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# Integrated Scale for Diagnosis of Autism Spectrum Disorder (ISD-ASD)

**Manuel Ojea Rúa**
(Unversity of Vigo)
https://orcid.org/0000-0002-9787-2520
https://manuelojea.blogspot.com/

## Abstract

*These theoretical-experimental antecedents, this study attempts advance iver research line regarding build an integrated analysis scale that facilitates ASD´ specific diagnosis, based on disorder criteria, from evolutive-behavioral items and perceptual-cognitive criteria integrated into single diagnostic scale, whose main aims are following: 1) facilitate the statistical probability for ASD specific diagnosis, and 2) specify the empirical probability to ASD´level according to DSM-5 Intl classification.*

*Integrated Experimental Scale (ISD-ASD) made up of six dimensions which integrate development evolutive, behavior, social and communication abilities with variables regarding psycho- neurological perceptual-cognitive information processing: developing, communication, interaction, behavior, attention and cognition.*

*A total of 124 participants of three ASD levels, belonging nine age intervals (y-o) and sex/gender way have been analyzed to experimentally justify the Scale. Results increasingly show the effectiveness of the diagnosis of ASD. Thus, total mean of six dimensions of this study found between 5.77- 7.88 belong to ASD level-1, between 7.88- 9.01 to ASD level-2 level and a score ≥ 9.02 would correspond to ASD level -3.*

**Keywords:** Autism Spectrum Disorder, Diagnosis, Evaluation, Specific Scale, Autism Test.

## 1. Technical File

| |
|---|
| **Aims**: 1) Analyze the probability of the autism spectrum disorder diagnosis, and 2) specify the ASD specific levels (DSM-5). |
| **Ages**: It´s adapted to guys and girls from 3 y-o. |
| **Estimated application time**: 1 hour. |
| **Author**: Manuel Ojea Rua. |
| **Registration of intellectual property**: REGAGE22e00025406583. |

## 2. Scientific Background

The concept of Autism Spectrum Disorder (ASD) constitutes a group of highly heterogeneous symptoms, which have been synthesized by the International Classification of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5 ®) of the American Psychiatric Association (APA) (2013), around three degrees or levels of intensity, in relation to two basic dimensions: 1) persistent impairment of reciprocal social communication and social interaction, and 2) restrictive and repetitive behaviours, interests or activities, both present from early childhood. Likewise, the International Confederation of Diseases (ICD-10) (World Health Organization) (WHO, 2004; 2014; 2018) similarly defines the disorder as a social deficiency, which includes limitations in the development, maintenance and understanding of interpersonal relationships and deficits in relationships of socio-emotional reciprocity.

However, the diagnostic consideration of ASD, carried out only according to the two basic dimensions of evolutionary criterial character, collected by the DSM-5 classification, may imply an extensive reductionism to facilitate early and effective diagnosis and, therefore, delay its specific diagnostic identification until a later age of evolutionary development (Clark et al., 2018; Goodwin et al. 2018; Højslev et al., 2021; U.S. Department of Health and Human Services, 2001; 2014), which can even reach adulthood (Dalsgaard et al. 2019; Schendel and Thorsteinsson, 2018; Pierce et al., 2019; Sheldrick et al. 2017) , thus wasting an indispensable time to facilitate an intervention adapted to the specific needs that have not been detected. In this sense, not infrequently, the initial evaluation concludes with a possible early evolutionary and developmental delay, so that it will be the symptomatic permanence of the criteria groups of the disorder, which can confirm an accurate diagnosis (Bacon et al. 2018; Ozonoff et al., 2018).

And, although it is true that the specificity of the symptomatology of ASD can be appreciated with greater precision between 30.9 and 574.4 months (Becerra-Culqui et al., 2018; Höfer et al., 2019; Montiel-Nava et al., 2017; van't Hof et al., 2021), it is no less true that if only the two basic dimensions of the previous classification are considered, criteria that can make up the disorder are labeled with developmental processes, which can significantly delay detection, with which the consequent intervention will be severely affected. For this reason, Abu-Akel et al. (2019) propose a much broader categorical and dimensional conceptual definition of ASD, in order to facilitate an early formal diagnosis and not be reduced to a set of exclusively evolutionary and behavioral symptoms, emphasizing the type of perceptual-cognitive processing complemented with evolutionary-criterial symptoms. Well, beyond the consideration of the symptomatic structure that the current classification of disabilities entails, the specific perceptual-cognitive particularity that characterizes people with ASD, can be observed from the capacity for coding, the semantic understanding of information, and the creation of links and information nodes, which facilitate their subsequent recovery. In this sense, people with ASD have severe limitations to establish relationships between the information of the incoming stimuli with the contents previously learned, which hinders the retrieval of the information in terms of meanings. For this reason, the competence of mechanical or partial recovery of meanings is more possible than the related semantic and global memory, however, despite the empirical contrasts of these considerations, these diagnostic criteria have not yet been assumed as core symptomatic groups for the diagnostic contribution of the disorder (Brignell, Williams, Jachno, Prior, Reilly & Morgan, 2018).

Under these premises and, precisely, to respond to these goals, Ojea and Tellado (2018) carry out a study in order to analyze and evaluate the type and level of perceptual-cognitive semantic processing in students with ASD, whose objective is to corroborate this specific principle related to the particularity of information processing and conclude with the construction of a measurement scale for these specific criteria, which is called the Semantic Integration Scale (SIS). The SIS is composed of six basic sub-dimensions that configure the form of information processing, with different levels of intensity to locate the experimental process of diagnosis: 1) disorders of the understanding of conceptual units, 2) deficits for the reconstruction of signifiers, 3) difficulties for the hierarchization of conceptual categories, through the evolution during the application of the categorial construction program, 4) disorders for inter- conceptual relations development (nodes), 5) disorders for the establishment of relations (nodes) between categories, and 6) deficits for retrieval of information in terms of meanings.

Indeed, empirical evidence of the importance of analyzing the structure of coding-cognitive recovery is a recurring scientific theme today. Kelley, Paul, Fein & Naigles (2006) analyze the linguistic particularities of students with ASD, in relation to grammatical structure and conclude that the differences in pragmatic and semantic language in people with ASD are highly significant, observing severe limitations in the process of coding meanings and, therefore, in the retrieval of subsequent information to relate it to another input or input of contents.

It is evident that these procedural particularities form a differentiating specificity in people with ASD that affects the whole process of curricular growth and vital learning, which requires the development of early detection instruments that facilitate diagnostic evaluation with reliability and validity as soon as possible, since, otherwise, programs can be designed, treatments, or interventions, little or nothing adapted to the perceptual-cognitive needs of these people.

In this sense, research efforts have focused on the search for evaluation instruments, with the aim of providing reliable and valid statistical elements for specific early diagnosis.

The Autism Diagnostic Test, 2nd ed. (ADOS-2) (Lord et al., 1994; Lord et al., 1999), published by Western *Psychological Services*, constitutes, in fact, an empirical test, highly contrasted experimentally, to favor the analysis of the capacity for creativity, fiction and imagination, based on the use of acquired knowledge and the development of narrative semantic relationships, which synthesizes in six basic dimensions (Stichter et al., 2021): 1) communication, 2) social interaction, 3) play, 4) imagination, and 5) restricted and repetitive behaviors.

Also, the interview for the diagnosis of the autisms- revised or test ADI-R (Rutter et al., 2003), although with more evolutionary contents of location of the development, elaborates a progressive scale for learned behaviors, based on the classification DSM-5 and the classification of the icd-10 diseases, which constitute a complementary analysis essential with the ADOS-2 test, so that with the application of both scales the guarantee for the effectiveness and validity of the diagnosis and, above all, of the early detection so necessary in the cases of positive diagnosis is considerably increased.

Although both tests make up the highest levels of accuracy empirically contrasted at present, there are other preliminary and/or complementary tests, which favor diagnostic decisions, in relation to which great efforts of experimental refutation have been carried out.

Oosterling et al. (2010) integrates a universal diagnostic study of predictive value to elaborate the modified checklist for autism in young children (MCHAT-R/F), refuted by Robins, Fein and Barton (2001) and Robins et al. (2014). The authors conclude that developmental-based evolutionary deficits explain up to 98% of the diagnostic process in relation to people with specific needs related to evolutionary-intellectual deficits, while it is reduced to 54.3% for the explanatory variance of people diagnosed with ASD and, even, other more recent studies, lower these expectations to 17.8% of the evolutionary symptomatology of development in people with ASD (Carbone et al., 2020). Again, there is a need to investigate other perceptual-cognitive criteria, as specific elements that allow increasing the diagnostic effectiveness of this disorder.

Based on these considerations, there are many scales and tests that try to integrate evolutionary behavioral components with cognitive processing modes and the particularities of emotional reactions before situations that occur, or before the emotional reaction of the other. Highlights include the Diagnostic Screening Tool for Autism in Toddlers and Young Children (STAT) (Stone et al., 2004; 2008; Wu & Chiang, 2014; Wu et al., 2019)," which is an interactive tool for the preliminary initial screening of people with high-risk ASD, located, above all, from grade 2 of the DSM-5 classification. The STAT is made up of four social and communication dimensions, in order to analyze the capacity for social reaction to relational situations that must be analyzed by emphasizing the processes learned. Other scales are also recognized, such as the Asperger's Syndrome Diagnostic Scale of Myles et al. (2001), the Questionnaire of Ehlers et al., (1999), the test for the evaluation of Asperger's Syndrome (Scott et al., 2002), the Socio-Communicative Scale of Verification of Skuse et al. (2005), the Social Scale of Communication of Berument et al. (1999), the Interactive Screening Test for Autism in Young Children (RITA-T, 2015) (Choueiri & Wagner, 2015; Robins et al., 2001, 2014; Siu et al., 2016), the Behavior Checklist forAges 11/2 to 5 years (CBCL/11/2-5), the Achenbach & Rescorla Caregiver-M Report Form(C-TRF) (2000).

In this process of experimental analysis and verification of tests adapted for the detection of the diagnosis of ASD, the following empirical instruments are remarkable, among others. The Children's Asperger's Syndrome Test (CAST) (Scott et al., 2002), the Autism Spectrum Inventory (IDEA) (Rivière, 1997), the Australian Asperger's Syndrome Scale (ASAS) (Attwood, 1998), the Gilliam Asperger Disorder Scale (GADS) (Gilliam, 2001), the Gilliam Autism Rating Scale GARS-2 test (Gilliam, 2005; 2010), the Autism Screening Instrument for Educational Planning (ABC) (Krug, Arick and Almond, 2008), the Asperger Syndrome Diagnostic Scale (ASDS) (Myles, Bock and Simpson, 2001), the Ages and Stages Questionnaire: Social- Emotional: A parent- completed, child- monitoring system for social emotional behaviors (ASQ- SE) (Squires, Bricker and Twombly, 2002), the Infant Screen for Children with Autism Traits (BISCUIT) (Matson et al., 2009), the Communication and Symbolic Behavior Scales Developmental Profile Infant/ Toddler Checklist (CSBS-DP) (Wetherby and Prizant, 2002), the Screening for Emotional and Behavioral Delays: The Early Screening Project (ESP) (Feil, Severson and Walker, 1998), the Pervasive Developmental Disabilities Screening Test II (PDD ST II) (Siegel, 1996), the Social Communication Questionnaire (SCQ) (Rutter, Bailey and Lord,

2003), the Screening Tool for Autism in Two-Year-Olds (STAT) (Stone, 2018) or the Temperament and Atypical Behavior Scale (TABS) (Bagnato et al., 1999).
Also, within the scope afore this recent research, we try to respond to the diagnostic evaluation process of adults with ASD, who, for many different reasons, had not been properly diagnosed over time. Thus, Arksey & O'Malley (2005), the National Institute for Health and Care Excellence (2012), Hayes et al., (2018), Penner et al. (2018) and Whitehouse et al. (2018), among others, conduct recent systematic reviews over the evaluation of autism in adults, which focus on the empirical contrast of existing diagnostic instruments.

These theoretical-experimental antecedents, this study attempts advance iver research line regarding build an integrated analysis scale that facilitates ASD´ specific diagnosis, based on disorder criteria, from evolutive-behavioral items and perceptual-cognitive criteria integrated into single diagnostic scale, whose main **aims** are following: 1) facilitate the statistical probability to ASD´ specific diagnosis, and 2) specify the empirical probability to ASD´ level according to DSM-5 Intl classification.

## 3. Statistical Justification

These theoretical-experimental antecedents, this study attempts advance iver research line regarding build an integrated analysis scale that facilitates ASD´ specific diagnosis, based on disorder criteria, from evolutive-behavioral items and perceptual-cognitive criteria integrated into single diagnostic scale, whose main aims are following: 1) facilitate the statistical probability for ASD specific diagnosis, and 2) specify the empirical probability to ASD´level according to DSM-5 Intl classification.
Integrated Experimental Scale (ISD-ASD) made up of six dimensions which integrate development evolutive, behavior, social and communication abilities with variables regarding psycho- neurological perceptual-cognitive information processing. Data coding process allows get statistica percentiles to facilitate ASD level diagnosis to 95% confidence index.

### 3.1 Research design

Design is experimental study based on application of ISD-ASD Scale, whose data have been evaluated through SPSS´ statistics, v. 23.

### 3.2 Procedure

The study has been developed from direct observation of children with ASD previous diagnosis along last 5 years, throughout Integrated Experimental Scale (ISD-ASD).

