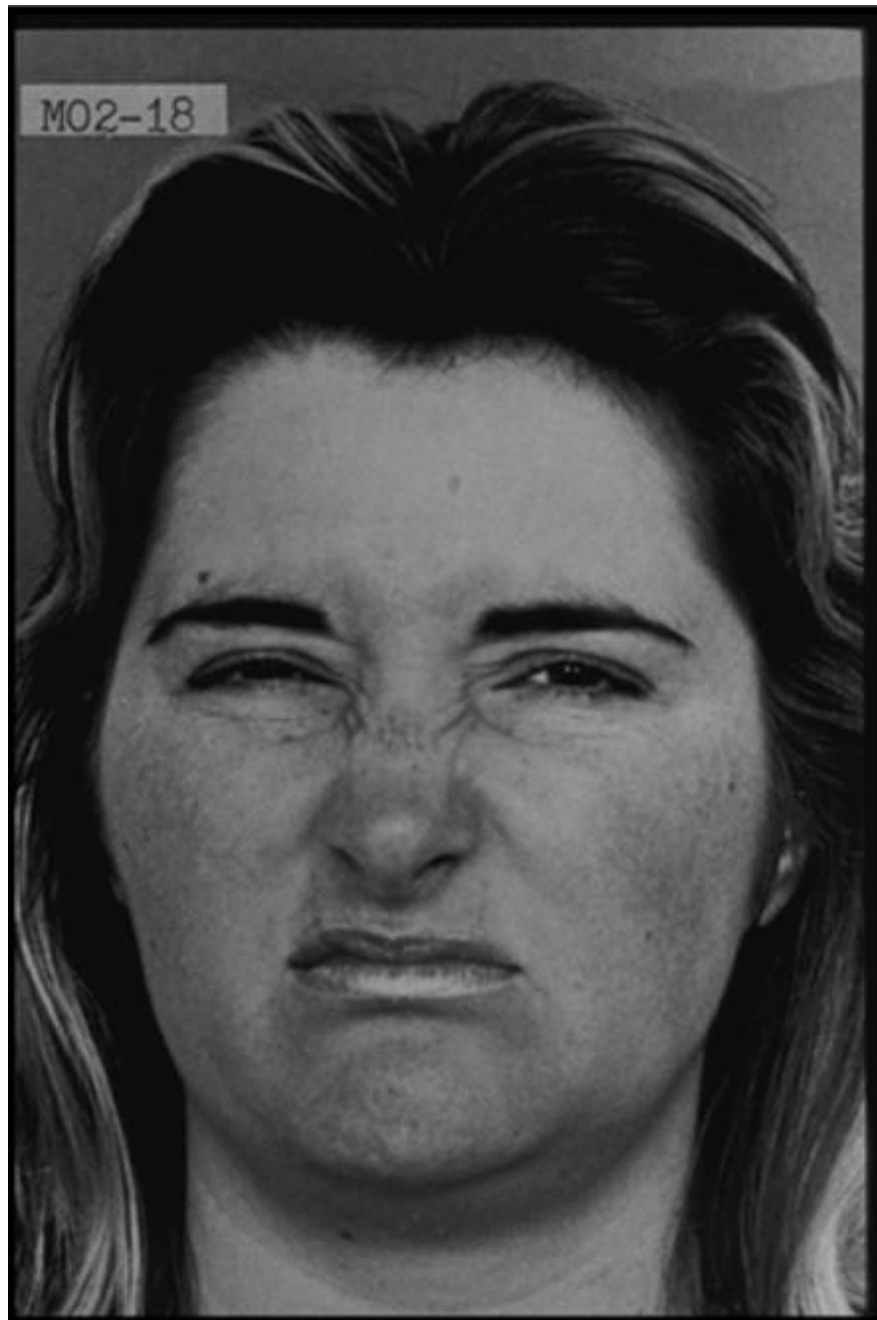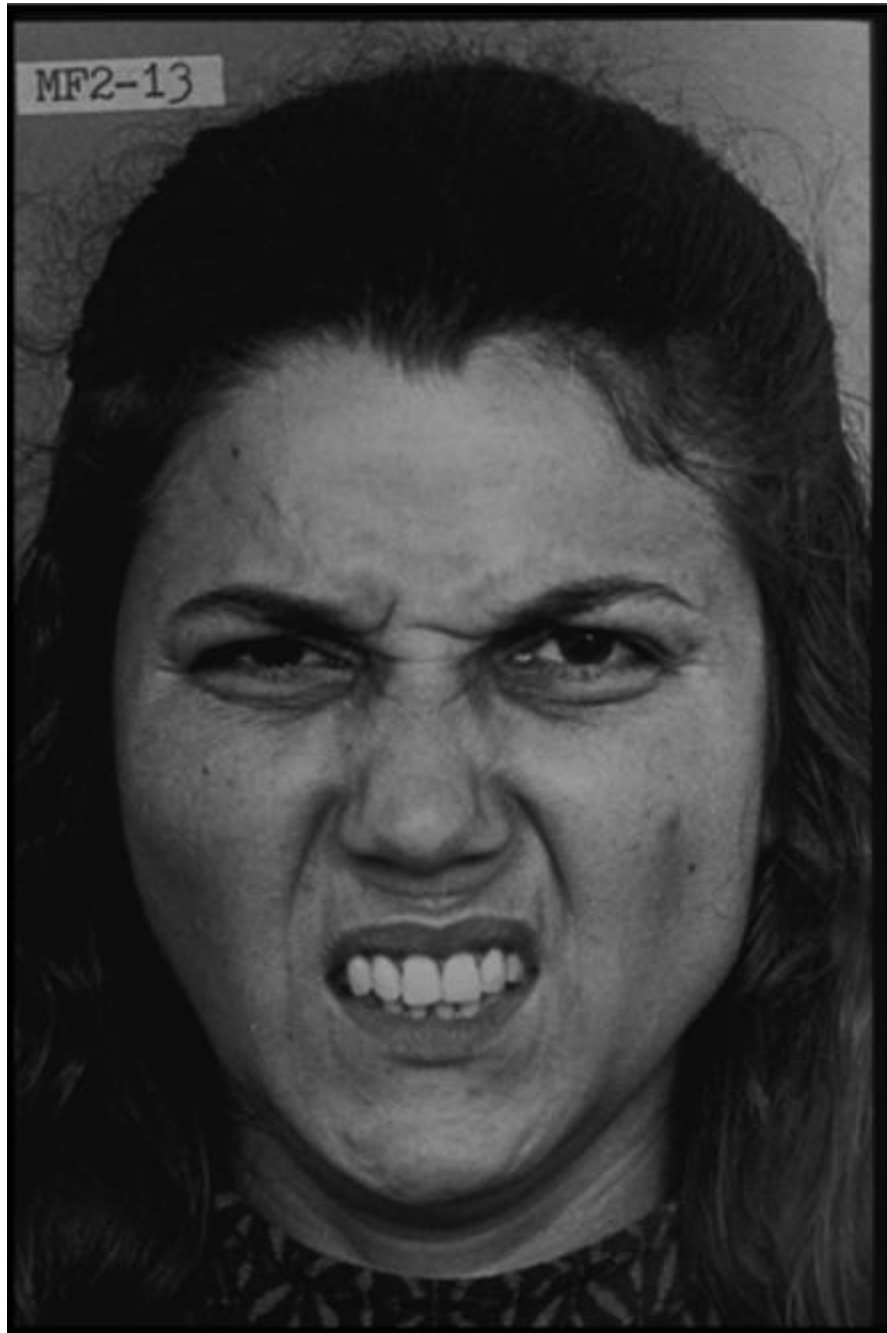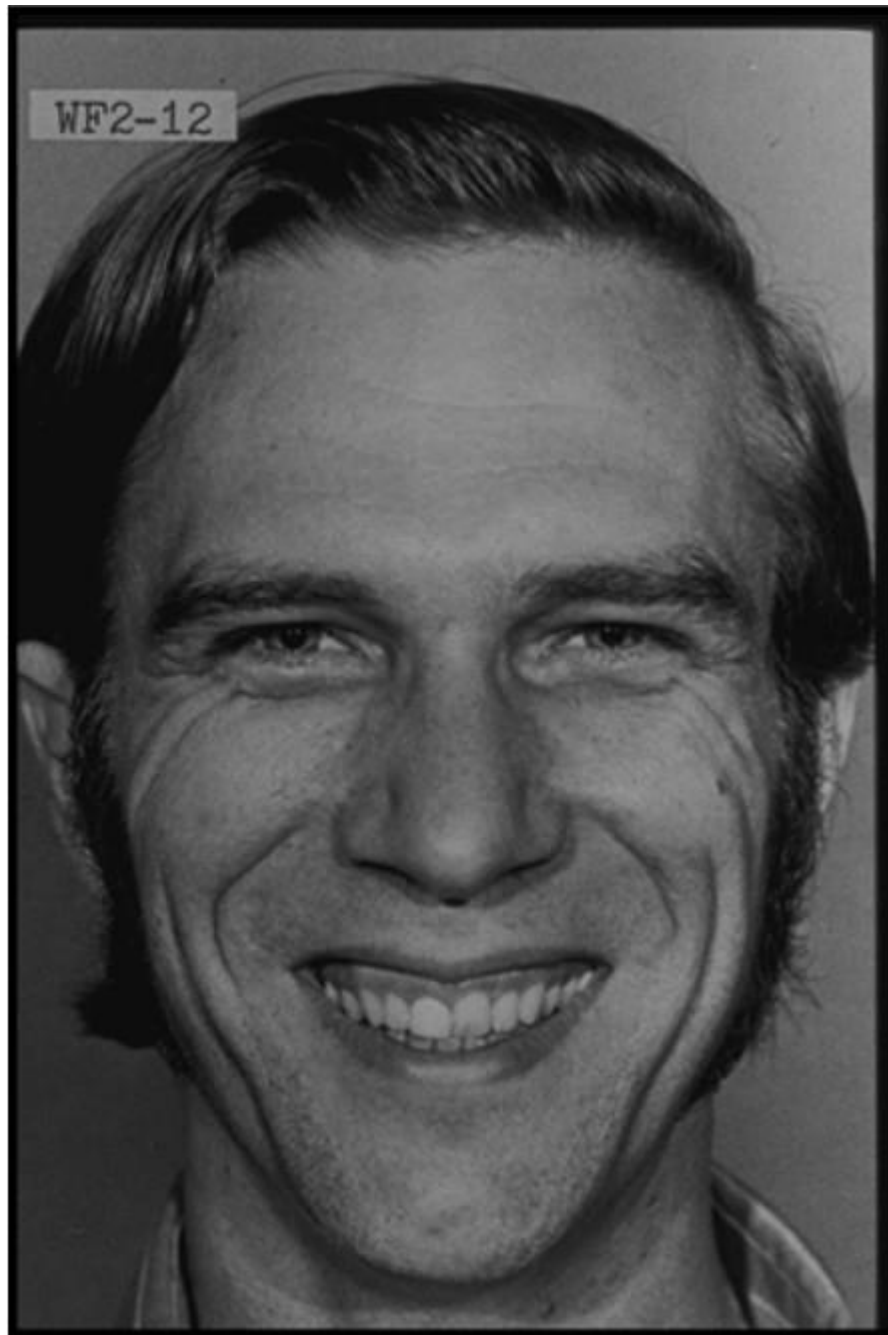