### 3.3 Dimensions and variables of analysis.

ISD-ASD Scale is made up of 27 variables, 24 of which have been grouped into six general dimensions using the statistical calculation of variables. Each dimension is formed by 4 conceptual or developmental variables that make a total of 24 variables each of them has, in turn, 4 values, which facilitate the statistical calculation of probabilities, while three others remain as fixed values.

The calculated dimensions, their labels and meaning are as follows:

1) **Developing.** This dimension analyzes evolutionary and developmental variables.
2) **Communication.** Anboosts the ability to communicate verbally and non-verbally, according to social demands.
3) **Interaction.** Observe the variables related to reciprocal social interaction with peers and adults.
4) **Behavior.** It analyzes the possible restricted and stereotyped behaviors, issues related to referential interests, and the behavioral reaction to the environment demands.
5) **Attention.** It encompasses the response to stimuli that require attentional causation and the discrimination of that response according to the understanding over different emotional situations arising from reciprocal social interaction. In this dimension, the capacity of creativity, fiction, and imagination to put oneself in place of a situation that has arisen or before the different interrelated socio-emotional contexts is also analyzed.
6) **Cognition.** It specifies the type of perceptual-cognitive processing, from the attention span to the stimulus, coding, the establishment of relationships and neural nodes between information and subsequent retrieval.

Each dimension is composed of 4 variables, with the following tags and contents:

**1. Dimension- Developing:**

1.1. *Motricity*: Onset general motility and presence of possible rates for delay and/or regression.

1.2. *Language*: Onset first words and verbal or non-verbal language development, as well as the presence of indicators for delay and/or subsequent regression.

1.3. *Sphincters*: Initiation of the control of sphincters, day and night and indicators, if there are any possible delay and / or regression after their acquisition.

1.4. *Skills*: Development of other daily living skills, related to grooming, dressing, food. Presentation of allergic processes or clinical complications. Analysis over possible delay and / or setback in its acquisition once acquired.

**2. Dimension- Communication:**

2.1. *Oral*: Quality and quantity of oral or non-verbal communication. Adaptation of communication to the context.

2.2. *Tone*: Flexibility or rigidity, parsimony and/or slowness of the oral tone.

2.3. *Social*: Adaptation of communication with emphatic and emotional gestures adjusted to the reciprocal social situation that corresponds.

2.4. *Signals*: Capacity of the action to ask or give something from a distance, making an attribution with meaning of the object, accompanied by the joint directionality of the expressive gaze towards the interlocutor.

**3. Dimension- Interaction:**

3.1. *Initiation*: Spontaneous ability to initiate a conversation according to the social situation of mutual interaction.

3.2. *Contact*: Quality of the interaction initiated, samples of related communicative manifestations and emphatic-emotional samples.

3.3. *Understanding*: Competence to understand the demands and requirements for different situations, especially when they change interlocutors or situations.

3.4. *Enjoyment***:** Observation of the feeling of pleasure for participating in social interaction or, on the contrary, withdraws the gaze, redirects attention and shows signs of restlessness during the relationship.

**4. Dimension-Behavior:**

4.1. *Stereotypies*: Presence of restricted and stereotyped behaviors at different body levels. Motor stiffness and inflexibility during interaction.

4.2. *Sensoriality*: Coping difficulties in the face of certain stimuli, which can cause severe anxiety behavior, which hinder the development of daily life. Possible bodily reactions to certain objects or foods are also observed.

4.3. *Recurrent*: Presence of obsessive-compulsive themes to which he resorts in a structured and continuous way that prevent reciprocal social communication. Focus on certain areas that can cause interference in the development of daily life.

4.4. *Behavior*: Adaptation of behavior to different environments. Adverse reactions to demands. Attentional difficulties and/or signs of hyperactivity.

**5. Dimension- Attention:**

5.1. *Joint*: Ability to redirect attention and gaze towards the manifestations of the interlocutor, with signs of flexibility in the change towards a new objective or goal within the interaction.

5.2. *Creativity*: Ability to be creative in situations that require a certain level of improvisation and spontaneous initiation, both in relation to one's own and others' situations. Ease or limitations for creativity in different areas: music, art, lyrics, etc.

5.3. *Fiction*: Competence to suppose a situation that is not real, although it could be, according to the assumptions established during the interaction and respond to said situation in a simulated way, although it could be a real situation, without being one.

5.4. *Imagination*: Ability to put yourself in a hypothetical situation and perform the required action. Flexibility or limitations to adapt changes to a new hypothetical situation indicated and supervened on the previous action that requires an increase in the level of imagination. Analysis of competences in certain specific areas.

**6. Dimension- Cognition:**

6.1. *Perception*: Level of analysis of incoming stimuli. Type of analysis, partial, central, global, attribution of meanings and elaboration of relationships to facilitate their understanding.

6.2. *Coding*: Understanding the stimulus and level of the links or nodes created with the previous related information, in order to give you to pass the new information to the permanent memory.

6.3. *Semantics*: Level of meaning attributed. It focuses on the details of the stimulus or attributes a global significance, which allows the semantic elaboration of the information.

6.4. *Recovery*: Quality and quantity to facilitate the memory of encoded information. Use of the links or relationships attributed during the coding process.

Other 3 variables that have not been included in the dimensions are formed into fixed variables afore contrast of the analysis, whose labels are the following:

1. **Level**: ASD´ levels according to the DSM-5 classification: ASD level-1, of lower type of specific needs in the dimensional areas, ASD level-2, medium level of specific needs and ASD level-3 maximum level of specific needs.
2. **Age**: age ranges, which have been operationalized according to evolutionary estimates of developmental changes: 3- 5.5 years, 5.6- 7.5 years, 7.6- 9.5 years, 9.6- 11.5 years, 11.6- 13.5 years, 13.6- 15.5 years, 15.6- 17.5 years, 17.6- 19.5 years and >19 years of age.
3. **Sex**: Sex of the participants: Guys and girls.

## 3.4 Participants

A total of 124 participants of three ASD levels, belonging nine age intervals (y-o) and sex/gender way have been analyzed, whose synthesis can be seen over Table 3.

**Table 3: Participants.**

| *Gender* | | | *ASD Level* | | | *Total* |
|---|---|---|---|---|---|---|
| | | | *ASD level-1* | *ASD level-2* | *ASD level-3* | |
| *Guys* | *y-o* | 3- 5:5 | 4 | 2 | 1 | 7 |
| | | 5:6- 7:5 | 5 | 2 | 1 | 8 |
| | | 7:6- 9:5 | 6 | 3 | 2 | 11 |
| | | 9:6- 11:5 | 7 | 1 | 1 | 9 |
| | | 11:6- 13:5 | 4 | 1 | 3 | 8 |
| | | 13:6- 15:5 | 10 | 2 | 2 | 14 |
| | | 15:6- 17:5 | 9 | 3 | 1 | 13 |
| | | 17:6- 19:5 | 7 | 3 | 1 | 11 |
| | | ≥ 19:6 | 6 | 3 | 0 | 9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | *Total* | | 58 | 20 | 12 | 90 |
| *Girls* | *y-o* | 3- 5:5 | 2 | 1 | 0 | 3 |
| | | 5:6- 7:5 | 2 | 0 | 0 | 2 |
| | | 7:6- 9:5 | 3 | 0 | 1 | 4 |
| | | 9:6- 11:5 | 2 | 0 | 1 | 3 |
| | | 11:6- 13:5 | 3 | 1 | 0 | 4 |
| | | 13:6- 15:5 | 2 | 1 | 1 | 4 |
| | | 15:6- 17:5 | 3 | 1 | 1 | 5 |
| | | 17:6- 19:5 | 4 | 1 | 1 | 6 |
| | | ≥ 19:6 | 2 | 0 | 1 | 3 |
| | *Total* | | 23 | 5 | 6 | 34 |
| **TOTAL** | | | | | | **124** |

As can be seen, 124 participants are distributed following, 90 participants are guys, of which 58 belong to ASD level-1, 20 to ASD level-2 and 12 to ASD level-3. According age intervals, 7 belong to 3-5.5 y-o, 8 to 5.6-7.5 y-o, 11 to 7.6-9.5 y-o, 9 from 9.6-11.5 y-o, 8 to 11.6-13.5 y-o , 14 to interval 13.6-15.5 y-o, 13 to group of 15.6-17.5 y-o, 11 to 17.6-19.5 y-os and 9 19 ≥ y-o. Regarding 34 girls, 23 belong to ASD level-1, 5 to ASD level-2 and 6 to ASD level-3. Likewise, 3 belong to group of 3-5.5 y-o, 2 to group of 5.6-7.5 y-o, 4 to 7.6- 9.5 y-o, 3 from 9.6-11.5 y-o, 4 to group of 11.6-13.5 y-o, 4 to interval from 13.6-15.5 y-o, 5 to group 15.6-17.5 y-o, 6 to 17.6-19.5 y-o and 3 ≥19 years.

### 3.5 Reliability level

The reliability levels of study variables and dimensions statistically calculated have been found through *Cronbach's Alpfa* statistic (see Table 1).

**Table 1: Reliability levels**

| *VARIABLES* | *DIMENSIONS* | *Mean (⍰)* | *Variance ($\sigma^2$)* | *Cronbach ´ α** |
|---|---|---|---|---|
| ASD level | | 53.64 | 143.45 | .91 |
| Age | | 49.80 | 165.29 | .96 |
| Sex | | 53.86 | 156.70 | .92 |
| Motricity | **DEVELOPING** | 51.26 | 155.14 | .92 |
| Language | | 51.25 | 154.97 | .92 |
| Sphincters | | 51.33 | 153.67 | .92 |
| Ability | | 51.32 | 153.47 | .92 |
| Oral | **COMMUNICA-TION** | 52.46 | 146.02 | .91 |
| Ton | | 52.21 | 147.31 | .92 |
| . Social | | 52.16 | 144.54 | .91 |
| . Signals | | 52.41 | 141.20 | .91 |
| . Iniciation | **INTERACTION** | 52.18 | 141.59 | .91 |
| . Contact | | 52.36 | 139.98 | .91 |
| . Understanding | | 52.30 | 141.12 | .91 |
| . Enjoy | | 52.37 | 141.89 | .91 |
| . Stereotypes | **BEHAVIOR** | 52.16 | 143.62 | .91 |
| . Sensoriality | | 52.20 | 145.06 | .91 |
| . Recurring | | 52.04 | 148.66 | .92 |
| . Conduct | | 52.38 | 150.27 | .92 |
| . Joint | **ATTENTION** | 52.22 | 145.62 | .91 |
| . Creativity | | 52.18 | 144.28 | .91 |
| . Fiction | | 52.19 | 142.23 | .91 |
| . Imagination | | 52.20 | 142.01 | .91 |
| . Perception | **COGNITION** | 52.41 | 144.45 | .91 |
| . Coding | | 52.19 | 143.03 | ,91 |
| . Semantic | | 52.18 | 143.32 | .91 |
| . Recovery | | 52.16 | 143.79 | .91 |

*Reability indices for Σ: 27 elements.

As can be seen, reliability indices point out high statistical goodness for all test elements. Mean total reability indices are μ: .92 (α standardized μ: 95.8). The basic statistics get a total mean □: 54.13, explicative variance $\sigma^2$: 157.810, typical deviation σ: 12.56, to global sum Σ: 27 study analysis elements.
Likewise, reliability indices to dimensions and related basic statistics are following (see Table 2).

**Table 2: Reliability to dimensions**

| ***DIMENSIONS*** | □ | $\sigma^2$ | ***α**** |
|---|---|---|---|
| DEVELOPING | 30.81 | 89.65 | .93 |
| COMMUNICA-TION | 34.06 | 68.22 | .89 |
| INTERACTION | 34.06 | 58.51 | .87 |
| BEHAVIOR | 33.64 | 70.76 | .89 |
| ATTENTION | 33.77 | 64.34 | .88 |
| COGNITION | 33.95 | 63.83 | .88 |
| TOTAL | 33.38 | 69.22 | .89 |

*Reability índices for calculed dimensions.

Indeed, reliability indices for six dimensions show Cronbach´ alpha significantly high scores, which give this study high statistical validity. As can be seen, INTERACTION dimension presents the lowest index (α: 87%), while DEVELOPMENT dimension offers the highest index (α: 93%).
Total mean for all dimensions as whole found ($\alpha_\mu$: .89).

### 3.6 Factorial Analysis: Principal Components

Sample coherence used in this study for the six operationalized statistically dimensions analysis has been found through the Bartlett test of Factorial Analysis. Indeed, this test facilitates the observation the output of correlation matrix between to all study elements.
Determinant level index can be observed (see Table 4), in which a significantly low score is acquired: Sig: .00, to mean of whole sample μ: .82. Likewise, scoring found along Bartlett sphericity test corroborates the previous data and allows conclude that study sample coherence has a empirical validity significantly high level, whose Chi square ($x^2$): 687.80 and critical level is great significant (sig: .00).