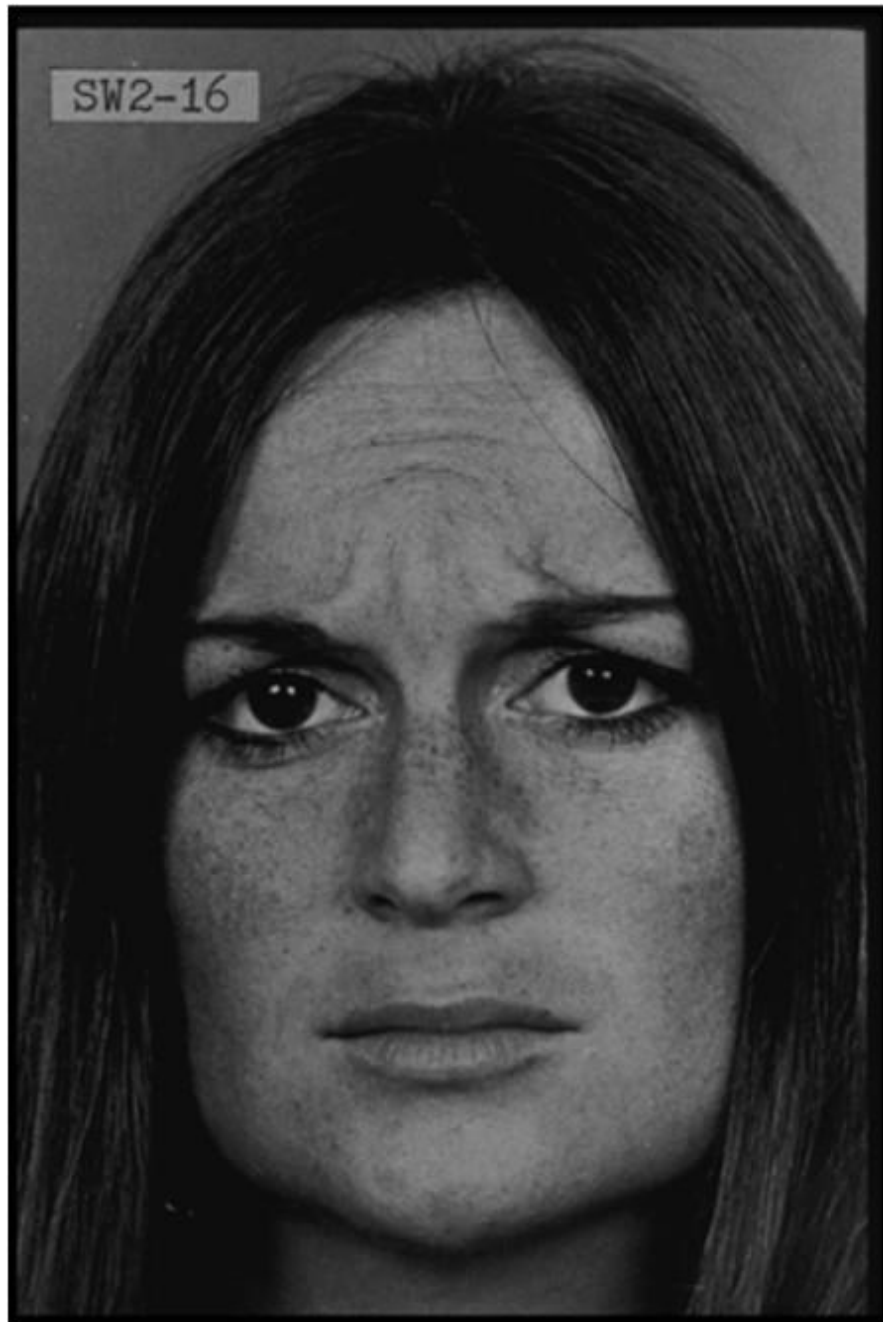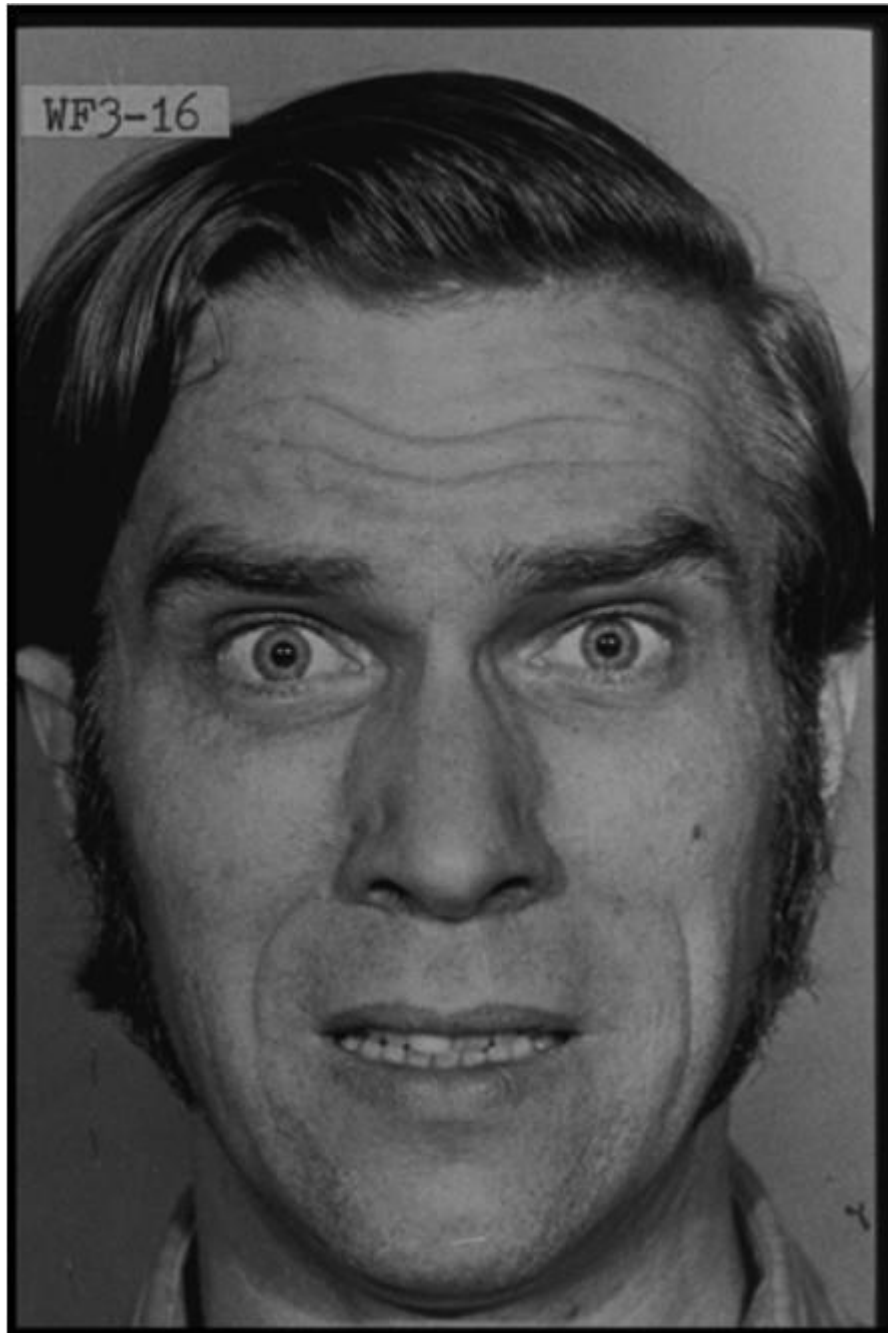- ¿Había algún asiento disponible cuando Leonora se subió al bus?

_____

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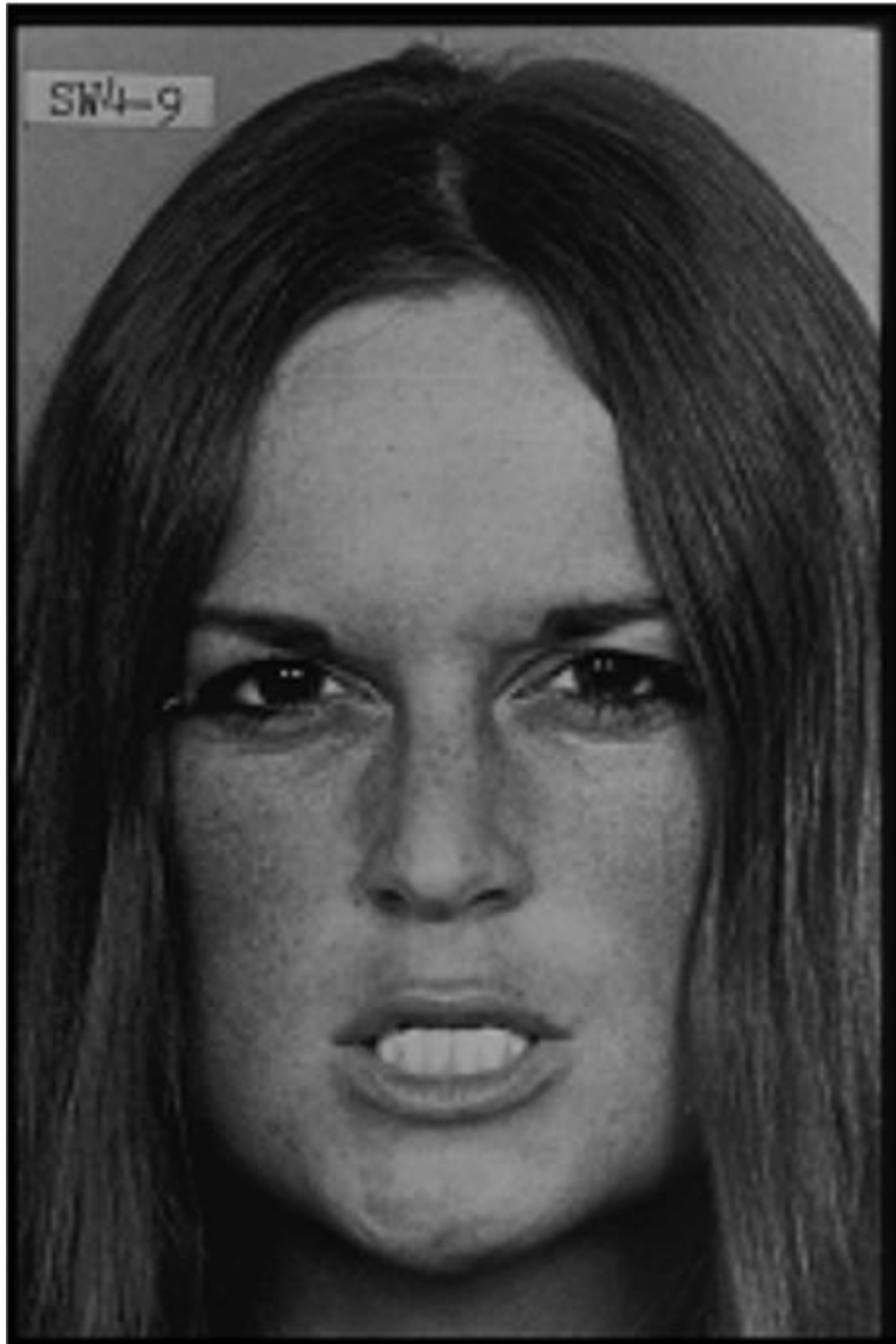
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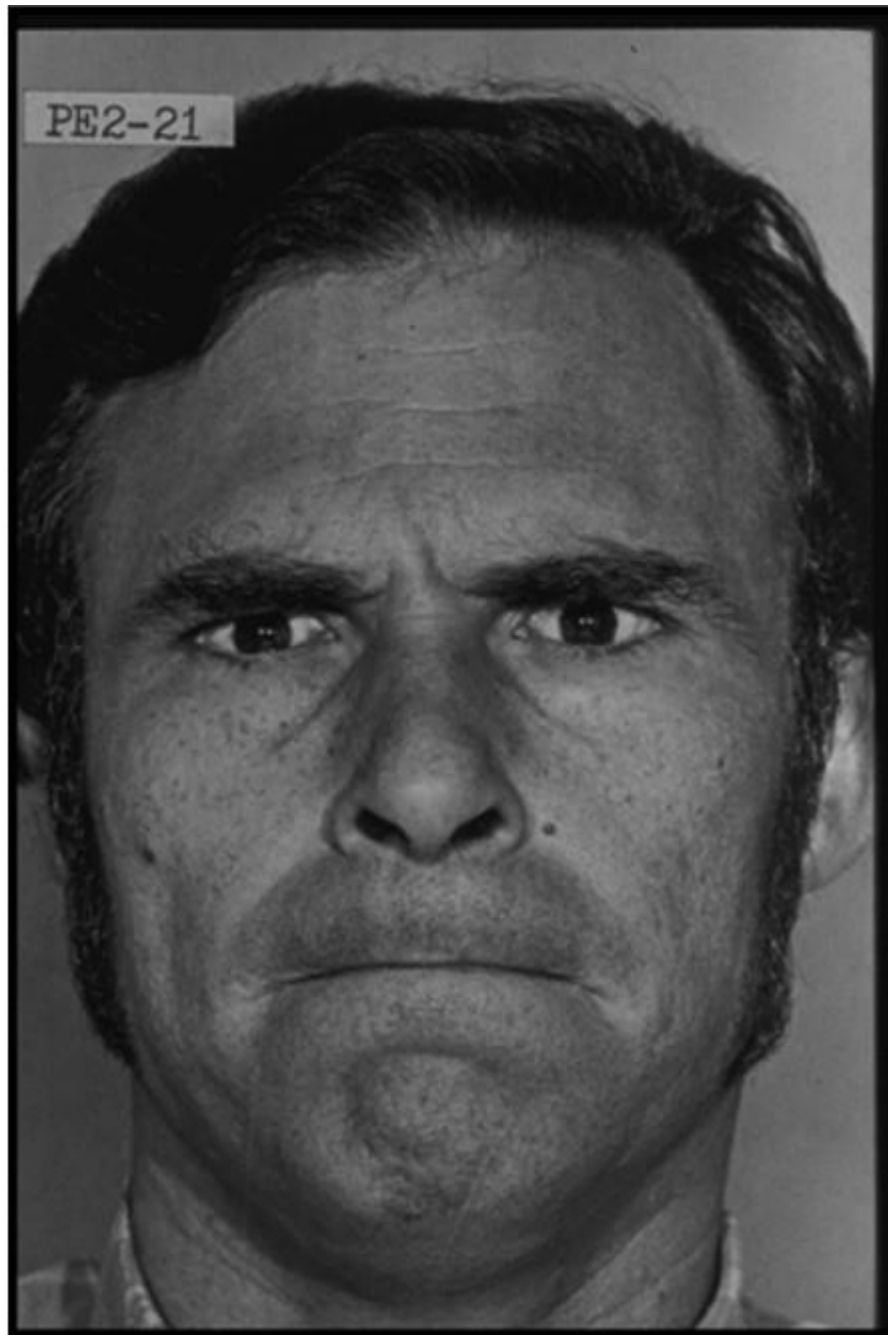Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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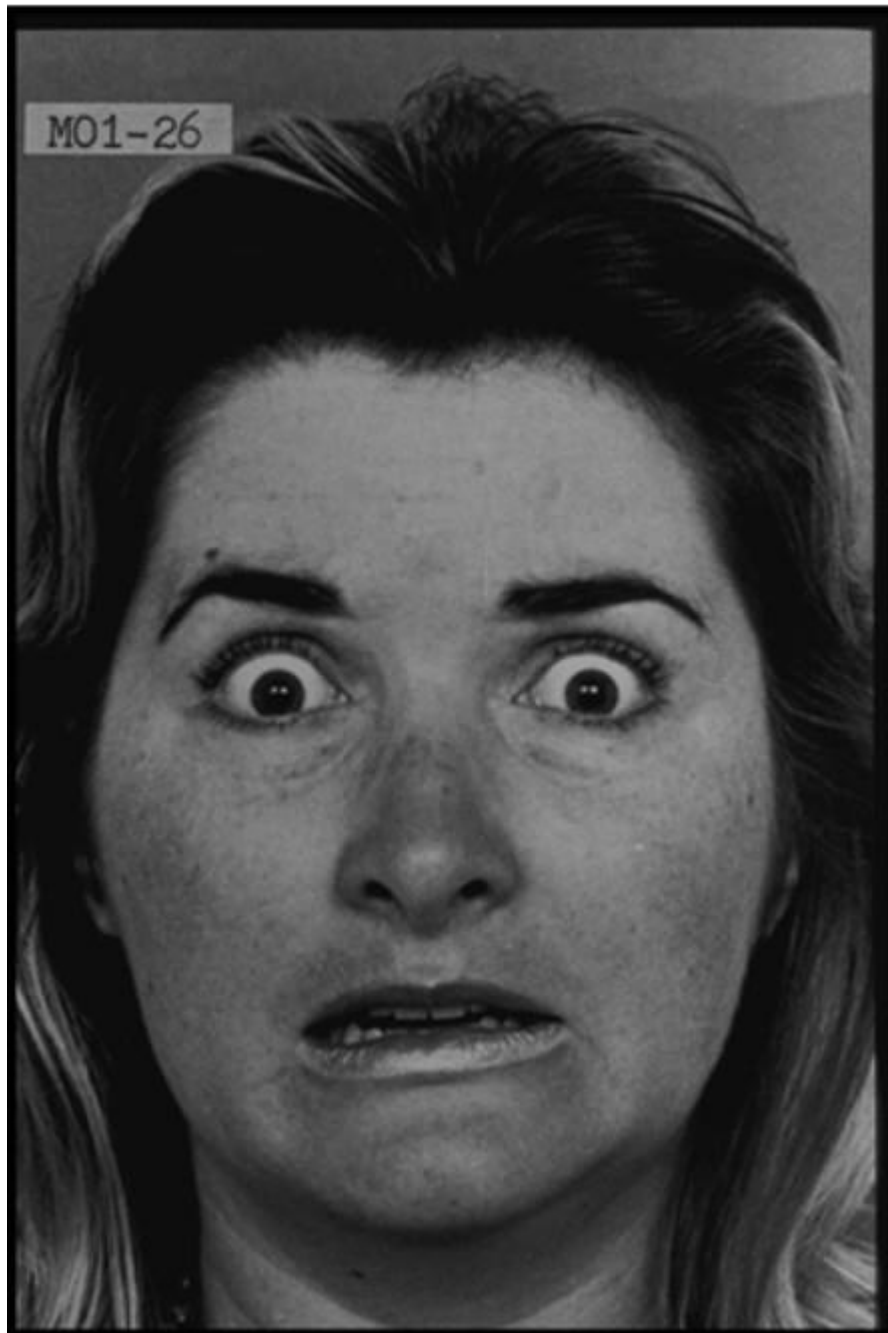Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