**Table 4: KMO determinant and Bartlett's Test**

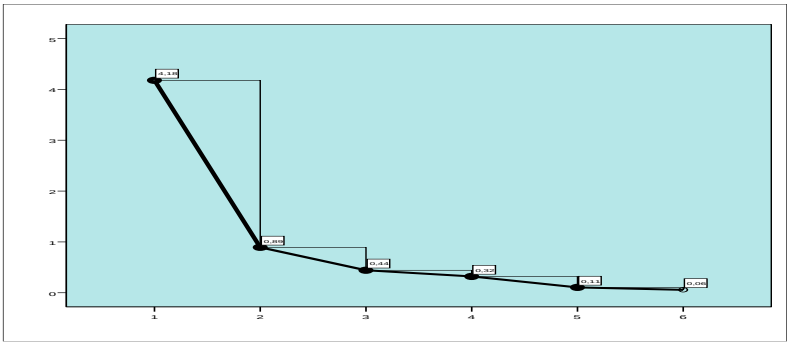
Correlation matrix[a]

a. Determinant: .00

| | | |
|---|---|---|
| *Sample brightness measure* | | .82 |
| *Bartlett's spheri-* | $x^2$ | 687.80 |
| *city test* | df. | 15 |
| | Sig. | .00 |

Sedimentation graph contrasts previous scores and allows observe that just two eigenvalues are significantly higher the others, while third value that´s very around and then graph certain regularity is keep along continuous the scores (see Graph 1).

**Graph 1: Sedimentation graph**




From data it can be deduced the total explicative variance analysis for six statistically calculated dimensions focuses over first two factors of this analysis, which explain total variance: 84.51% (see Table 5).

**Table 5: Explained variance***

| *Components* | *Initial eigenvalues* | | | *Sum of squared saturations* | | |
|---|---|---|---|---|---|---|
| | *Total* | *% Vari-anza* | *% Acumu-lado* | *Total* | *% Vari-anza* | *% Acumu-lado* |
| DEVELOPING | 4.17 | 69.62 | 69.62 | 4.17 | 69.62 | 69.62 |
| COMMUNICA-TION | .89 | 14.89 | 84.52 | .89 | 14.89 | 84.52 |
| INTERACTION | .44 | 7.38 | 91.90 | .44 | 7.38 | 91.90 |
| BEHAVIOR | .32 | 5.36 | 97.27 | .32 | 5.36 | 97.27 |
| ATTENTION | .10 | 1.76 | 99.03 | .10 | 1.76 | 99.03 |
| COGNITION | .05 | .96 | 100.00 | .05 | .96 | 100.00 |

*Main components.

### 3.7 Regression analysis

Predictive analysis for six calculated dimensions has been found through Stepwise Regression Analysis regarding ASD level (DV): (see Table 6).

**Table 6: Regression coefficients[a]**

| *Model* | *DIMENSIONS* | *Non-standardized coefficients* | | *Standardized coefficients* | *t* | *Sig.* |
|---|---|---|---|---|---|---|
| | | *B* | *Typical error.* | *Beta* | | |
| **1** | (Constant) | -.80 | .38 | | -2.11 | .03 |
| | DEVELOPING | -.04 | .04 | -.06 | -1.03 | .30 |
| | COMMUNICATION | .03 | .03 | .09 | .99 | .32 |
| | INTERACTION | .18 | .04 | .59 | 4.16 | .00 |
| | BEHAVIOR | .05 | .03 | .14 | 1.64 | .10 |
| | ATTENTION | -.17 | .05 | -.49 | -3.11 | .00 |
| | COGNITION | .17 | .05 | .52 | 3.14 | .00 |

a) DV: ASD levels.

Output Table shows data corresponding to confidence intervals for regression coefficients. As seen along regression coefficient data, the confidence intervals are enough closely, indicating that predictive estimates are significantly precise and sharply stable. Similarly, data found over t-statistic for contrasting the predictive hypotheses allow assess the statistical significance of contribution of six dimensions individually to variance proportion explained along analysis as whole. Indeed, model constant indicates a highly significant critical level (sig: .00) for a non-zero *t*: -2.1. However, data relating significance levels of each dimension individually are differential, being highlest significant for INTERACTION, ATTENTION and COGNITION dimensions, while present lowest contribution to model DEVELOPMENT, COMMUNICATION and BEHAVIOR dimensions.

### 3.8 Comparative Analysis

#### *3.8.1 t-analysis for age*

In this study, comparative study t for independent samples is a priority test since their results allows infer the percentiles (p) that will be assumed later for decisions about the probability to ASD diagnosis levels.
Comparative analysis for nine age intervals of participants can be seen in Table 7.

**Table 7: *t*- test for independent samples***

| | | *Levene Test* | | *t- test for equality of means* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *F* | *Sig.* | *t* | *df* | *Sig.* | *Mean difference* | *Error típ.* | *95% Confidence* | |
| | | | | | | | | | *Lower* | *Upper* |
| DEVELOPING | $=\sigma^2$ | .73 | .40 | .68 | 20 | .50 | .30 | .43 | -.61 | 1.21 |
| | ≠ | | | .68 | 19.23 | .50 | .30 | .43 | -.61 | 1.21 |
| COMMUNICATION | $=\sigma^2$ | .02 | .87 | 1.95 | 20 | .06 | 1.35 | .69 | -.09 | 2.79 |
| | ≠ | | | 1.95 | 19.32 | .06 | 1.35 | .69 | -.09 | 2.79 |
| INTERACTION | $=\sigma^2$ | .00 | .95 | .83 | 20 | .41 | .88 | 1.06 | -1.32 | 3.10 |
| | ≠ | | | .84 | 19.52 | .41 | .88 | 1.05 | -1.32 | 3.09 |
| BEHAVIOR | $=\sigma^2$ | 2.58 | .12 | .66 | 20 | .51 | .50 | .76 | -1.08 | 2.09 |
| | ≠ | | | .63 | 14.56 | .53 | .50 | .79 | -1.19 | 2.20 |
| ATTENTION | $=\sigma^2$ | .11 | .73 | 2.25 | 20 | .03 | 1.83 | .81 | .13 | 3.53 |
| | ≠ | | | 2.21 | 17.69 | .04 | 1.83 | .82 | .09 | 3.57 |
| COGNICTION | $=\sigma^2$ | .43 | .51 | 2.23 | 20 | .03 | 1.85 | .83 | .12 | 3.59 |
| | ≠ | | | 2.19 | 17.46 | .04 | 1.85 | .84 | .07 | 3.64 |

**t* contrast: Age intervals.

As can be seen on previsous Table, critical level relative to Leven test on variances equality shows differential data to observe t-test critical level. Results indicate that dimensions ATTENTION and COGNITION show differentially significant levels (sig: .04). However, other dimensions no significant differences are observed regarding age intervals.

### *3.8.2 Comparative analysis to ASD levels.*

However, data found regarding ASD levels are significant. As can be seen in Table 8, contrasted comparative study significant differences are found to all study dimensions.

**Table 8: t- test for independent samples***

| | | *Levene test* | | *t- test for equality of means* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *F* | *Sig.* | *t* | *df.* | *Sig.* | *Mean difference* | *Error típ.* | *95% Confidence* *Lower* | *Upper* |
| DEVELOPING | $=\sigma^2$ | 25.08 | .00 | -2.09 | 97 | .03 | -.61 | .29 | -1.20 | -.03 |
| | ≠ | | | -3.99 | 96.46 | .00 | -.61 | .15 | -.92 | -.31 |
| COMMUNICATION | $=\sigma^2$ | .18 | .67 | -9.39 | 97 | .00 | -3.57 | .38 | -4.33 | -2.82 |
| | ≠ | | | -10.21 | 27.73 | .00 | -3.57 | .35 | -4.29 | -2.86 |
| INTERACTION | $=\sigma^2$ | 2.79 | .09 | -13.77 | 97 | .00 | -4.56 | .33 | -5.22 | -3.90 |
| | ≠ | | | -14.08 | 25.76 | .00 | -4.56 | .32 | -5.23 | -3.89 |
| BEHAVIOR | $=\sigma^2$ | .01 | .92 | -10.52 | 97 | .00 | -3.41 | .32 | -4.06 | -2.77 |
| | ≠ | | | -10.02 | 23.92 | .00 | -3.41 | .34 | -4.12 | -2.71 |
| ATTENTION | $=\sigma^2$ | 8.49 | .00 | -8.11 | 97 | .00 | -3.36 | .41 | -4.19 | -2.54 |
| | ≠ | | | -9.62 | 31.43 | .00 | -3.36 | .35 | -4.08 | -2.65 |
| COGNICTION | $=\sigma^2$ | 15.83 | .00 | -10.75 | 97 | .00 | -3.92 | .36 | -4.65 | -3.20 |
| | ≠ | | | -13.34 | 33.97 | .00 | -3.92 | .29 | -4.52 | -3.32 |

*Contrast: ASD levels.

Indeed, observing critical levels agreed significance level indicated by Levene's test, significant levels <. 05 are found in all study dimensions, which indicates there´s data significant discrimination, therefore total dimensional statistical means will allow deducing ASD´ differentiated diagnostic levels.

### *3.8.3 Comparative analysis to sex.*

Comparative t- tests for sex variable indicate non-significant critical levels into six dimensions analyzed (see Table 9).

**Table 9: t-test for independent samples***

| | | *Levene test* | | *t- test for equality of means* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *F* | *Sig.* | *t* | *df.* | *Sig.* | *Mean differ-ence* | *Er-ror típ.* | *95% Confi-dence* | |
| | | | | | | | | | *Lowe r* | *Up-per* |
| DEVELOPING | $=\sigma^2$ | .23 | .62 | .10 | 122 | .91 | .02 | .21 | -.41 | .45 |
| | ≠ | | | .10 | 54.33 | .92 | .02 | .22 | -.43 | .48 |
| COMMUNI-CATION | $=\sigma^2$ | 2.03 | .15 | -1.84 | 122 | .06 | -.72 | .39 | -1.50 | .05 |
| | ≠ | | | -1.87 | 61.16 | .06 | -.72 | .38 | -1.49 | .04 |
| INTERAC-TION | $=\sigma^2$ | 4.61 | .03 | -.40 | 122 | .68 | -.19 | .48 | -1.14 | .75 |
| | ≠ | | | -.43 | 68.44 | .66 | -.19 | .44 | -1.09 | .70 |
| BEHAVIOR | $=\sigma^2$ | .17 | .68 | .82 | 122 | .41 | .31 | .38 | -.44 | 1.07 |
| | ≠ | | | .81 | 58.23 | .41 | .31 | .38 | -.45 | 1.09 |
| ATTENTION | $=\sigma^2$ | 7.67 | .00 | -1.85 | 122 | .06 | -.78 | .42 | -1.62 | .05 |
| | ≠ | | | -2.16 | 84.59 | .03 | -.78 | .36 | -1.50 | -.06 |
| COGNICTION | $=\sigma^2$ | 4.98 | .02 | -.47 | 122 | .63 | -.20 | .43 | -1.06 | .65 |
| | | | | -.55 | 81.10 | .58 | -.20 | .37 | -.95 | .54 |

*Contrast: Sex.

# 4. Aplication Of Integrated Scale (ISD-ASD)

## 4.1. Interaction Between Evaluator and Evaluated Family Members

### *4.1.1 Personal, Family and School Data*

| |
|---|
| Surname, name of evaluated: |
| Birthdate: |
| Address and contact: |
| Currently studies: |
| Educational supports, if there´s: |
| Adaptations and/or curricular reinforcements, if there´s: |
| Human services of educational supports used: |
| Name of your biological family and/or cohabiting: |
| Brothers and/or sisters: |

| |
|---|
| Outstanding family history to 1st, 2nd, 3rd and other generations: |
| Genetic study and/or karyotype, if there´s: |
| Degree of dependency, if there´s: |
| Evidence of some diagnosis label, if there´s: |
| Presence of associated comorbid symptom clusters, if there´re: |
| Synthesis of other previous reports, if there´re: |

### *4.1.2. Preliminary Analysis: Evolution and Development*

0.1: Etiological - casual Analysis (write down the most remarkable aspects):

| | |
|---|---|
| Pregnancy process. Duration. | |
| Birth process. Use of specific measures. | |
| Weight, height, neonatal diagnosis. | |
| Specific genetic analysis. | |
| Karyotype of relatives in different generations of relatives. | |

0.2: Acquisition of motor skills (write down the most remarkable aspects):

| | |
|---|---|
| Motor flexibility | |
| Age of the first steps. | |
| Initiation of normal ambulation. | |
| Is there regression in the process of ambulation: age of regression. | |

0.3: Language acquisition (write down the most remarkable aspects):

| | |
|---|---|
| Attention of the gaze. | |
| Age of first words. | |
| Age of first sentences. | |
| Is there obvious regression in the language of communication after it has begun. | |

0.4: Other skills (notated the most remarkable aspects):

| | |
|---|---|
| Age of acquisition of daytime and nighttime sphincter control (bladder, bowel). | |
| Feeding autonomy. Specific diet (sensoriality, allergies) | |
| Grooming Autonomy (sensitivity) | |
| Dressing autonomy (sensitivity). | |

| | |
|---|---|
| Is there an obvious setback in the acquisitions initiated: age of the setback (if so, indicate in which ones). | |

### *4.1.3. Direct Interaction Between Evaluator and Evaluated: Notebook*

**I) Task For Receiving the Student to The Game Room**

*Goal*: To adapt the student to the contextual situation, creating a natural and relaxed environment.

*Materials*: A wooden puzzle arranged on the table and a global visual sheet of the image. A piece of cloth and a glass or bowl without water

*Activity 1.1*: ¡Hello! ¿What is your name? "Look, this picture shows the image of an elephant. The elephant is in a field eating tree branches. On this wooden board, we can place the pieces that form the elephant in the image. I will place the first piece, ¿See?" The pieces must be out of reach for the child, the child can take them or ask for them to complete the puzzle. In the case the child does not know how to continue by himself, help for the student must be provided by collaborating as much as necessary, interacting verbally and gesturally.