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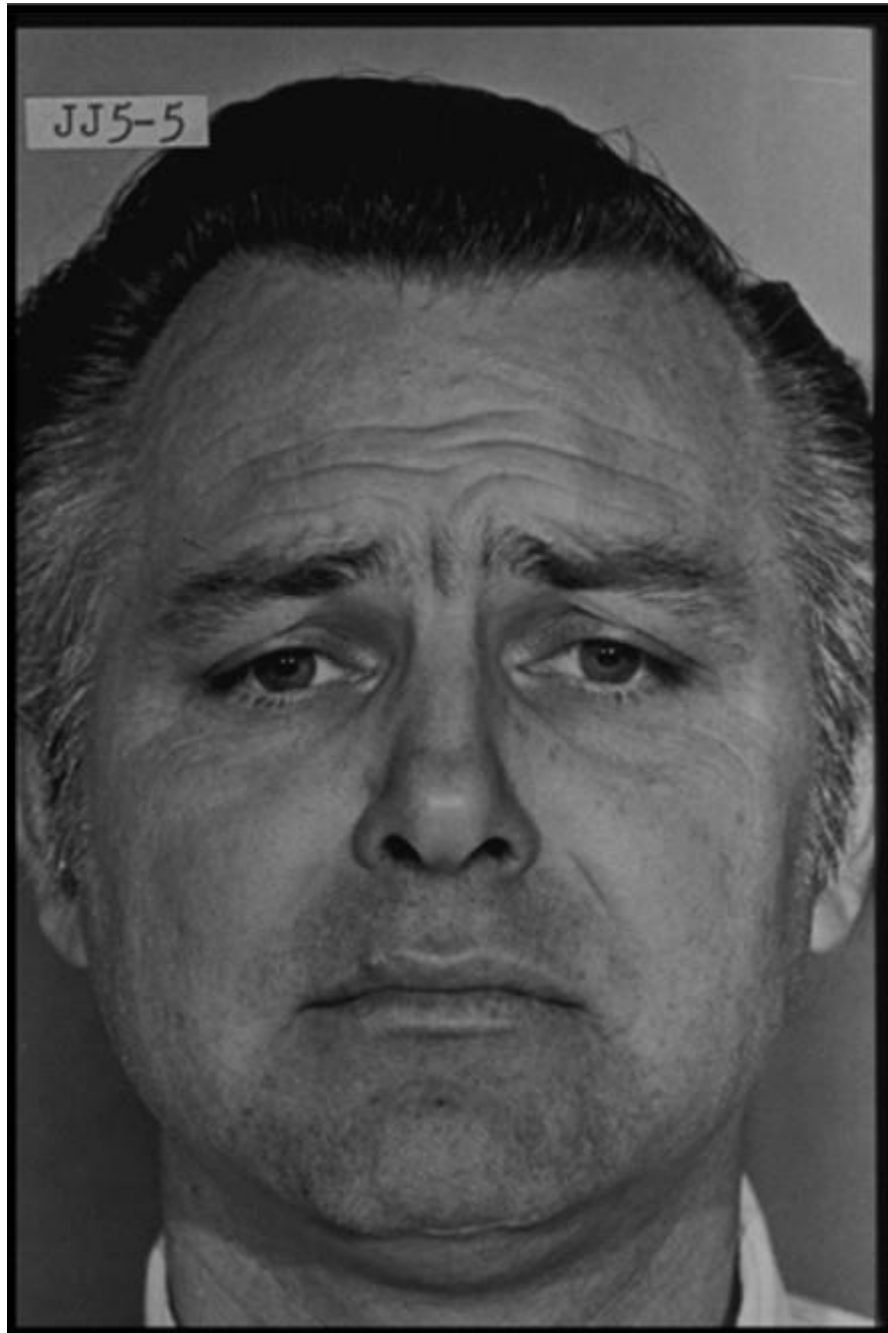Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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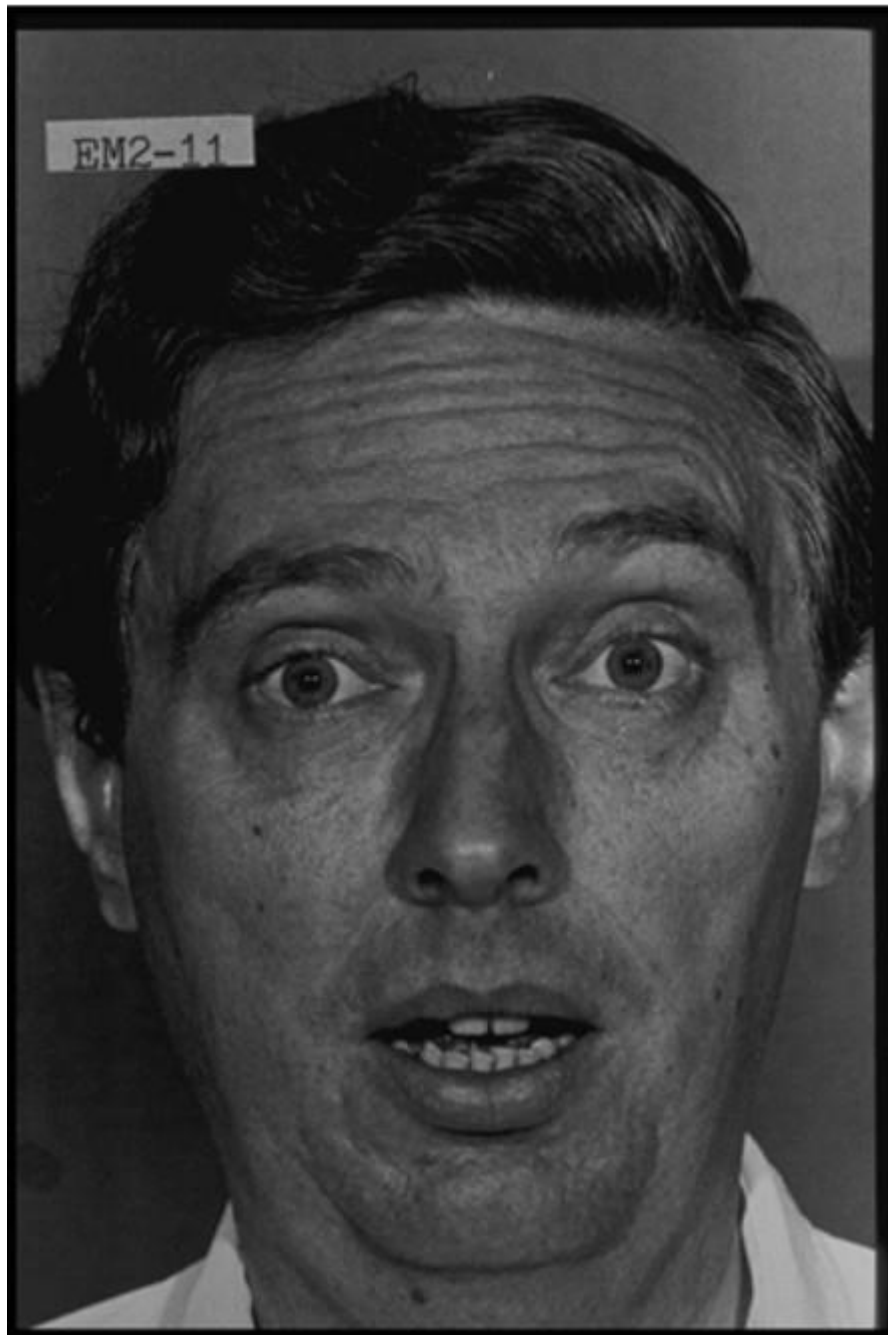Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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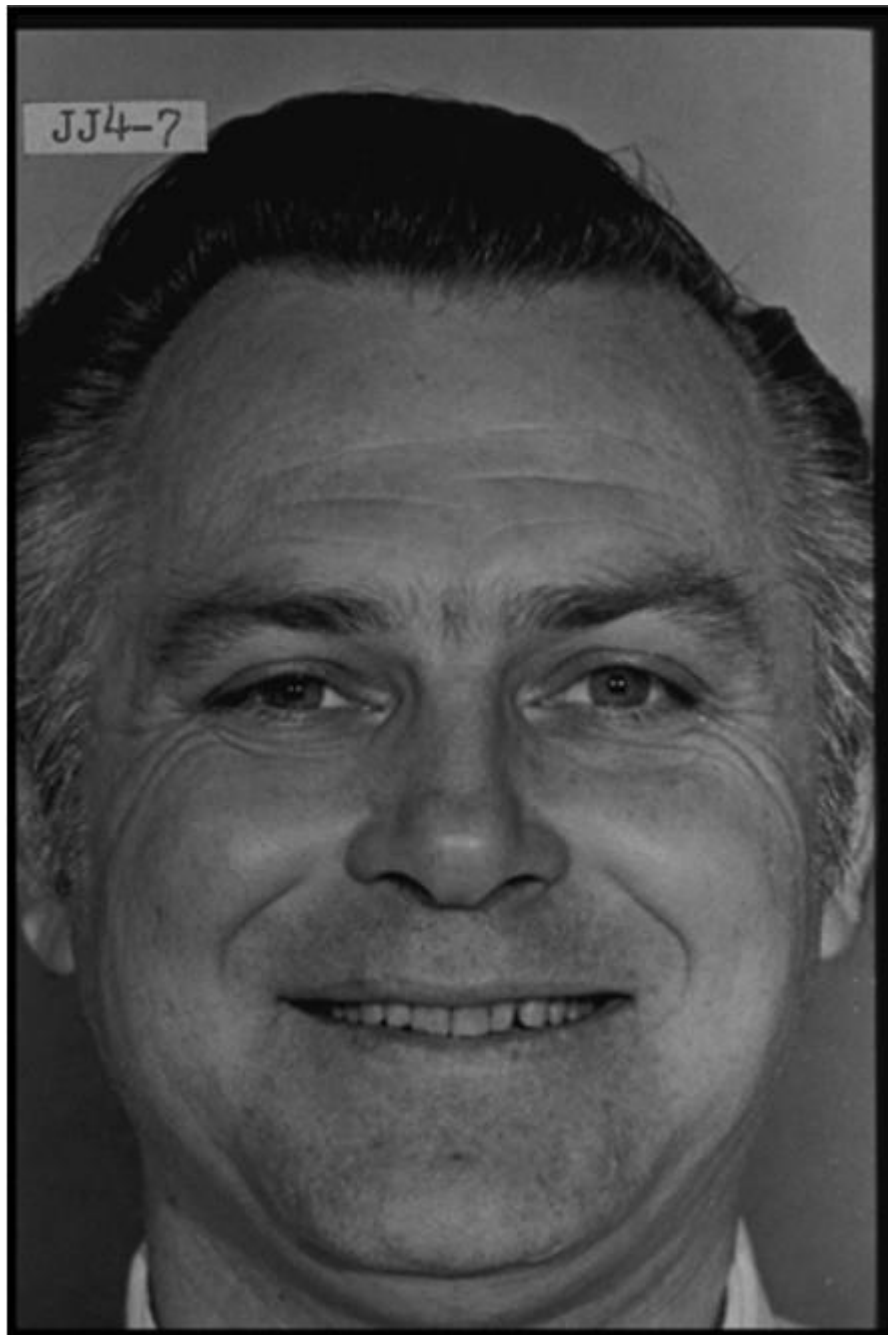Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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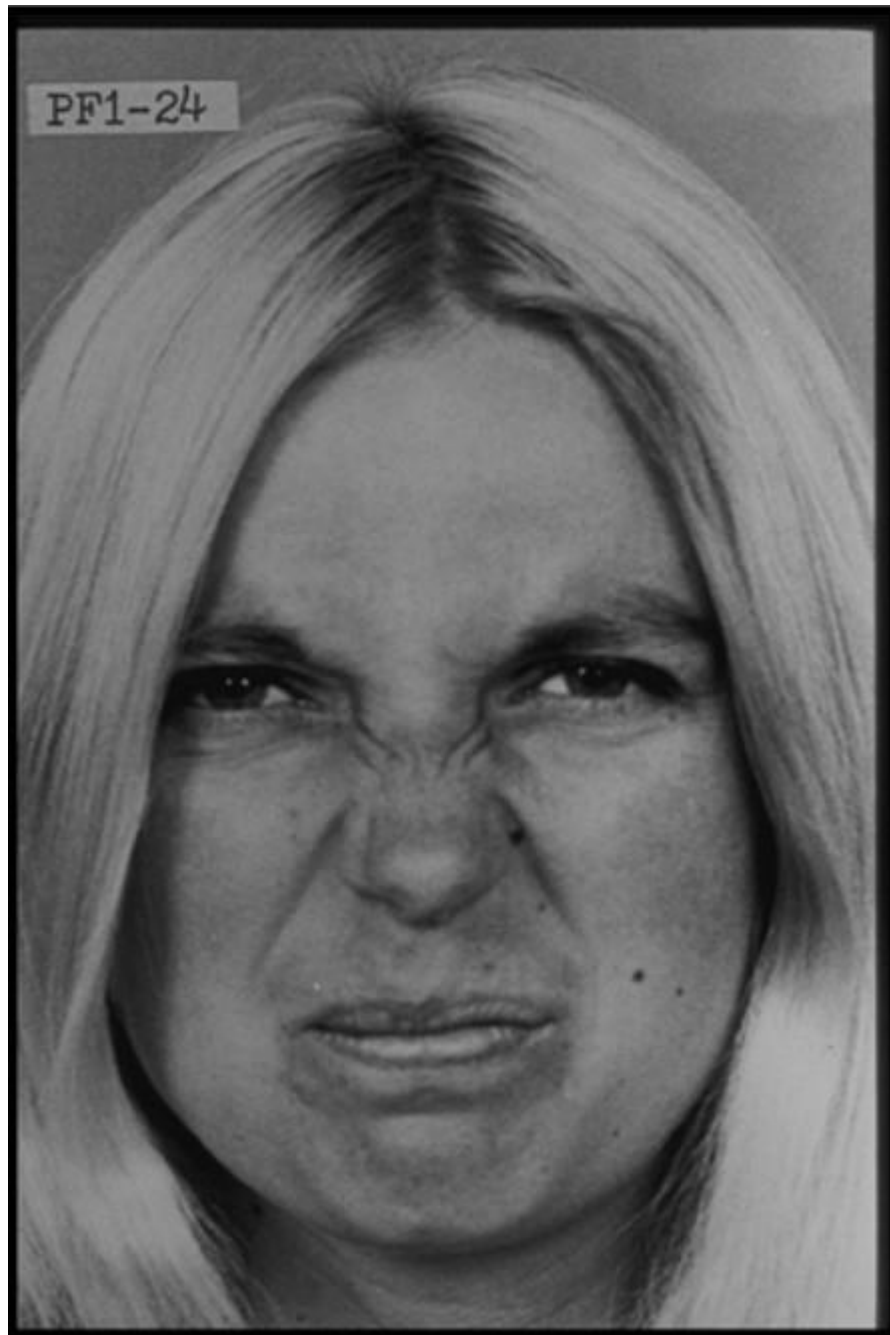Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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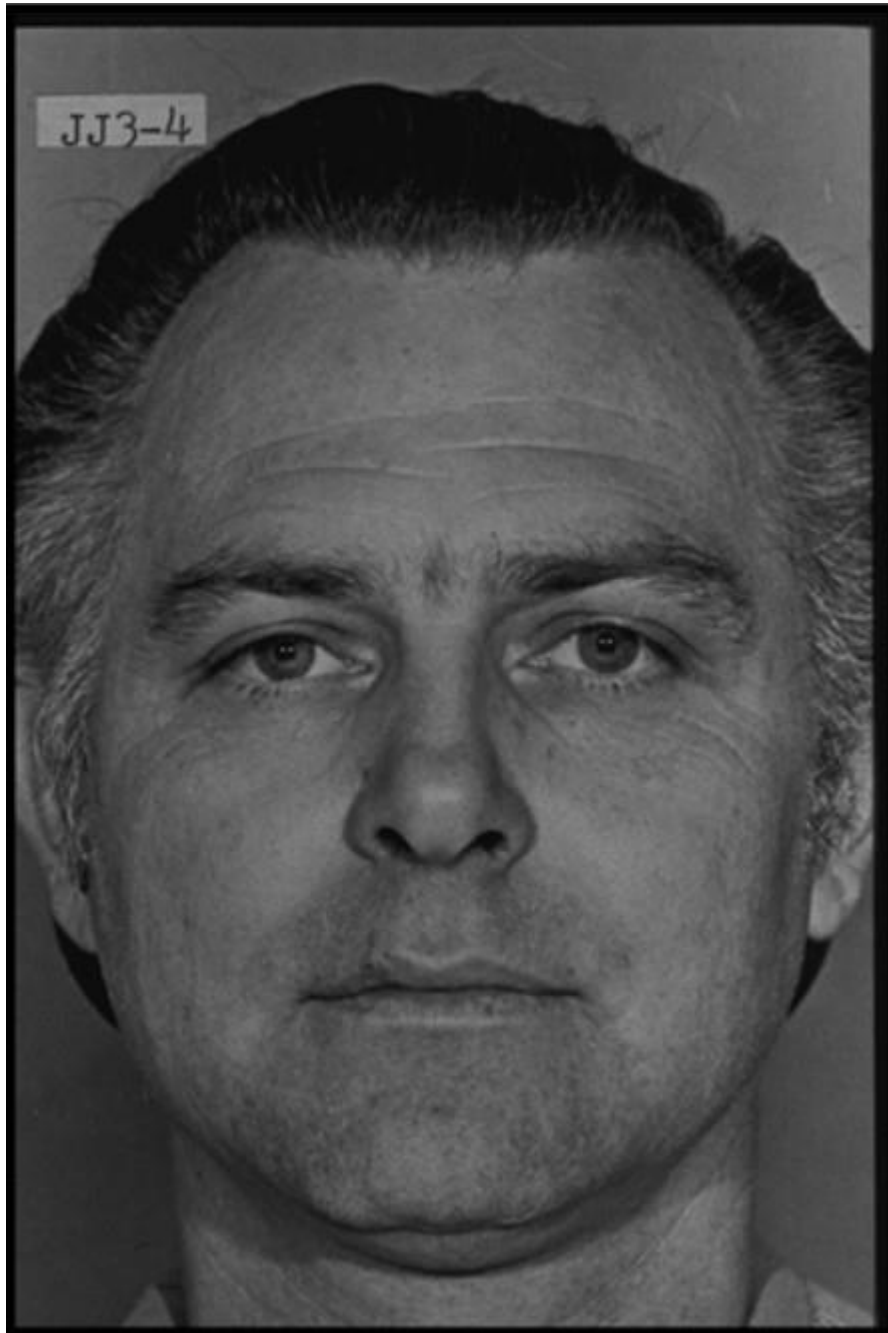Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