**Observations 1.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Level of interaction of the student during the activity. | |
| Does the student ask questions when looking at the picture? Does it show interest? Does it show communicative language, or lack oral language?<br>In case of using isolated words or short sentences, write down each word / sentence. | |
| When building the puzzle, does he/she directly pick up the materials? Ask for them verbally or with gestures? | |
| Does the student have the ability to perform the activity without or with help to form the puzzle? | |
| Does the student accept the evaluator's collaboration willingly? or does the student keep his eyes away from the evaluator, individually manipulating the situation? | |
| Does the student try to ask for help in case of difficulties to complete the puzzle? | |

| | |
|---|---|
| Does the student try to share the success of the activity by redirecting the evaluator's attention to the completed activity? | |
| Does the student seek approval for the activity performed or is he/she afraid of failure by withdrawing his/her head slightly? | |

*Activity 1.2*: The evaluator removes three pieces of the puzzle and leaves it incomplete, one of the pieces intentionally falls to the ground near the student, the other two pieces are left out of the student's sight, while the evaluator makes comments that he/she also wants to play. After a short time, the evaluator places the pieces on the board and asks for the one on the floor.

**Observations 1.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Student's reaction to the evaluator's attitude. Make verbal comments or gestures. | |
| Is the student surprised by the action of the evaluator? Does the student look at his/her mother/father or companion? | |
| Does the student ask about missing pieces or redirect attention to other tasks and places in the room? | |
| Does the student pick up the piece that fell to the ground or does he/she remain oblivious to the situation? | |

*Activity 1.3*: The evaluator takes a piece of the puzzle formed and uses it as if it were the complete elephant: "Look, now this piece is the elephant, he is thirsty and I take him to drink water" (takes the elephant to the bowl or glass without water and makes it drink water), Can you do the same with another piece of the *puzzle*? Finally, return the *puzzle* piece to its place and ask the student to do the same; meanwhile, the evaluator asks the student to cover the elephant with the piece of cloth because he is going to sleep.

**Observations 1.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Student's reaction to the evaluator's attitude. Make comments, use setback gestures. Smile. | |
| Does the student take the piece of the puzzle and use it as if it were the elephant? | |
| Does the student perform the action of taking the puzzle piece to drink water in a glass without water? Do you gesture or verbalize? | |
| Does it return the piece to its place, imitating the action of the evaluator? | |
| Does the student take the cloth and cover the elephant's puzzle, as requested by the evaluator, pretending that he is going to sleep? | |

**General Observations:**

| |
|---|
| |

**II) Interactive Game**

*Goal*: To analyze the capacity for socio-communicative interaction through complementary cooperative procedures.

*Materials*: A large white cardboard, two markers, one black and one red. Green, red and yellow stickers. Vignettes/pictures: House, sun, rain.

*Activity 2.1*: The evaluator calls the student by name, if he does not respond, he asks the family member to do so: “Come with me” (they sit facing each other), the evaluator takes the red marker and the student the black marker: “Let's draw a little house together (the evaluator makes a line corresponding to one side of the house), Now you, How would you follow the drawing of the house? (The student is encouraged to paint the top or bottom, if he does not, the evaluator would help him/her), How will you continue now? (The evaluator draws a door and a window), now you can draw another window (the evaluator draws part of the roof). Tell me, How will you finish it?”

**Observations 2.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Response to name. Is it necessary for the family member to intervene? | |
| Does the student sit facing the evaluator? Disposition to participate in the activity. Emotional reactions, gestures or verbalizations (indicate which ones). | |
| Comprehension over the activity. | |
| Does it participate additionally in the arrangement of the drawing? | |
| Is the student ahead of the execution, does he/she present initiative during the execution of the drawing? | |
| Does the student accurately draw the laying of his parts in the house? | |
| Does the student need constant assistance during the task? | |
| Does the student perform improvisations beyond what is necessary to draw? | |
| Does the student make verbalizations during the execution or communicative gestures? (Indicate which ones). | |

*Activity 2.2*: The evaluator indicates that in this house lives a child with his family and they also have a dog" (then the interlocutor begins drawing a dog beside the door), now, you can continue (drawings must be done outside the house). Then, the evaluator will draw the face of a child beside the house, now you can continue".

**Observations 2.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Does the student show a cooperative response in the task? | |
| Does the student verbalize words, expressions or gestures during the execution of the activity? (Indicate the type of expressions or gestures made). | |
| Does the student smile at the evaluator, ask questions or make suggestions? | |

| | |
|---|---|
| Does the student perform improvisations on the activity increasing unforeseen elements? | |
| Does the student show interest in action or remain distant? | |
| The motor stroke is secure and corresponds to the intended objective. | |

*Activity 2.3*: The evaluator says that the house is in the countryside and surrounded by flowers. Then takes a red color sticker and a yellow color sticker and stick them close to the house,"okay, now you can do the same and draw lots of flowers surrounding the house".

**Observations 2.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Response to new demand. | |
| Verbalizations and/or gestures during execution (note the type of responses). | |
| Did involvement in the activity increase from the beginning? | |
| Does he/she cooperate and is interested? | |
| Does it increase the elements significantly or just use a sticker or two? | |
| Does it stick the red and yellow stickers alone or also stick the green one? | |
| Visomotor coordination to pick up and paste the stickers. | |

*Activity 2.4*: The evaluator says that the day is getting darker and believes it will rain, then with blue color paint in the fingers makes a vertical mark representing rain, then says: "Do as I, draw the rain with a finger dipped in blue paint swiping over the sky, the house and the field, everything gets wet, even the dog, the child and the rest of the family".

**Observations 2.4 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Capacity to adapt to the immediate change. | |
| Does it cooperate or refuse the action of swiping the finger over previously made drawings? | |
| Emotional reaction, verbalizations, gestures (write down which ones). | |
| Realization of strokes corresponding to the objective of the drawing. | |
| Does it smile during the execution or feel upset? | |
| Improvise or increase while drawing with the fingers? | |

**Globalización Del Significado De La Actividad:**

| |
|---|
| The evaluator will request the child to resume all what occurred during this task: "There is a house, a family lives in it, it was a sunny day, then all of the sudden everything turn darker and started to rain strongly, everything got cover by the rain and everyone got wet" (if the child is non verbal, it will be asked to use the following pictogram or vignette in the right order: house, sun, rain). |

**General Observations:**

| |
|---|
| |

**III) Anticipation to the Task**

*Goal*: To analyze the capacity to anticipate an action.

*Materials*: The cardboard with the drawing of the previous activity. Images of a house of a dimension that allows to paste inside the images of: puppy, child, father and mother. A doll representative of a boy or girl. Bubble making device and liquid to make bubbles.

*Activity 3.1*: On the table is arranged the cardboard with the previous drawing and in a corner of the table is located a doll. In relation to the cardboard, the evaluator says: "The dog, the child and the parents got wet because they were outside the house, as it wasn't supposed to rain that much, "but now that we know it is raining hard, tell me, What will you do for them to not get wet? (I will place the dog inside the house, then, the evaluator will take the image of the dog and place it inside the house) What will you do?"

**Observation 3.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Level of understanding of the action that is presented as anticipation. | |
| Capacity to place itself in the anticipated situation. | |
| Does it look to one side and the other and/or search eye contact with his family member? | |
| Does it feel confused by the ambiguity of the situation? | |
| Does it place the images of the child/mother/father inside the house? | |
| Does it make verbalizations or gestures during the execution of the action? (Indicate which ones). | |
| Does it perform improvisations or increase elements in the activity that were not requested? | |

*Activity 3.2*: The evaluator throws the doll to the floor without noticing and says: "The doll hurt himself, I threw him with my elbow without intention and fell to the floor, as it was in a corner of the table, now that we know, what could we do to avoid it?" (after a short time, the evaluator picks up the doll and places it back to the same place as before on the table), ``What will you do to avoid this situation from repeating?"

**Observation 3.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Does the student attempt to pick the doll from the floor promptly? | |
| The student left the doll on the floor. | |
| The student feels bewildered by the situation, verbalizes it or presents representative gestures of bewilderment. | |
| When the evaluator places the doll in the same place again, the student does not do, or say anything. | |
| The student changes the doll placed by the evaluator in the same place to a more central and safe place on the table. | |

| | |
|---|---|
| The student informs the evaluator to change the place of the doll to avoid the previous situation. | |
| Verbalize or gesticulate during execution? (Indicate which ones). | |

*Activity 3.3*: The evaluator takes the bubble mankind device and without saying anything starts to blow bubbles to the air, the bubbles land over the doll, hence the doll gets wet because of the bubbles, then says: "with this fun game the doll got wet as if it was raining, What could we do to avoid the doll getting wet? (The evaluator places the doll on a chair, away from where bubbles are being blown) and asks the student: Do you want to play/blow bubbles with me?

**Observations 3.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| The student immediately notices the new bubble game. | |
| Does the child redirect the look to the evaluator? Does he/she smile or show other types of emotion? (which one). | |
| Does the student direct his attention to the position of the doll? | |
| Does it make verbalizations or gestures during the development of the actions? (Indicate which ones). | |
| Does the student take the bubble making device or ask for it? | |
| Does the student direct/aim the bubbles towards the doll? | |
| Does the student make the bubbles regardless of the situation of the doll? | |
| Does the student make changes in regards to the doll situation, move the doll from place, i.e. under the table or take it far from the bubbles? | |
| Does it show satisfaction over the activity? | |

**General Observations:**

| |
|---|
| |

**IV) Coping With the Unforeseen**

*Goal*: To analyze the coping capacity over unforeseen situations and over situations that turn impossible.

*Materials*: Four cubes of *Kohs*, plate/sheet with the first figure of the *Kohs* cubes. A car with remote control.

*Activity 4.1*: With the first sheet of the *Kohs* cubes, the evaluator forms the figure with the four cubes, "now, you can do it" (the student can repeat the actions several times), once it is used to carry out the action, the evaluator removes one of the cubes and tell the student: "Can you repeat the puzzle one more time?"

**Observations 4.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Attention span to the performance of the exercise by the evaluator. | |
| Observation of the plate/sheet. | |
| Execution of the requested action. | |
| Reaction of the student when he/she notices there is a missing cube to complete the puzzle. | |
| Verbalize or gesticulate the unforeseen action? | |
| Ask or search for the cube that is missing? | |
| Request help from the evaluator? | |
| Manipulate the cubes searching for a solution? | |
| Abandons the game and redirects his attention to a different place in the room? | |

*Activity 4.2*: The evaluator puts into operation a car with a remote control. Then the evaluator explains to the student how the car is functioning, extracting the batteries from the remote control that facilitates the car movement, "now, can you put the batteries in the remote control for the car to work". After sometime the evaluator removes the batteries from the car and says "Can you keep playing by yourself with the car?"

**Observations 4.2. (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the game. | |
| Observation capacity over the evaluator. | |
| Attention over the interlocutor during the manipulation of the car and remote control. | |
| Verbalization or related gesticulation (write down the type of words-phrases-gestures). | |
| Shared smile while the evaluator plays with the car. | |
| Shared interaction when the evaluator manipulates the batteries.. | |
| Satisfaction with the game. | |
| Verbalization or gestures when the evaluator removes the batteries (indicate which ones). | |
| Verbalization or gestures when the evaluator asks to play without the batteries. | |
| Search for the batteries to place them in the car or ask for them? | |
| Improvise and play with the car moving it with his/her hand? | |
| Abandons the game and redirects his attention to a different place in the room and/or searches for eye contact with the family member? | |

*Activity 4.3*: Suddenly the evaluator takes the batteries and places them in the car, tests it and it works again, then leaves the remote control on the floor but takes the car and stores it. Finally, the evaluator abandons the game room leaving the child alone for a few minutes.

**Observations 4.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or gesticulation upon the new situation. | |
| Follow-up with a view to the actions of the evaluator. | |
| Takes the remote control and manipulates it? | |
| Does it go to where the evaluator stored the car? | |
| Attempt to access the place to grab the car or ask for help? | |
| Abandon the remote control and look for another type of toy available in the room? | |
| Look for the evaluator and show feelings of disappointment? | |
| Search for eye contact with a family member, without knowing what to do? | |

**Semantic Recovery:**

| |
|---|
| The task from *Kohs* cubes is retrieved and the student is asked to indicate what was the reason why the puzzle could not be done.<br>Then, the car task is retrieved and the student is asked to indicate the reason why the car did not work. |

**General Observations:**

| |
|---|
| |

**V) Response to the Reinforcement Hierarchy**

*Goal*: To analyze the discrimination capacity upon the different degrees of contingent reinforcement.

*Materials*: A doll, a soap, a towel, a comb, dolls clothing.

*Activity 5.1*: The evaluator place on the table a doll and a piece of soap, immediately simulates the action of washing the doll with the soap, "now you can do it" (invite the student to play at washing the doll). Upon the response of the student, the evaluator expressively and firmly "well done, you have done very well" (with a higher tone and a very expressive social smile).

**Observations 5.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or related gesticulation (write down every type). | |
| Does it perform the simulated action of washing the doll with the soap? | |
| Improvisation over the game further of the action requested. | |
| Student reaction over the high positive reinforcement of the evaluator. | |
| Signs of social smile over the expressive approval from the evaluator. | |
| Directionality of the gaze towards the evaluator. | |

*Activity 5.2*: At this moment, the evaluator incorporates the towel to the game and begins to dry the doll, "now, you can do it". Upon the performance of the activity by the student, the evaluator approves of the action, but with less emphasis: "Okay, is fine" (with a lower tone).