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Alegría –Sorpresa –Neutro –Tristeza –Miedo –Asco –Enojo

Nombre: _____ Colegio: _____

*Te voy a leer 20 historias y tienes que decirme cuál alternativa representa lo que se quiso decir en la última frase. Además, haré una pregunta al final de cada historia.*

| *1. El paseo a la playa* | *2. El remate* |
|---|---|
| Paula y su amiga Clara planeaban un viaje a la playa para el día siguiente. "El tiempo estará agradable mañana", dijo Clara, quien trabajó dando el tiempo en una emisora de televisión.<br><br>Al día siguiente amaneció frío y lluvioso. Mirando por la ventana hacia afuera, Paula dice: **Hoy el tiempo está hermoso, ciertamente.**<br><br>A) Le encanta la lluvia y el viento.<br><br>B) El tiempo está agradable.<br><br>C) **El tiempo está horrible**.<br><br><br>¿Dónde fueron Clara y Paula? | Sandra y José fueron a un remate de obras de arte. "Sé un poco sobre arte, y creo que la siguiente pintura parece muy valiosa", dijo Sandra. Mucha gente ofertó por la pintura y, finalmente, fue vendida por millones de pesos.<br><br>Ante ello, José exclamó: **¡Guau!, el precio fue realmente alta por esa pintura**.<br><br>A) **El remate de la pintura tuvo muy buenos resultados**.<br><br>B) La pintura no era tan valiosa, no se pagó mucho por ella<br><br>C) José compró la pintura en un alta suma de dinero.<br><br>¿Dónde fueron Sandra Y José? |
| *3. La Clase* | *4. El marcador de bencina* |
| Juan y Marcelo caminaban juntos a la primera clase de un nuevo curso que despertaba altas expectativas en ambos.<br>Más tarde, en la clase, el profesor procedió a dar una aburridísima presentación de las materias a tratar durante la duración de esta.<br>Al dejar el salón, Juan comenta a Marcelo: **Gran** | Beatriz y Sebastián iban de viaje en el viejo auto de Beatriz.<br><br>"El marcador de bencina de este auto no funciona, pero tenemos suficiente para llegar al lugar al que nos dirigimos", dijo Beatriz. Sebastián se quedó con la seguridad de que ella |

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**clase ¿no?**

A)     La clase estuvo muy buena y la materia es interesante.

B)     A pesar de que la presentación de la clase estuvo aburrida, Marcelo cree que la asignatura es interesante

C)     **La clase fue pésima, Marcelo se equivocó.**

¿Cómo fue la clase del profesor?

comúnmente sabía de qué estaba hablando. Tras unos pocos minutos, el motor comienza a sonar de forma extraña y termina por detenerse.

Sebastián dice: **Nos quedamos sin combustible.**

A)  La bencina, aunque escasa, les alcanza aún para llegar a su destino.

B)  Sebastián se ríe de Beatriz por pensar que el auto tenía suficiente bencina.

C)  **Contrario a lo que Beatriz previó, se quedaron sin bencina a medio camino**.

¿Qué le pasaba al marcador de bencina del auto?

| 5. *La Elección* |
|---|

Mario y Tomás discutían sobre la elección de alcaldes tomando unas cervezas en un bar. "Puedo asegurar que el alcalde no tiene ninguna opción de ganar otra vez, he estado siguiendo muy de cerca las encuestas", dijo Tomás. Unos días después, tras la elección, ambos se enteran que el alcalde fue reelecto por un gran margen. Mario comenta: **¡Uuh!, el tipo ese, compitiendo contra el alcalde, estuvo impresionante, ¿verdad?**

A)     **El candidato que competía contra el alcalde fue un fracaso.**

B)     La elección estuvo muy peleada.

C)     El candidato alternativo al alcalde estuvo muy bien.

¿Qué se estaba eligiendo?

| 6. *Los chalecos* |
|---|

Jorge estaba lavando su ropa, su amigo Javier lo ayudaba. "Lava toda tu ropa junta, los chalecos no encogerán si los echas junto a las camisetas, yo los lavo juntos a menudo y nunca he tenido ese problema", dijo Javier.

Jorge decide hacerle caso a su amigo y lava sus ropas juntas, pero sus chalecos encogen un par de tallas. Sujetando uno junto a sí mismo, como si estuviera probándoselo superficialmente, dice: **No se encogieron nada, ¿verdad?**

A)  No le ocurrió nada a los chalecos, tal y como Javier dijo.

B)  **Los chalecos se encogieron porque, siguiendo el consejo de Javier, Jorge los lavó junto al resto de su ropa**.

C)  Los chalecos se encogieron un poco, de manera casi imperceptible.

¿Qué estaba haciendo Jorge?

| 7. *El Viaje de Pesca* | 8. *El concierto de ópera* |
|---|---|

Laura miraba a su esposo Miguel prepararse para

ir de pesca. "Estuve hablando con los algunos conocidos que suelen venir a pescar año a año y venían volviendo del lago, me comentaron que los peces estaban picando mucho" comentó Miguel. Por la tarde, Miguel vuelve sin ningún pez. Ante eso, Laura comenta: **En realidad no estaban picando este año.**

A) El día estaba muy agradable para pescar.

B) **No había peces este año**.

C) Los peces estaban muy voraces y la pesca estuvo buena.

¿Quién fue a pescar?

Carla y Martina decidieron ir juntas a la ópera. Cuando estaban esperando para que comenzara la orquesta, Carla, que había visto la ópera la noche anterior, dice "Realmente debería gustarte, es una gran producción". La actuación fue muy mala, poco inspirada, y los solistas estuvieron uniformemente pobres. Cuando salieron del salón de ópera, Martina exclama: **¡Me cargan las malas actuaciones!**

A) Martina bromeó sobre lo que había dicho Carla.

B) A Martina le gusta mucho la ópera cuando esta es bien producida y presentada.

C) **La producción no cumplió con las expectativas de Martina.**

¿Qué dijo Carla?

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9. *El Bebé*

Valentina había visitado a su amiga María, quien esperaba a su primer bebé, con muchas ganas de tener un niño. "Estoy segura de que será un niñito, la mayoría de los primeros nacimientos lo son", le había dicho para calmarla, basada en que durante años había trabajado en la maternidad de un hospital. Una semana más tarde, Valentina llevó a su amiga al hospital, donde finalmente dio a luz a su primera hija. Días después, María llama a su amiga por teléfono para decirle: **Deberías venir a visitar a mi hija, es un bebé hermoso.**

A) **María invita a su amiga a conocer a su hija.**

B) María tuvo mellizos, por eso invita a su amiga a conocer a su hijo, pues ya conoce a su hija.

C) María se burla de que Valentina creyera

10. *El Pastel*

Diana estaba tomando un curso económico de cocina por correspondencia y decidió practicar preparando un pastel para su amigo Jaime y su hermano David.

Tras ofrecerles un poco, sacó el pastel del horno y les dio de probar, pero estaba demasiado seco y sin gracia.

Jaime y su hermano, mirándose, exclaman con una sonrisa: **Este pastel está realmente delicioso**.

A) El pastel estaba sabroso, Jaime y su hermano estaban encantados.

B) **El pastel tenía mal sabor y textura**.