**Observations 5.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or gesticulation (which ones). | |
| Does it perform the simulated action of drying the doll with the towel? | |
| Improvisation over the game further of the action requested. | |
| Student reaction over the lesser clear positive reinforcement of the evaluator. | |
| Directionality of the gaze towards the evaluator. | |
| Directionality of the gaze towards a family member or companion. | |
| Verbalization or gesticulation of insecurity (which ones). | |

*Activity 5.3*: The evaluator introduces to the activity the doll's clothing and starts to get the doll dressed, "now, you can continue" (upon the performance of the activity the evaluator simply nods approval with the head, without saying a word).

**Observations 5.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or gesticulation (write down all of them). | |
| Does it perform the simulated action of dressing the doll? | |
| Improvisation over the game further of the action requested. | |
| Emotional reaction over the changing evaluator attitude. | |
| The student continues the action of dressing the doll? | |
| Redirects the gaze towards the evaluator? | |
| Searches for the gaze of the companion? | |
| Abandon the game and search for other activities in the room? | |

*Activity 5.4*: Lastly, the evaluator includes the comb in the game, combs the doll's hair and says "If you wish, you can continue" (the evaluator gets up and leaves the game place, ignoring the task the student is performing).

**Observations 5.4 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or gesticulation (which ones). | |
| Does it perform the action of combing the doll's hair? | |
| Improvisation over the game further of the action requested. | |
| Emotional reaction over the evaluator's new attitude. | |
| The student continues to perform the action of combing the doll 's hair? | |
| Searches with the eyes for the evaluator? | |
| Refugees on the companion? | |
| Abandon the game? | |
| Shows insecurity, confusion or perplexity obiver the change of attitude of the evaluator? | |

**Global Meaning of The Activity:**

| |
|---|
| The evaluator requests the child to perform a successive sequence of actions already performed in the prior task. "Wash the doll with soap, dry the doll with the towel, dress the doll and comb the doll's hair" (if the child does not possess the capacity to verbalize, there will be representative visual elements on the table, with the aim that the child will placed them in the correct sequence order). |

**General Observations:**

| |
|---|
| |

**VI) Sensitivity and Restrictive Behaviors**

*Goal*: To analyze the presence of sensoriality and/or sensitivity, as well as possible restrictive behaviors.

*Materials*: Elements with different textures: sponge, plasticine, a piece of iron, wool, glass with water. There will also be different levels of sound to be used: Ambulance, car's horn and the sound of a door closing.

*Activity 6.1*: During this session, the student must manipulate the different textures with the hand and say what material is made of and associate it with an image. The evaluator takes the wool and says "this is a piece of wool; now, you do the same with the elements I give you: Sponge, plasticine, iron piece, etc" (During the intervals of the process, the evaluator ask to the family member for possible negative or allergic reactions to certain objects. During the conversation food allergies/reactions are included).

**Observación 6.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the activity. | |
| Intensity of the hand manipulation. | |
| Verbalization or gesticulation (which ones). | |
| Prior knowledge over the materials. States the name of the material. | |
| Refuse to perform some type of manipulation. | |
| Rejectment gesture to a certain material. | |
| Shows negative reactions to a certain type of food? | |
| Are the negative reactions related to the texture, color or other characteristics?? | |

| | |
|---|---|
| During the activity, shows disruptive repetitive motor conducts: motor stereotypes? (which ones). | |
| During the activity, exhibit body-swinging behaviors, twisting, or other actions that look like mannerism? | |
| During the activity, show repetitive and/or echolalic language? (Indicate which ones). | |
| Are negative reactions to any type of tissue in contact with the body indicated? | |

*Activity 6.2*: The evaluator makes an intensive sound produced by an ambulance and continues making other strong sounds such as: car horn, closing doors, etc. (During the activity, the evaluator inquires to the family member for possible reactions over similar daily life situations).

**Observations 6.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Immediate reaction to the noise: Does it cover his ears? | |
| Verbalization or gesticulation (which ones). | |
| Shows hand flapping, stereotypical arm movements? | |
| Is he/she restless? | |
| Redirects the gaze at the evaluator to attempt to understand what is happening? | |
| Reacts passively upon the new situation, without apparently being affected by it? | |
| Make comments? (indicate which ones). | |
| Indicates another type of sensitive reaction? (Indicate which ones). | |

**Global Meaning of The Activity:**

| |
|---|
| The evaluator asks the child to categorize the treated elements during this task, forming categories: 1) Recognizable elements to the tact, 2) Sound elements. In case of limited oral language expressions, perform the same activity using pictograms or representative images. |

**General Observations:**

| |
|---|
| |

**VII) Emotions**

*Goal*: To analyze the capacity to emulate cognitively human emotions.

*Materials*: Images or pictograms of emotions related to actions that can cause joy, sadness, fear and surprise.

*Activity 7.1*: The evaluator will place itself on the opposite corner of the room and facing the student will show a image or action (it could also play a video) that produce joy, then the evaluator will exaggerate a happiness/joy expression and will say to the student: "now, you come over here and say or do something that makes you feel joy (in the case of limited verbal skills, select an image that produces joy)" Subsequently, expresses the emotion of joy, which the evaluator observes from the other corner of the room.

**Observation 7.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding over the demand of the activity. | |
| Verbalization or gestures requesting help. | |
| Observation over the evaluators gestures. | |
| Motor movement when the student walks from one corner to the other in the room. (oscillations, movement, coordination, flexibility, rigidity). | |
| Verbalization over an action that produces joy. | |
| Doubts over the selection of the action. Requires help? | |
| Emotional Joy express, quality of the imitation. | |
| Improvisation over the activity, including non solicited elements. | |
| Movement coordination during the execution of the activity. | |

*Activity 7.2*: Once more, exchange places in the room and repeat the action in relation to the rest of the emotions: sadness, fear and surprise.

**Observations 7.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Motor movements during the exchange of placement in the room. | |
| Coordination movements during the emotional expression. | |
| Quality of the improvised representation of the emotional situation. | |
| Verbalization and/or gesticulation during the process. | |
| Search for support and help to execute the task. | |
| Improvisation of elements outside the ones required for the activity. | |
| Presence of hand flapping, fingers, oscillations and/or arm movements. | |
| Presence of eye tics. | |
| Other remarkable behaviors (indicate which ones). | |

**Semantic Integration:**

| |
|---|
| Creation of a coherent narrative about the successive steps taken during the four parts of this activity, based on the actions indicated by the student: actions that produce joy, sadness, fear and surprise, in the order that took place during the task. If there are verbal skills limitations, the sequence order can be expressed using representative images of the performed actions. |

**General Observations:**

| |
|---|
| |

**VIII) Cognición Y Elaboración Semántica.**

*Goal*: To analyze the ability to perform a synthetic demonstration about an event.

*Materials*: a Cell Phone. Bag of fries/ chips, gummy bears and two bananas.

*Activity 8.1*: The evaluator takes the cell phone and says: "I want to send a message via WhatsApp, but I don't know how. Can you help me? What are the steps I must follow to send the message?" (cell phone remains in

the hand of the evaluator).

**Observations 8.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the activity. | |
| Take the phone or ask for it? | |
| Open the WhatsApp application and gaze at the evaluator? | |
| Continues to attempt to explain the steps to send the message? | |
| How many steps does it takes, Verbalize the actions? | |
| Smile at the evaluator and enjoy the interaction? | |

*Activity 8.2*: "Very well! (Says the evaluator), now I know how to send a message to my friend, thank you". The evaluator places various foods on the table: chips, gummy bears (depending on the student's age) and says "you can take what you want".

**Observations 8.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Smiles at the evaluator. | |
| Take the desired bag and open it? | |
| Ask for the desired bag? | |
| Ask if he/she can open it? | |
| Is he/she capable of opening it by himself? | |
| Request assistance to open the bag? | |
| Eats in an autonomic manner? | |

*Activity 8.3*: The evaluator introduces the banana to the task to share with the student and says: "look, I have two bananas, but I do not remember how to peel them, don't remember very well if I need a knife or I can do it with my hands. Can you help me? One banana is for you and the other one is for me".

**Observations 8.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Social smile of the student. | |
| Does it leave the bag on the table and take the banana from the evaluator's hand? | |

| | |
|---|---|
| Ask the evaluator for the banana by pointing at it? | |
| Does it peel the banana with the hand? | |
| While peeling the banana, verbalize the action?, | |
| Offers the peeled banana to the evaluator? | |
| Does it peel his banana and eat it? | |
| Motor coordination level during the manipulation of the banana. | |
| Motor level while eating the banana. | |

**Semantic Integration:**

| |
|---|
| Inside every sequence of actions the student shall organize each of the steps taken during the development of the prior activities in relation to: 1) A WhatsApp, 2) Bag of Chips, 3) Bananas. During the development, indicates the necessary steps for each task either verbally or repeating the prior actions following the time sequence with images. |

**General Observations:**

| |
|---|
| |

**IX) Friendships**

*Goal*: To analyze the concept of friendship inside the social relations environment.

*Materials*: Plasticine of various colors and small thin sticks.

*Activity 9.1*: The evaluator picks a piece of plasticine and shapes it as a body, then shapes a head, arms and legs, then with a small thin stick (or smaller pieces of plasticine of a different color) shapes the eyes, nose and mouth and saya: "this is a child, is my friend, if you want you can help me make more friends with plasticine as I did".

**Observation 9.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the activity. | |
| Observation of the evaluator. | |
| Imitation of the evaluator action. | |
| Does it takes the steps following the evaluator's sequence: body, head, arms, legs (eyes, nose & mouth within stick or different color plasticine) | |

| | |
|---|---|
| Does it complete the steps in his own order that might differ from the order of the evaluator? | |
| Motor coordination during the execution of the task. | |
| Forms/shapes improvisation. | |
| Verbalize or gesticulate during the execution of the activity? | |
| Includes non requested elements in the action: hands, fingers or toes? | |

*Activity 9.2*: The evaluator says: "these are my two best friends, they hug (place the plasticine figures in hugging action) because they love each other very much and ask the student: What does it mean for you to have friends?"

**Observation 9.2 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Observation of the evaluator. | |
| Imitates the action of the evaluator: palace his figurines together indicating they love each other very much because they are friends. | |
| Verbalization or gesticulation over the action. | |
| Improvisation over the explicative action of the concept of friendship. | |
| Increased actions to express the meaning of friendship? | |
| During the execution, Verbalize the meaning of friendship? | |

*Activity 9.3*: The evaluator damages an arm of one plasticine figurine flattening lightly, then says: "Oh my friend broke his arm, I feel very sad: Do you want to play with me? Now you can do the same with one of your friends.

**Observations 9.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization or gesticulation of the student over the action (which ones). | |
| Imitation of the activity. | |
| Improvisation of the action, ¿Flattens other parts of the object or refuses to do so? | |
| Expresses his feelings during the decision taken? | |
| Response coherently and understand the meaning of friendship. | |
| ¿Increases or improvises more actions to the tasks which have not been requested? | |

*Activity 9.4*: The evaluator says: "My friend insulted me on one occasion and I felt really bad because of it. Have you experienced something similar? Will you play with me? (The evaluator directs himself to the plasticine object that represents that friend, and shows an angry gesture).

**Observation 9.4 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization over the action. | |
| Head nodding or denial. | |
| Imitation of interlocutor action. | |
| Shows anger gestures? | |
| Verbalize the action while performing it? | |
| Understanding of the objective concept of the task. | |

**Semantic Integration:**

| |
|---|
| The student elaborates a diagram with positive and negative treats that might exist in the concept of friendship: *Positive*: -companionship, -collaboration, -help, -respect. *Negative*: -occasional arguments, -distancing, -distance. |

**General Observations:**

| |
|---|
| |

**X) Daily Life Abilities**

*Goal*: To verify the understanding over daily life abilities in accordance with the age and competences of the student.

*Materials*: Coins (pennies, cents), used books and toys. The plasticine figurines made in the prior task.

*Activity 10.1*: The evaluator places himself behind a table where books are displayed for sale along with used toys, each item has been assigned a price. The student has to simulate the purchase of the desired products considering the prices and the amount of coins he has been given/assigned.

**Observation 10.1 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the activity. | |
| Understanding of money as an exchange instrument. | |
| Completing the purchase action. | |
| Verbalization or gesticulation during the process (which ones). | |
| Adjustment to the budget allocated to purchase. | |
| Understanding quantity as a mathematical concept. | |

*Activity 10.2*: Subsequently, the papers are exchanged, now the student is the one who sells, while the evaluator is the one who buys, according to the prices stipulated above.

**Observations 10.2 write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization of the action. | |
| Understanding of the exchange of functions. | |
| Coherent participation in the activity. | |
| Level of adjustment to the demand request. | |
| Exchange of products according to prices. | |
| Improvisation during the activity. | |
| Increased stimuli to enrich the task spontaneously. | |

*Activity 10.3*: The evaluator takes up the plasticine figurines made previously and says "today we are going to

the cinema, we must take out the tickets, each of them costs, 10 cents of euro, so we have to distribute the money for each of our friends: Will you help me?"

**Observations 10.3 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Verbalization of the action. | |
| Ability to understand the new task presented. | |
| Count of the money to allocate to each figurine. | |
| Verbalization about the type of film they are supposed to watch. | |
| Gesticulation in relation to the type of film. | |
| Understanding collaboration and shared tasks among friends. | |
| Improvisation during the task that enriches it. | |

*Activity 10.4*: The evaluator says that money is acquired with personal work, which facilitates the independence of people in the social sphere and asks: "What would you need to live alone and, if you lived alone, what would you do?

**Observations 10.4 (write down the aspects that respond to the following questions):**

| | |
|---|---|
| Understanding of the activity. | |
| Sign of social smile or pleasure with the question raised. | |
| Points out what he would need: -to have a home, - to know how to do everyday things: toilet, food... | |
| Verbalization or gesticulation while indicating it (indicating which ones). | |
| Verbalize those things you would do if you lived alone? | |
| Show emotions or gestures consistent with the conversation? | |

**Elaboration Of Categories:**

| |
|---|
| Indicate categories of things or actions that can be acquired with money: Food: different types of food, Clothing: different types of clothing. Others: objects, furniture, real estate. |

**General Observations:**

| |
|---|
| |

## 5. Codification

(Surround the numbering that corresponds to the item indicated)

**5.1. Items Evaluation (Annex 1) (Table 10).**

**5.2 Scoring (Direct Scores sum) (Annex 2) (Table 11).**

## 6. Transformation Of Direct Scores to Percentile:

**6.1. Transformation Of Direct Scores to Percentile by Age (Annex 3) (Tables 12-20).**

**6.2 Transformation Of Direct Scores to Percentile by Asde Levels (Annex 4) (Tables 21-23).**

## 7. Equivalence Of Asde Diagnostic Level (Annex 5) (Table 23).

## 8. Conclusions

Combining the evolutive variables and objective variables-criteria of DSM-5 currently classification with basic of psycho-cognitive human processing hypothesis, it´s possible increase the ASD diagnostic processes effectiveness, and specify it according to ASD level.

As observed in section 7 of this experimental study, mean scores found allow operationally define the ASD´ levels with a confidence border about .95.

For this reason, it´s possible calculate equivalence of the direct scores means to evaluate the contrasted probability index regarding ASD´ level (see Table 25).

**Table 25: Equivalence of direct scores means, relating ASD level probability.**

| *TOTAL DIRECT SCORES MEANS BY ASD LEVELS* | *ASD LEVEL DIAGNOSIS* |
|---|---|
| **5.77- 7.88** | ASD LEVEL-1 |
| **7.89- 9.01** | ASD LEVEL-2 |
| **≥ 9.02** | ASD LEVEL-3 |

These empirical evidences effect this Scale a basic instrument for integration of ASD diagnosis variables, in order to increase the validity and effectiveness of diagnosis and avoid possible errors derived from measures evaluation related justly exclusively evolutionary criteria and/or or behavioral.

This Scale can be used as only instrument since integrates content the perceptual-cognitive psycho-neurological development dimensions with existing ones related to development and basic behavioral, communication and social interaction criteria of DSM-5 classification.

However, as diagnostic instrument, the same other existing instruments, it´s always advisable use it complementary way, as specific corroboration element through ldiagnosis longitudinal process, especially if there´re initial doubts about specific diagnostic process.

It´s also necessary consider the high frequency of comorbidity associations related ASD, owing, always recommending use specific test related each particular evaluation situation.

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## ANNEX 1

**Table 10:**

### A. DEVELOPMENT AND EVOLUTION

A.1. Motricity:

| | |
|---|---|
| 0. | The first steps and autonomous movement to walk occur within the expected time (<12-15 months). |
| 1. | Motility occurs in the expected time, but presents levels of motor rigidity. |
| 2. | There is an obvious delay in the start of the first steps. |
| 3. | Once the process of walking autonomously has begun, there is an obvious subsequent setback. |

A.2. Language:

| | |
|---|---|
| 0. | The first words are acquired in the estimated time (24 months). Sentence construction follows a progressive order (<30 months). |
| 1. | The first words are acquired regularly, but there is a delay in the construction of sentences. |
| 2. | A marked delay in language acquisition is observed. |
| 3. | Once the process of starting the first words and/or phrases has begun, there is an obvious subsequent setback. |

A.3. Sphincter control:

| | |
|---|---|
| 0. | General control of sphincters occurs in the estimated time (<24-30 months). |
| 1. | Daytime sphincter control occurs regularly, but night sphincter control is delayed. |
| 2. | There is an obvious delay in the acquisition of control of the sphincters. |
| 3. | Once the acquisition of control of sphincters has begun, an obvious subsequent setback occurs. |

A.4. Other skills:

| | |
|---|---|
| 0. | Autonomy skills relating to feeding, grooming and dressing follow a progressive regular process. |
| 1. | Autonomy develops with some regularity, but specificities/ sensitivities are observed, which hinder feeding or other tasks of daily life. |

| | |
|---|---|
| 2. | There is an obvious delay in the acquisition of the autonomy of any of these skills. |
| 3. | Once autonomy has begun in any of the above areas, an obvious subsequent setback occurs. |

**B. COMMUNICATION AND LANGUAGE**

B.1. Oral language:

| | |
|---|---|
| 0. | Use complete oral phrases appropriately. |
| 1. | He has fluent oral speech, but makes many recurring mistakes in the use of language it compensates with the use of signs and/or pictograms. |
| 2. | Speech is limited to two or three spoken words, but they do not constitute a complete sentence. The use of signs and/or pictograms is also very limited. |
| 3. | Oral speech is absent and language of signs, images and/or pictograms is very limited. |

B.2. Speech characteristics:

| | |
|---|---|
| 0. | Varied and highly expressive speech intonation. |
| 1. | There is little variation in speech intonation and volume. |
| 2. | Speech becomes slow and parsimonious, with no change in tone. |
| 3. | Echolalic and repetitive presence of language. |

B.3. Social communication:

| | |
|---|---|
| 0. | Uses language to communicate socially spontaneously. |
| 1. | Sometimes he offers information regarding his own experiences. |
| 2. | Communication is almost always used in response to the demands of others and/or the environment. |
| 3. | It does not offer information spontaneously, nor does it ask for it. |

B.4. Act of pointing to communicate:

| | |
|---|---|
| 0. | Point your finger to indicate something from distance and communicate a demand. |
| 1. | May occasionally point to an object. |
| 2. | He points to object as he approaches it. |
| 3. | Pointing to communicate has not observed. |

## C. SOCIAL INTERACTION

C.1. Social initiation:

| | |
|---|---|
| 0. | Actively seeks participation in reciprocal social interaction. |
| 1. | It makes its own contributions in the social field, but this is limited. |
| 2. | Social interaction is more like a response to the demands of the social environment. |
| 3. | There are no social initiations and the social response is very limited. |

C.2. Eye contact and complementary emotional manifestations:

| | |
|---|---|
| 0. | Verbal or nonverbal language is complemented by coherent emotional expressions. |
| 1. | Make eye contact, but barely make expressive gesture changes consistent with the conversation. |
| 2. | There is occasional touch of the gaze, but it does not complement the conversation with coherent emotional expressions. |
| 3. | Eye contact is very little or none, there are no emotional expressions. |

C.3. Understanding the interactive social situation:

| | |
|---|---|
| 0. | Understand the reciprocal social interactive situation. |
| 1. | He has limitations in understanding the interactive social situation, but with a little help, he is able to understand it. |
| 2. | Tendency to understand only a part of the interactive process, so it can show a discourse not properly contextualized at all times. |
| 3. | He doesn't understand social interactions, so he always brings the conversation to his own perspective and interest. |

C.4. Enjoyment in social interaction:

| | |
|---|---|
| 0. | Enjoy the context of initiated social interaction. |
| 1. | He enjoys the social situation, but immediately makes gestures of discomfort with the situation. |
| 2. | The enjoyment of the situation is limited to his personal contribution, seeming absent when the participation corresponds to others. |
| 3. | No signs of personal enjoyment are observed during social interaction. |

## D. RESTRICTED AND STEREOTYPED BEHAVIORS

D.1. Stereotyped Movements:

| | |
|---|---|
| 0. | It has dynamic and flexible motor skills. |
| 1. | No repetitive movements are observed, but postural motor rigidity is appreciated. |
| 2. | Repeated rubbing of the hands is observed during conversation. |
| 3. | It presents repetitive movements of the hands in the midline of the body and motor postures of rigidity in the fingers. |

D.2. Sensory aspects:

| | |
|---|---|
| 0. | No circumscribed sensory elements of a compulsive type are observed. |
| 1. | You may be bothered by noise, smells and/or textures, but you are able to maintain attentional control. |
| 2. | The above sensory discomfort causes you concern. |
| 3. | Sensory stimuli become obsessive compulsive behaviors, which prevent you from carrying out daily development normally. |

D.3. Interests relating:

| | |
|---|---|
| 0. | It does not present an obsessive reference theme and adapts to the issues of social interaction. |
| 1. | It presents some occasional reference to its own themes, which stop the interactive process temporarily. |
| 2. | It shows behaviors related to specific topics of its own, but does not lose attentional control, although it becomes very dispersed. |
| 3. | He is constantly referencing specific topics of his own repetitively, which impede social interaction in the context. |

D.4. Conduct:

| | |
|---|---|
| 0. | The behavior is adapted to the situations and age of the participant. |
| 1. | It can present a temporary negative reaction to a demanding demand of the medium. |
| 2. | Constant denial reactions are observed when you are prevented from continuing with the activity that is your own. |
| 3. | Negative reactions with injury to others are indicated and/or occasional self-harm may occur. |

## E. ATTENTION, JOINT ATTENTION, CREATIVITY, FICTION AND IMAGINATION

E.1. Joint attention:

| | |
|---|---|
| 0. | It shows an attentional directionality towards the context-objective. |
| 1. | It shows joint attention to environmental stimulus, but not joint concern for the facts. |
| 2. | Attentional directionality toward other stimuli is occasional. |
| 3. | There is no evidence of attention, no apparent joint concern for the verbalizations or actions of others. |

E.2. Creativity:

| | |
|---|---|
| 0. | Is creative within the expected, according to age. |
| 1. | It is able to create an element or activity with help. |
| 2. | Creativity responds to characteristics related to a game of its own. |
| 3. | It shows no apparent signs of creativity. |

E.3. Fiction:

| | |
|---|---|
| 0. | He has the ability to put himself in the place of other people. |
| 1. | You can share the emotions of others, but it is limited. |
| 2. | Occasionally, on demand and with help, you can put yourself in someone else's shoes. |
| 3. | There are no signs of the ability to put yourself in other people's shoes. |

E.4. Imagination:

| | |
|---|---|
| 0. | It improvises and includes its own actions during the development of the interaction, which enrich it. |
| 1. | It shows some improvisations, but very occasionally. |
| 2. | It can show imaginative actions, but with help and on external demand. |
| 3. | No apparent signs of spontaneous imagination are observed. |

## F. CODING AND SEMANTIC INTEGRATION

F.1. Perception:

| | |
|---|---|
| 0. | Attention and directionality towards the stimulus corresponds to what is expected. |
| 1. | It directs attention to the stimulus, but, after a few seconds, it diverts attention. |
| 2. | Directs partial attention to the stimulus, but needs outside help to perceive it. |
| 3. | It seems to ignore the presentation of new stimuli from the environment. |

F.2. Cognitive coding:

| | |
|---|---|
| 0. | The encoding of the information is carried out according to the meaning of the stimulus and/or the content presented. |
| 1. | It presents a codification with a certain meaning of the content, but this presents limitations for its understanding as a significant set. |
| 2. | For the understanding and coding of the content you need intense mediated help. |
| 3. | Coding is carried out according to very specific and isolated aspects of the information content, which does not allow understanding as a whole. |

F.3. Information integration:

| | |
|---|---|
| 0. | Relate new information to previously learned content, integrating the information. |
| 1. | Adequate relationships are observed between previous and new information, but only at the level of concepts, it is not observed between broad conceptual categories. |
| 2. | Each time new information is presented, external mediated help is needed to relate the new information to the old one. |
| 3. | Every time new information is produced, it is necessary to start the learning structure again, as if it were the first time it is produced. |

F.4. Recovery:

| | |
|---|---|
| 0. | The encoded information is retrieved appropriately. |
| 1. | The encoded information is retrieved, but it ignores several elements, which seem lost. |
| 2. | It retrieves information in a limited way and requires mediated external help |

| | |
|---|---|
| | to retrieve it. |
| 3. | The retrieval of information is very local and partial and does not refer to the overall content or the set of meaning-objectives. |

## ANNEX 2

## TABLA 11

| *CODIFICATION* | *VARIABLES* | *SCORE (DS)* |
|---|---|---|
| A.1 | Motricity. | |
| A.2 | Language. | |
| A.3 | Sphincter control. | |
| A.4 | Other skills. | |
| DEVELOPING | TOTAL | |
| B.1 | Oral language. | |
| B.2 | Characteristics of speech. | |
| B.3 | Social communication. | |
| B.4 | Act of point. | |
| COMMUNICA-TION | TOTAL | |
| C.1 | Social initiation. | |
| C.2 | Eye contact and complementary emotional manifes-tations. | |
| C.3 | Understanding the interactive social situation. | |
| C.4 | Enjoy social interaction. | |
| INTERACTION | TOTAL | |
| D.1 | Stereotyped movements. | |
| D.2 | Sensory aspects. | |
| D.3 | Referential interests. | |
| D.4 | Conduct. | |
| BEHAVIOR | TOTAL | |
| E.1 | Joint attention. | |
| E.2 | Creativity. | |
| E.3 | Fiction. | |
| E.4 | Imagination. | |
| ATTENTION | TOTAL | |
| F.1 | Perception. | |
| F.2 | Cognitive coding. | |
| F.3 | Integration of information. | |

| | | |
|---|---|---|
| F.4 | Recovery. | |
| COGNITION | TOTAL | |

| *DIMENSIONS* | *Σ* | *DS SUM* |
|---|---|---|
| **DEVELOPING** | A1+A2+A3+A4 | |
| **COMMUNICATION** | B1+B2+B3+B4 | |
| **INTERACTION** | C1+C2+C3+C4 | |
| **BEHAVIOR** | D1+D2+D3+D4 | |
| **ATTENTION** | E1+E2+E3+E4 | |
| **COGNITION** | F1+F2+F3+F4 | |