C) A Jaime y su hermano les gusta mucho el pastel.

| | |
|---|---|
| que iba a tener un niñito.<br><br>¿Dónde había trabajado Valentina? | ¿Quién preparó el pastel? |
| <div align="center">11. *El Examen*</div><br><br>Carolina y Hernán acababan de terminar una prueba de matemáticas. Hernán había estudiado arduamente y estaba muy confiado en sus resultados.<br>Transcurridos un par de días, al conocerse los resultados, Hernán se entera de que obtuvo una de las peores notas del curso.<br>Al enterarse Carolina de la noticia, dice a Hernán: **Felicitaciones, quizás podrías ayudarme a estudiar para la siguiente prueba.**<br><br>A)    A pesar del mal resultado de Hernán, Carolina quiere que le enseñe a estudiar.<br><br>B)    Carolina está muy contenta por los buenos resultados de Hernán y le gustaría que le ayudara con el estudio.<br><br>C)    **Carolina se burla de Hernán por su confianza respecto de la prueba**.<br><br>¿De qué materia era la prueba que dieron Carolina y Hernán? | <div align="center">12. El Reloj</div><br><br>Matías ayudaba a Patricia a cambiarse a su nuevo departamento.<br><br>Matías, que era muy fuerte, comenzó intentando mover un enorme reloj, pero lo estaba empezando a sacar cuando se le cayó, estrellándose contra el piso y rompiéndose.<br><br>Patricia, mirando por encima de algunas cajas que estaba moviendo, dijo: **De verdad me estás siendo de gran ayuda, gracias.**<br><br>A)   El incidente de Matías con el reloj es de gran ayuda para Patricia, que ya estaba aburrida de tenerlo y quería deshacerse de él.<br><br>B)   Patricia está muy agradecida de Matías, a pesar del incidente del reloj.<br><br>C)   **Matías acaba de cometer un gran error al romper el reloj.**<br><br>¿Quién se había cambiado de departamento? |
| <div align="center">*13. El avión*</div><br><br>Catalina y Bruno esperaban en el aeropuerto por la llegada de su avión. "Viajo en esta aerolínea todo el tiempo, estoy segura de que el avión estará aquí a tiempo" dijo Catalina.<br><br>Sin embargo, el avión llegó una hora después de lo previsto. Al momento de abordar, Bruno dice a su compañera: **Me encantan estas aerolíneas, siempre a tiempo, impresionante.**<br><br>A)    **Bruno está sumamente molesto por** | <div align="center">*14. La Cena*</div><br><br>Bárbara y Gabriel estaban de camino a una comida elegante. "Apuesto a que causaré una gran impresión", dijo Bárbara, que era muy sofisticada y elegante. Durante la comida, sin embargo, lo único que logró fue derramar su sopa sobre la dueña de casa.<br><br>Cuando se retiraban, Gabriel le comenta: **De seguro te luciste en la comida.** |

**tener que esperar tanto.**

B)	Bruno está muy conforme con la atención y puntualidad de la aerolínea.

C)	A Bruno le gustan las aerolíneas que se preocupan por cumplir con los tiempos establecidos para los viajes.

¿Qué dijo Catalina?

A)	Bárbara causó una grata impresión en la comida y fue el centro de atención.

B)	**Bárbara hizo el ridículo al derramar la sopa, no causó la gran impresión que esperaba.**

C)	Bárbara les cayó muy bien a los asistentes.

¿Dónde fueron Bárbara y Gabriel?

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| *15. La partida de Ajedrez* | *16. El trayecto al trabajo* |
|---|---|
| Karen y Eduardo jugaban ajedrez. Karen, que sabía que Eduardo era un jugador experto, suspiró cuando este le dijo "Juegas bien, pero terminaré contigo rápido". Minutos después, Eduardo pierde el juego. En ese momento, Karen dice: **Sí que terminaste conmigo rápido**<br><br>A)	Karen está sorprendida con lo rápido que fue Eduardo para terminar el juego.<br><br>B)	**Karen remarca lo pronto del término del juego, porque ella ganó fácilmente**.<br><br>C)	Karen y Eduardo eran pareja y terminaron antes de lo que ella pensaba.<br><br>¿ A qué jugaron Karen y Eduardo? | Pedro y Ricardo estaban apurados para llegar al trabajo. "Podemos evitar el tráfico vehicular si nos mantenemos en esta vía; conozco muy bien esta área", dijo Pedro.<br><br>Minutos más tarde su auto estaba metido en un taco enorme y habían tenido que desacelerar del todo. Ricardo dice: **Esta ruta de verdad nos ahorró un montón de tiempo.**<br><br>A)	**Fue una pésima decisión tomar esa ruta, en lugar de evitar el tráfico terminaron en un taco peor**.<br>B)	El cambio de ruta sirvió para llegar en tiempo record al trabajo.<br>C)	A pesar de haberse topado con un taco, la ruta es algo más expedita que la ruta habitual.<br><br>¿ Dónde iban Pedro y Ricardo? |
| *17. El Recital de Piano* | *18. El vaso de agua* |
| Susana estaba ansiosa esperando para subir al escenario en un recital de piano, había practicado por semanas para ello. Cuando fue su turno de salir, el resultado fue decepcionante: Susana tocó su pieza de manera muy pobre. Después del recital, su amigo Pablo comenta: **Qué mala actuación.** | Paula, Andrea y Pedro están almorzando.<br><br>Al estirar la mano para alcanzar una servilleta, Pedro pasa a llevar el vaso de Paula y derrama la bebida sobre la comida de Andrea.<br><br>Paula le dice: **¡Bien!** |

| | |
|---|---|
| A) La actuación de Susana estuvo hermosa.<br><br>B) Pablo consideró hermosa la presentación, a pesar de que Susana no estuviera a la altura.<br><br>**C) Susana no estuvo a la altura de las expectativas en su actuación.**<br><br>¿ De qué era el recital? | A) A Paula le parece gracioso arruinar la comida de Andrea.<br><br>B) A Paula le hace gracia la torpeza de Pedro.<br><br>**C) Paula remarca la torpeza de la acción de Pedro.**<br><br>¿Qué quería alcanzar Pedro? |
| *19. El restaurante*<br><br>Juan y Marcos esperaban para ser atendidos en el restaurante favorito de Juan. Tras cerca de media hora de espera, recién apareció un empleado a atenderlos. Luego de ordenar, Marcos comenta: **El servicio es realmente lento aquí, ¿no?**<br><br>**A) Marcos estaba aburrido de esperar.**<br><br>B) A Marcos le gusta esperar para ser atendido.<br><br>C) Marcos está encantado con el servicio del restaurante.<br><br>¿De quién era favorito el restaurante? | *20. Villarrica en verano*<br><br>Claudia convenció a su hermano, Mario, de visitar juntos Villarrica durante el verano, diciéndole que el clima era muy bueno en esa época.<br><br>Al llegar, se encuentran con un día de lluvia torrencial y mucho viento, Mario exclama: **¡Ah!, qué mal tiempo hace ahora en Villarrica**.<br><br>A) Mario se ríe de Claudia por lo que había dicho.<br><br>**B) El día está bastante feo, contrario a las expectativas.**<br><br>C) El tiempo está hermoso, aun cuando esté lloviendo.<br><br>¿De qué convenció Claudia a su hermano Mario? |

Nombre: _____ Colegio: _____

*Voy a leer un cuento corto. AL final, le voy a pedir que me cuente la historia usando sus propias palabras. Luego, voy a hacerle algunas preguntas acerca de la historia.*

1. Juan es un campesino del norte. Desde hace varios días, está ocupado cavando un pozo en su campo. El trabajo está casi terminado.

2. Una mañana, Juan llega al lugar para terminar con su tarea y nota que, durante la noche, el pozo se desmoronó y que el hueco está lleno de tierra hasta la mitad. Juan está muy desanimado. Piensa durante algunos minutos y se dice: "Tengo una idea". Coloca su camisa y su sombrero al borde del pozo, esconde el pico y la pala y se trepa a un árbol donde permanece escondido.

3. Un tiempo después, un vecino que pasaba por el campo, se acerca a hablar un poco con su amigo Juan. Al ver su sombrero y su camisa, piensa que Juan está trabajando en el fondo del pozo.

4. El vecino se acerca, se inclina y al ver el pozo con tierra hasta la mitad grita con todas sus fuerzas: "¡Socorro! ¡Socorro! ¡Amigos, vengan rápido, Juan está enterrado en un pozo!". Los vecinos corren hasta el lugar y comienzan a vaciar el pozo para llegar hasta el desafortunado de Juan.

5. Cuando terminan de vaciar el pozo, Juan se baja del árbol, se acerca y dice a sus vecinos: "Muchísimas gracias, ustedes me fueron de gran ayuda".

*Cuenta la historia con sus propias palabras*

*Sobre el texto leído. Responde las siguientes preguntas.*

¿Qué título le pondría a esta historia?

_____

1. ¿Qué está haciendo Juan desde hace varios días?

_____

2. ¿El trabajo está terminado?

_____

3. Durante la noche, ¿qué es lo que cayó dentro del pozo?

_____

4. ¿Qué cosas coloca Juan al borde del pozo?

_____
5. ¿Qué hizo con su pico y con su pala?

_____
6. ¿Dónde se escondió después?

_____
7. ¿Dónde está Juan según sus vecinos?

_____
8. ¿Qué hacen los vecinos?

_____
9. ¿Cuándo baja Juan del árbol?

_____
10. ¿Por qué Juan dice que los vecinos le fueron de gran ayuda?

_____
11. ¿Cree usted que los vecinos están contentos?

_____
12. ¿Qué le parece la actitud de Juan?

_____

Y ahora, ¿conservaría el mismo título?    SI        NO

*Voy a leerle un texto corto. Usted debe explicarme con sus propias palabras qué quiere decir la oración que cierra cada situación y luego elegir la alternativa correcta. Algunas oraciones tienen sobreentendidos y otras no.*

**Interpretación de actos de habla indirectos.**

**Consigna**: *Voy a leerle un texto corto. Usted debe explicarme con sus propias palabras qué quiere decir la oración que cierra cada situación. Algunas oraciones tienen sobreentendidos y otras no.*

Puntuación.
0: respuesta inadecuada o ausencia de respuesta
1: respuesta parcial con imprecisiones, agregados u omisiones
2: respuesta clara y adecuada

1. Juan está en su habitación escuchando música a un volumen muy alto. Su padre le dice "Juan, me duele la cabeza" ¿Qué piensa que quiere decir el padre de Juan?

<div align="center">

0      1      2

</div>

**Consigna**: *Le voy a dar dos respuestas posibles. Cuál explica mejor lo que la persona quiere decir.*

   a.  Quiere decir que le duele la cabeza
   b.  Quiere que el hijo baje el volumen de la música*

2. El señor Rodríguez está en la cocina cuando el teléfono comienza a sonar. Entonces, le dice a su mujer: "Yo contesto" ¿Qué piensa que quiere decir el señor Rodríguez?

<div align="center">

0      1      2

</div>

   a.  Quiere decir que él contesta*
   b.  Quiere decir que su mujer debe contestar

3. El señor García llega a su trabajo un caluroso día de verano. Cuando entra a la oficina, se da cuenta que la temperatura está en su punto justo. Respira aliviado y le dice a sus compañeros: "Está fresco acá, qué agradable". ¿Qué piensa que quiere decir el señor García?

0     1     2

a. Quiere decir que le agrada esa temperatura*
b. Quiere que sus compañeros apaguen el aire acondicionado.

4. Oscar se muda el próximo sábado. Sabe que le espera un duro trabajo ya que debe llevar varias cajas a su nueva casa. Se encuentra con un amigo en la calle y después de contarle que se muda, le dice: "Qué haces el fin de semana?". ¿Qué piensa que quiere decir Oscar?

0     1     2

a. Quiere saber qué va a hacer su amigo el fin de semana.
b. Quiere que su amigo lo ayude con la mudanza*

5. Adriana sale del supermercado llevando varias bolsas. Se encuentra en la puerta con su marido y le dice: "Estas bolsas pesan mucho". ¿Qué piensa que quiere decir Adriana?

0     1     2

a. Quiere afirmar que las bolsas que lleva pesan mucho
b. Quiere que su marido la ayude a llevar las bolsas*

6. Santiago se sienta en el living a mirar la televisión. Le dice a su abuelo que está sentado a su lado: "Se ve muy bien en esta pantalla nueva". ¿Qué piensa que quiere decir Santiago?

0     1     2

a. Quiere decir que es una buena pantalla de televisión*
b. Quiere decir que le gustaría comprar otro aparato

7. Pablo y Miguel son compañeros de oficina. Pablo va a comprar el almuerzo para los dos y cuando vuelve le dice a Miguel: "Lo tuyo es 7 pesos". ¿Qué piensa que quiere decir Pablo?

0     1     2

a. Quiere informarle al compañero cuánto pagó
b. Quiere que su compañero le pague lo que le corresponde*

8. María está en su oficina imprimiendo un documento. Le dice a su secretaria: "La verdad es que esta impresora funciona muy bien". ¿Qué piensa que quiere decir María?

<div align="center">0        1        2</div>

a. Quiere decir que la impresora funciona bien*
b. Quiere decir que su secretaria utiliza muy seguido la impresora

9. Laura mira a su hija lavarse los dientes, antes de ir al colegio, tal como le enseñó el dentista. Entonces, orgullosa le dice: "¡Qué bien te lavas los dientes!". ¿Qué piensa que quiere decir Laura?

<div align="center">0        1        2</div>

a. Quiere decir que el hijo se lava bien los dientes*.
b. Quiere que su hijo se apure

10. Luisa mira su Peugeot sucio estacionado en la calle y le dice a su marido: "¿No te parece que está demasiado sucio?". ¿Qué piensa que quiere decir Luisa?

<div align="center">0        1        2</div>

a. Quiere decir a su marido que el Peugeot no está limpio
b. Quiere que su marido lave el Peugeot*

11. El señor Martínez está ocupado en el living cuando el teléfono comienza a sonar. Le dice a su esposa: "El teléfono está sonando". ¿Qué piensa que quiere decir el señor Martínez?

<div align="center">0        1        2</div>

a. Quiere decir que escucha el sonido del teléfono
b. Quiere que su mujer conteste*

12. Andrés se muda el próximo sábado. Se encuentra con un amigo en la calle y después de contarle sobre su mudanza le dice: "La casa es verdaderamente luminosa" ¿Qué piensa que quiere decir Andrés?

<div align="center">0        1        2</div>

a. Quiere decir que la casa tiene mucha luz*
b. Quiere que su amigo lo ayude con la mudanza

13.  Paula y su marido salen del supermercado. Paula le dice a su marido. "Esta noche tengo ganas de cocinar pescado". ¿Qué piensa que quiere decir Paula?

<div align="center">

0       1       2

</div>

a.  Quiere decir que le gustaría cocinar pescado*
b.  Quiere decir que le gustaría que su marido cocine pescado

14. Claudia está en su habitación escuchando música. Su padre la llama: "Claudia, a cenar" ¿Qué piensa que quiere decir el padre de Claudia?

<div align="center">

0       1       2

</div>

a.  Quiere que su hija vaya a cenar*
b.  Quiere que su hija baje el volumen de la música

15.  Pedro y Susana trabajan en la misma oficina. El aire acondicionado está prendido al máximo. Susana le dice a Pedro "¿No hace demasiado frío acá?!". ¿Qué piensa que quiere decir Susana?

<div align="center">

0       1       2

</div>

a.  Quiere decir que hace frío en la oficina
b.  Quiere que Pedro baje o apague el aire acondicionado*

16.  Gerardo vive con su hermano. Volviendo del banco le dice: "No había casi nadie en el banco; ni siquiera tuve que esperar". ¿Qué piensa que quiere decir Gerardo?

<div align="center">

0       1       2

</div>

a.  Quiere decir que había poca gente en el banco*
b.  Quiere que su hermano vaya al banco la próxima vez

17. Ya es bastante tarde y Ana espera a su hijo que se está lavando los dientes antes de ir al colegio. Ella le dice: "Fede, ¿todavía no terminaste?". ¿Qué piensa que quiere decir Ana?

<div align="center">

0       1       2

</div>

a.  Quiere saber si su hijo terminó de lavarse los dientes
b.  Quiere que su hijo se apure*

18. Mariana mira con orgullo su nuevo Peugeot estacionado en la calle y le dice a su marido: "Me encanta el color que elegimos". ¿Qué piensa que quiere decir Mariana?

<div align="center">

0        1        2

</div>

a. Quiere decir que le parece bien el color elegido*
b. Quiere que el marido la lleve a pasear

19. Martín se sienta en el living a mirar la televisión. Le dice a su mujer que está en la cocina: "Mis anteojos están sobre la mesa". ¿Qué piensa que quiere decir Martín?

<div align="center">

0        1        2

</div>

a. Quiere contarle dónde están los anteojos
b. Quiere que ella le lleve los anteojos hasta el living*

20. Pedro trabaja en una oficina y necesita imprimir un documento. Le dice entonces a su secretaria: "No hay más papel" ¿Qué piensa que quiere decir Pedro?

<div align="center">

0        1        2

</div>

a. Quiere decir que no hay papel
b. Quiere que su secretaria ponga papel en la impresora*

| | PROTOCOLO PRAGMÁTICO BREVE DE OBSERVACIÓN RÁPIDA | | |
|---|---|---|---|
| | ¿Qué hace el observador?: | Se indica con x si hay problema | Se especifica brevemente en qué consiste la anomalía. |
| | | ¿Se advierte problema? | Observaciones |
| 1 | **Articulación**<br><br>(Solo si es notoriamente deficiente para la comunicación: vuelve incomprensible o muy difícil de comprender el mensaje) | | |
| 2 | **Uso de vocabulario y gramática**<br><br>(Solo si es notoriamente deficiente para la comunicación: vuelve incomprensible o muy difícil de comprender el mensaje) | | |
| 3 | **Pausas y silencios durante turnos**<br><br>(Solo si dificulta seguir el turno) | | |
| 4 | **Léxico adecuado y rico** | | |
| 5 | **Morfología y concordancia gramatical**<br><br>(Solo si es notoriamente deficiente para la comunicación: vuelve incomprensible o muy difícil de comprender el mensaje) | | |
| 6 | **Agilidad del turno** | | |
| 7 | **Cambio de turno fluido** | | |
| 8 | **Uso adecuado de turnos predictivos y predichos (pregunta/respuesta, saludos, etc.)** | | |
| 9 | **Su turno se adecúa a las exigencias del turno anterior** | | |

| | | | |
|---|---|---|---|
| 10 | **Uso gestual que complementa y matiza el verbal** | | |
| 11 | **Uso de la mirada para confirmar escucha, comprensión y ceder o pedir el turno** | | |