## ANNEX 3

**(Tables 12- 20)**

**Table 12:**

**3:00- 5:5 Y-O (DS)**

| PC | DEVELO-PING | COMMUNI-CATION | INTER-ACTION | BEHA-VIOR | ATTEN-TION | COGNI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 6.82 | 3.37 | 3.35 | 4.27 | 3.57 | 3.37 | **10** |
| **15** | 8.61 | 4.06 | 3.90 | 4.41 | 5.36 | 4.06 | **15** |
| **20** | 9.75 | 4.50 | 4.25 | 4.50 | 6.50 | 4.90 | **20** |
| **25** | 9.75 | 4.50 | 4.25 | 4.50 | 6.50 | 6.00 | **25** |
| **30** | 9.75 | 5.10 | 4.55 | 4.72 | 6.50 | 6.50 | **30** |
| **35** | 9.75 | 6.20 | 5.10 | 5.13 | 6.50 | 6.50 | **35** |
| **40** | 9.75 | 6.50 | 5.75 | 5.75 | 6.50 | 6.50 | **40** |
| **45** | 9.75 | 6.50 | 6.43 | 6.43 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 6.62 | 6.50 | 6.50 | 7.12 | 6.62 | **50** |
| **55** | 9.75 | 6.75 | 6.61 | 6.50 | 7.80 | 6.78 | **55** |
| **60** | 9.75 | 6.75 | 7.85 | 6.50 | 8.35 | 7.20 | **60** |
| **65** | 9.75 | 6.86 | 8.75 | 6.95 | 8.90 | 7.83 | **65** |
| **70** | 9.75 | 7.27 | 8.75 | 8.60 | 9.45 | 9.07 | **70** |
| **75** | 9.75 | 7.50 | 9.00 | 9.50 | 9.75 | 9.75 | **75** |
| **80** | 9.75 | 7.50 | 9.55 | 9.50 | 9.75 | 9.75 | **80** |
| **85** | 9.75 | 7.58 | 9.75 | 9.58 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 7.72 | 9.75 | 9.72 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 7.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| ? | 9.42 | 6.60 | 6.70 | 6.67 | 7.50 | 7.07 | |

**3:00- 5:5 Y-O**

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.42 |
| COMMUNICATION | | ≥6.60 |
| INTERACTION | | ≥6.70 |
| BEHAVIOR | | ≥6.67 |
| ATTENTION | | ≥7.50 |
| COGNITION | | ≥7.07 |
| *TOTAL* | | ≥7.33 |

**Table 13:**

**5:6- 7:5 Y-O (DS)**

| PC | DEVELO-PING | COMMU-NICATION | INTER-ACTION | BEHA-VIOR | ATTEN-TION | COGNI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 6.82 | 3.45 | 3.35 | 4.27 | 3.57 | 3.37 | **10** |
| **15** | 8.61 | 4.55 | 3.90 | 4.41 | 5.36 | 4.06 | **15** |
| **20** | 9.75 | 5.25 | 4.25 | 4.50 | 6.50 | 4.90 | **20** |
| **25** | 9.75 | 5.25 | 4.25 | 4.50 | 6.50 | 6.00 | **25** |
| **30** | 9.75 | 5.62 | 4.55 | 4.72 | 6.50 | 6.50 | **30** |
| **35** | 9.75 | 6.31 | 5.10 | 5.13 | 6.50 | 6.50 | **35** |
| **40** | 9.75 | 6.60 | 5.75 | 5.75 | 6.50 | 6.50 | **40** |
| **45** | 9.75 | 6.73 | 6.43 | 6.43 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 7.00 | 6.50 | 6.50 | 7.12 | 6.62 | **50** |
| **55** | 9.75 | 7.26 | 6.61 | 6.50 | 7.80 | 6.78 | **55** |
| **60** | 9.75 | 7.40 | 7.85 | 6.50 | 8.35 | 7.20 | **60** |
| **65** | 9.75 | 7.53 | 8.75 | 6.95 | 8.90 | 7.83 | **65** |
| **70** | 9.75 | 7.67 | 8.75 | 8.60 | 9.45 | 9.07 | **70** |
| **75** | 9.75 | 7.75 | 9.00 | 9.50 | 9.75 | 9.75 | **75** |
| **80** | 9.75 | 7.75 | 9.55 | 9.50 | 9.75 | 9.75 | **80** |
| **85** | 9.75 | 8.10 | 9.75 | 9.58 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 8.65 | 9.75 | 9.72 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 8.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.42 | 6.60 | 6.70 | 6.67 | 7.50 | 7.07 | |

**5:6- 7:5 Y-O**

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.42 |
| COMMUNICA-TION | | ≥6.60 |
| INTERACTION | | ≥6.70 |
| BEHAVIOR | | ≥6.67 |
| ATTENTION | | ≥7.50 |
| COGNITION | | ≥7.07 |
| *TOTAL* | | ≥7.33 |

**7:6- 9:5 Y-O (DS)**

| PC | DESA-RRO-LLO | COMU-NICA-CIÓN | INTER-ACCIÓN | COM-PORTA-MIENTO | ATEN-CIÓN | COGNI-CIÓN | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 7.70 | 3.25 | 3.25 | 4.40 | 3.25 | 3.25 | **10** |
| **15** | 8.50 | 4.05 | 3.25 | 4.50 | 3.25 | 3.25 | **15** |
| **20** | 8.75 | 5.25 | 3.45 | 4.65 | 3.65 | 3.70 | **20** |
| **25** | 9.75 | 5.25 | 4.25 | 5.25 | 5.25 | 5.50 | **25** |
| **30** | 9.75 | 5.25 | 4.25 | 5.25 | 6.25 | 5.50 | **30** |
| **35** | 9.75 | 6.00 | 4.85 | 5.85 | 6.50 | 6.10 | **35** |
| **40** | 9.75 | 6.50 | 5.35 | 6.25 | 6.50 | 6.50 | **40** |
| **45** | 9.75 | 6.50 | 5.70 | 6.30 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **55** |
| **60** | 9.75 | 6.95 | 7.10 | 6.50 | 7.25 | 6.65 | **60** |
| **65** | 9.75 | 7.35 | 8.00 | 6.50 | 7.75 | 7.05 | **65** |
| **70** | 9.75 | 7.55 | 8.95 | 7.10 | 7.95 | 7.75 | **70** |
| **75** | 9.75 | 7.75 | 9.75 | 9.50 | 8.75 | 8.75 | **75** |
| **80** | 9.75 | 9.35 | 9.75 | 9.50 | 9.55 | 9.55 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.65 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.36 | 6.66 | 6.48 | 6.71 | 6.73 | 6.60 | |

**7:6- 9:5 Y-O**

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.36 |
| COMMUNICA-TION | | ≥6.66 |
| INTERACTION | | ≥6.48 |
| BEHAVIOR | | ≥6.72 |
| ATTENTION | | ≥6.73 |
| COGNITION | | ≥6.60 |
| *TOTAL* | | ≥7.09 |

**Table 14:**

**9:6- 11:5 Y-O**

**Table 15:**

**9:6- 11:5 Y-O (DS)**

| PC | DEVEL-OPING | COMMU-NICA-TION | INTER-AC-TION | BE-HAV-IOR | ATTEN-TION | COG-NI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 7.47 | 3.25 | 3.55 | 4.32 | 3.85 | 3.92 | **10** |
| **15** | 9.58 | 3.25 | 4.20 | 4.48 | 5.15 | 5.38 | **15** |
| **20** | 9.75 | 4.45 | 4.25 | 4.50 | 6.00 | 5.50 | **20** |
| **25** | 9.75 | 5.25 | 4.50 | 4.68 | 6.50 | 5.75 | **25** |
| **30** | 9.75 | 5.25 | 5.15 | 5.17 | 650 | 6.40 | **30** |
| **35** | 9.75 | 5.93 | 5.38 | 5.80 | 6.50 | 6.50 | **35** |
| **40** | 9.75 | 6.50 | 5.70 | 6.30 | 6.50 | 6.50 | **40** |
| **45** | 9.75 | 6.50 | 6.35 | 6.46 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 6.87 | 6.50 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 7.28 | 6.65 | 6.50 | 6.68 | 6.53 | **55** |
| **60** | 9.75 | 7.45 | 7.30 | 6.50 | 7.50 | 6.70 | **60** |
| **65** | 9.75 | 7.61 | 8.51 | 7.85 | 8.20 | 7.65 | **65** |
| **70** | 9.75 | 7.95 | 9.75 | 9.50 | 8.85 | 8.85 | **70** |
| **75** | 9.75 | 9.25 | 9.75 | 9.50 | 9.50 | 9.50 | **75** |
| **80** | 9.75 | 9.75 | 9.75 | 9.60 | 9.75 | 9.75 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.47 | 6.81 | 6.83 | 6.89 | 7.22 | 7.08 | |

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.47 |
| COMMUNICA-TION | | ≥6.81 |
| INTERACTION | | ≥6.83 |
| BEHAVIOR | | ≥6.89 |
| ATTENTION | | ≥7.22 |
| COGNITION | | ≥7.08 |
| *TOTAL* | | ≥7.38 |

**Table 16:** **11:6- 13:5 Y-O**

**11:6- 13:5 Y-O (DS)**

| PC | DE-VEL-OPING | COMMU-NICA-TION | INTER-AC-TION | BE-HAV-IOR | ATTEN-TION | COG-NI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 7.47 | 3.25 | 3.55 | 4.32 | 3.85 | 3.92 | **10** |
| **15** | 9.58 | 3.25 | 4.20 | 4.48 | 5.15 | 5.38 | **15** |
| **20** | 9.75 | 4.45 | 4.25 | 4.50 | 6.00 | 5.50 | **20** |
| **25** | 9.75 | 5.25 | 4.50 | 4.68 | 6.50 | 5.75 | **25** |
| **30** | 9.75 | 5.25 | 5.15 | 5.17 | 6.50 | 6.40 | **30** |
| **35** | 9.75 | 5.93 | 5.38 | 5.80 | 6.50 | 6.50 | **35** |
| **40** | 9.75 | 6.50 | 5.70 | 6.30 | 6.50 | 6.50 | **40** |
| **45** | 9.75 | 6.50 | 6.35 | 6.46 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 6.87 | 6.50 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 7.28 | 6.65 | 6.50 | 6.68 | 6.53 | **55** |
| **60** | 9.75 | 7.45 | 7.30 | 6.50 | 7.50 | 6.70 | **60** |
| **65** | 9.75 | 7.61 | 8.51 | 7.85 | 8.20 | 7.65 | **65** |
| **70** | 9.75 | 7.95 | 9.75 | 9.50 | 8.85 | 8.85 | **70** |
| **75** | 9.75 | 9.25 | 9.75 | 9.50 | 9.50 | 9.50 | **75** |
| **80** | 9.75 | 9.75 | 9.75 | 9.60 | 9.75 | 9.75 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.47 | 6.81 | 6.83 | 6.89 | 7.22 | 7.08 | |

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.47 |
| COMMUNICA-TION | | ≥6.81 |
| INTERACTION | | ≥6.83 |
| BEHAVIOR | | ≥6.89 |

**Table 17:**

**13:6- 15:5 Y-O (DS)**

| PC | DEVEL-OPING | COMMU-NICA-TION | INTER-AC-TION | BE-HAV-IOR | ATTEN-TION | COG-NI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 6.50 | 3.25 | 3.25 | 4.47 | 3.25 | 3.25 | **10** |
| **15** | 6.50 | 3.25 | 3.25 | 4.50 | 3.25 | 3.25 | **15** |
| **20** | 8.10 | 4.85 | 3.25 | 5.10 | 3.25 | 3.25 | **20** |
| **25** | 8.50 | 5.25 | 3.43 | 5.20 | 3.25 | 3.25 | **25** |
| **30** | 9.37 | 5.25 | 4.02 | 5.95 | 3.95 | 4.82 | **30** |
| **35** | 9.75 | 5.25 | 4.25 | 6.25 | 4.90 | 5.50 | **35** |
| **40** | 9.75 | 6.00 | 4.85 | 6.40 | 6.00 | 5.50 | **40** |
| **45** | 9.75 | 6.50 | 5.38 | 6.50 | 6.50 | 6.05 | **45** |
| **50** | 9.75 | 6.50 | 6.00 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **55** |
| **60** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **60** |
| **65** | 9.75 | 6.76 | 6.58 | 7.55 | 6.50 | 6.50 | **65** |
| **70** | 9.75 | 7.32 | 6.97 | 9.50 | 6.87 | 6.57 | **70** |
| **75** | 9.75 | 7.56 | 8.06 | 9.56 | 8.00 | 7.25 | **75** |
| **80** | 9.75 | 8.15 | 9.75 | 9.75 | 8.95 | 8.95 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.06 | 6.38 | 6.02 | 7.04 | 6.13 | 6.11 | |

| | | | |
|---|---|---|---|
| ATTENTION | | | ≥7.22 |
| COGNITION | | | ≥7.08 |
| *TOTAL* | | | ≥7.38 |

**13:6- 15:5 Y-O**

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.06 |
| COMMUNICA-TION | | ≥6.38 |
| INTERACTION | | ≥6.02 |
| BEHAVIOR | | ≥7.04 |
| ATTENTION | | ≥6.14 |
| COGNITION | | ≥6.11 |
| *TOTAL* | | ≥6.79 |

**15:6- 17:5 Y-O**

**Table 18:**

**15:6- 17:5 Y-O (DS)**

| PC | DEVEL-OPING | COMMU-NICA-TION | INTER-ACTION | BE-HAV-IOR | ATTEN-TION | COG-NI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 6.50 | 3.25 | 3.25 | 4.47 | 3.25 | 3.25 | **10** |
| **15** | 6.50 | 3.25 | 3.25 | 4.50 | 3.25 | 3.25 | **15** |
| **20** | 8.10 | 4.85 | 3.25 | 5.30 | 3.25 | 3.25 | **20** |
| **25** | 8.50 | 5.25 | 3.43 | 5.50 | 3.25 | 3.25 | **25** |
| **30** | 9.37 | 5.25 | 4.02 | 6.20 | 3.95 | 4.82 | **30** |
| **35** | 9.75 | 5.25 | 4.25 | 6.50 | 4.90 | 5.50 | **35** |
| **40** | 9.75 | 6.00 | 4.85 | 6.50 | 6.00 | 5.50 | **40** |
| **45** | 9.75 | 6.50 | 5.38 | 6.50 | 6.50 | 6.05 | **45** |
| **50** | 9.75 | 6.50 | 6.00 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **55** |
| **60** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **60** |
| **65** | 9.75 | 6.76 | 6.58 | 7.63 | 6.50 | 6.50 | **65** |
| **70** | 9.75 | 7.32 | 6.97 | 9.75 | 6.87 | 6.57 | **70** |
| **75** | 9.75 | 7.56 | 8.06 | 9.75 | 8.00 | 7.25 | **75** |
| **80** | 9.75 | 8.15 | 9.75 | 9.75 | 8.95 | 8.95 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.06 | 6.38 | 6.02 | 7.12 | 6.13 | 6.11 | |

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.06 |
| COMMUNICA-TION | | ≥6.38 |
| INTERACTION | | ≥6.02 |
| BEHAVIOR | | ≥7.12 |
| ATTENTION | | ≥6.13 |
| COGNITION | | ≥6.11 |
| *TOTAL* | | ≥6.81 |

**Table 19:**

**17:6- 19:5 Y-O (DS)**

| PC | DEVEL-OPING | COMMU-NICATION | INTER-AC-TION | BE-HAV-IOR | ATTEN-TION | COG-NI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 6.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 6.50 | 3.25 | 3.25 | 4.45 | 3.25 | 3.25 | **10** |
| **15** | 6.50 | 3.25 | 3.25 | 4.50 | 3.25 | 3.25 | **15** |
| **20** | 7.70 | 4.45 | 3.40 | 5.10 | 3.25 | 3.25 | **20** |
| **25** | 9.12 | 5.25 | 3.87 | 6.00 | 3.75 | 4.37 | **25** |
| **30** | 9.75 | 5.25 | 4.25 | 6.50 | 4.65 | 5.50 | **30** |
| **35** | 9.75 | 5.25 | 4.55 | 6.50 | 5.62 | 5.50 | **35** |
| **40** | 9.75 | 5.50 | 5.30 | 6.50 | 6.50 | 5.70 | **40** |
| **45** | 9.75 | 6.50 | 5.60 | 6.50 | 6.50 | 6.50 | **45** |
| **50** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **55** |
| **60** | 9.75 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | **60** |
| **65** | 9.75 | 7.02 | 6.67 | 8.77 | 6.50 | 6.50 | **65** |
| **70** | 9.75 | 7.40 | 7.20 | 9.75 | 7.25 | 6.65 | **70** |
| **75** | 9.75 | 7.62 | 8.62 | 9.75 | 8.25 | 7.75 | **75** |
| **80** | 9.75 | 8.55 | 9.75 | 9.75 | 9.15 | 9.15 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.10 | 6.38 | 6.19 | 7.22 | 6.30 | 6.27 | |

**17:6- 19:5 Y-O**

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.10 |

| | | |
|---|---|---|
| COMMUNICA-TION | | ≥6.38 |
| INTERACTION | | ≥6.19 |
| BEHAVIOR | | ≥7.22 |
| ATTENTION | | ≥6.30 |
| COGNITION | | ≥6.28 |
| *TOTAL* | | ≥6.91 |

**≥ 19:6 Y-O**

**Table 20:**

**≥ 19:6 Y-O (DS)**

| PC | DEVEL-OPING | COMMU-NICA-TION | INTER-AC-TION | BE-HAV-IOR | ATTEN-TION | COGNI-TION | PC |
|---|---|---|---|---|---|---|---|
| **5** | 8.50 | 3.25 | 3.25 | 4.25 | 3.25 | 3.25 | **5** |
| **10** | 8.87 | 3.25 | 3.32 | 4.32 | 3.25 | 3.25 | **10** |
| **15** | 9.68 | 3.25 | 3.48 | 4.48 | 3.25 | 3.25 | **15** |
| **20** | 9.75 | 4.45 | 3.95 | 5.10 | 3.25 | 3.25 | **20** |
| **25** | 9.75 | 5.25 | 4.25 | 5.75 | 3.75 | 3.81 | **25** |
| **30** | 9.75 | 5.25 | 4.25 | 6.40 | 5.05 | 5.27 | **30** |
| **35** | 9.75 | 5.25 | 4.80 | 6.50 | 5.93 | 5.50 | **35** |
| **40** | 9.75 | 5.50 | 5.30 | 6.50 | 6.50 | 5.70 | **40** |
| **45** | 9.75 | 6.31 | 5.46 | 6.50 | 6.50 | 6.35 | **45** |
| **50** | 9.75 | 6.50 | 6.00 | 6.50 | 6.50 | 6.50 | **50** |
| **55** | 9.75 | 6.61 | 6.50 | 6.50 | 6.50 | 6.50 | **55** |
| **60** | 9.75 | 7.10 | 6.50 | 6.50 | 6.50 | 6.50 | **60** |
| **65** | 9.75 | 7.36 | 6.95 | 7.96 | 7.06 | 6.61 | **65** |
| **70** | 9.75 | 7.52 | 7.72 | 9.75 | 7.95 | 7.05 | **70** |
| **75** | 9.75 | 7.68 | 9.18 | 9.75 | 9.25 | 9.00 | **75** |
| **80** | 9.75 | 8.55 | 9.75 | 9.75 | 9.75 | 9.75 | **80** |
| **85** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **85** |
| **90** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **90** |
| **95** | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 | **95** |
| □ | 9.64 | 6.43 | 6.31 | 7.14 | 6.50 | 6.35 | |

| *DIMENSIONS* | *MEAN* | *ASD PROBABILITY* |
|---|---|---|
| DEVELOPING | | ≥9.64 |

| | | |
|---|---|---|
| COMMUNICA-TION | | ≥6.43 |
| INTERACTION | | ≥6.31 |
| BEHAVIOR | | ≥7.14 |
| ATTENTION | | ≥6.50 |
| COGNITION | | ≥6.35 |
| *TOTAL* | | ≥7.06 |

## ANNEX 4

**(Tables 21-23)**

**Table 21:**

**ASD LEVEL- 1 (n: 81)**

| | | DE-VEL-OP-ING | COM-MUNI-CATION | IN-TER-AC-TION | BE-HAV-IOR | AT-TEN-TION | COG-NI-TION | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | | **9,06** | **5,12** | **4,61** | **5,48** | **5,33** | **5,04** | **5.77** |
| PC | **5** | 6,50 | 3,25 | 3,25 | 4,25 | 3,25 | 3,25 | **3.96** |
| | **10** | 6,50 | 3,25 | 3,25 | 4,25 | 3,25 | 3,25 | **3.96** |
| | **15** | 6,50 | 3,25 | 3,25 | 4,25 | 3,25 | 3,25 | **3.96** |
| | **20** | 8,50 | 3,25 | 3,25 | 4,50 | 3,25 | 3,25 | **4.33** |
| | **25** | 8,50 | 3,25 | 3,25 | 4,50 | 3,25 | 3,25 | **4.33** |
| | **30** | 9,75 | 3,25 | 3,25 | 4,50 | 3,25 | 3,25 | **4.54** |
| | **35** | 9,75 | 4,25 | 3,50 | 4,50 | 4,25 | 3,25 | **4.92** |
| | **40** | 9,75 | 5,25 | 4,25 | 5,10 | 5,25 | 5,30 | **5.82** |
| | **45** | 9,75 | 5,25 | 4,25 | 5,25 | 5,25 | 5,50 | **5.87** |
| | **50** | 9,75 | 5,25 | 4,25 | 5,25 | 6,50 | 5,50 | **6.08** |
| | **55** | 9,75 | 5,25 | 4,25 | 5,35 | 6,50 | 5,50 | **6.10** |
| | **60** | 9,75 | 5,25 | 5,25 | 6,25 | 6,50 | 5,50 | **6.42** |
| | **65** | 9,75 | 5,72 | 5,25 | 6,25 | 6,50 | 6,50 | **7.70** |
| | **70** | 9,75 | 6,50 | 5,50 | 6,25 | 6,50 | 6,50 | **6.83** |
| | **75** | 9,75 | 6,50 | 5,50 | 6,50 | 6,50 | 6,50 | **6.87** |
| | **80** | 9,75 | 6,50 | 6,50 | 6,50 | 6,50 | 6,50 | **7.04** |
| | **85** | 9,75 | 6,50 | 6,50 | 6,50 | 6,50 | 6,50 | **7.04** |
| | **90** | 9,75 | 7,25 | 6,50 | 6,50 | 7,75 | 6,50 | **7.37** |
| | **95** | 9,75 | 7,50 | 6,50 | 6,72 | 7,75 | 6,75 | **7.49** |

**Table 22:**

**ASD LEVEL- 2 (n: 25)**

| | | DEVEL-OPING | COM-MUNI-CATION | IN-TER-AC-TION | BE-HAV-IOR | ATTEN-TION | COGNI-TION | TOTAL □ |
|---|---|---|---|---|---|---|---|---|
| □ | | **9,55** | **6,85** | **8,19** | **7,67** | **7,63** | **7,48** | **7.89** |
| PC | **5** | 7,05 | 3,25 | 3,25 | 4,25 | 3,25 | 3,25 | **4.05** |
| | **10** | 8,95 | 4,00 | 5,20 | 5,60 | 5,20 | 5,20 | **5.69** |
| | **15** | 9,75 | 5,62 | 6,72 | 6,50 | 6,50 | 6,50 | **6.93** |
| | **20** | 9,75 | 6,50 | 7,50 | 6,50 | 6,50 | 6,50 | **7.21** |
| | **25** | 9,75 | 6,50 | 7,50 | 6,50 | 6,50 | 6,50 | **7.21** |
| | **30** | 9,75 | 6,50 | 7,50 | 6,50 | 6,50 | 6,50 | **7.21** |
| | **35** | 9,75 | 6,50 | 7,50 | 6,50 | 6,50 | 6,50 | **7.21** |
| | **40** | 9,75 | 6,50 | 7,50 | 6,50 | 6,50 | 6,50 | **7.21** |
| | **45** | 9,75 | 6,50 | 8,37 | 6,50 | 7,20 | 6,50 | **7.47** |
| | **50** | 9,75 | 6,50 | 8,75 | 7,50 | 7,50 | 6,50 | **7.75** |
| | **55** | 9,75 | 7,05 | 8,97 | 7,50 | 7,57 | 6,80 | **7.94** |
| | **60** | 9,75 | 7,75 | 9,50 | 8,70 | 8,35 | 8,10 | **8.69** |
| | **65** | 9,75 | 7,75 | 9,50 | 9,50 | 8,75 | 8,72 | **8.99** |
| | **70** | 9,75 | 7,75 | 9,55 | 9,50 | 9,75 | 9,55 | **8.99** |
| | **75** | 9,75 | 7,75 | 9,75 | 9,50 | 9,75 | 9,75 | **9.31** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **80** | 9,75 | 7,75 | 9,75 | 9,50 | 9,75 | 9,75 | **9.38** |
| **85** | 9,75 | 7,75 | 9,75 | 9,52 | 9,75 | 9,75 | **9.38** |
| **90** | 9,75 | 8,55 | 9,75 | 9,75 | 9,75 | 9,75 | **9.55** |
| **95** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** |

**Table 23:**

| | | DEVEL-OPING | COM-MUNI-CATION | INTER-AC-TION | BEHAV-IOR | ATTEN-TION | COGNI-TION | TOTAL □ |
|---|---|---|---|---|---|---|---|---|
| □ | | **9,68** | **8,70** | **9,18** | **8,90** | **8,70** | **8,97** | **9.02** |
| **PC** | **5** | 8,50 | 6,50 | 6,50 | 5,50 | 6,50 | 6,50 | **6.67** |
| | **1** | 9,62 | 6,50 | 6,50 | 6,40 | 6,50 | 6,50 | **7.00** |
| | **0** | | | | | | | |
| | **1** | 9,75 | 6,50 | 6,50 | 6,50 | 6,50 | 8,20 | **7.21** |
| | **5** | | | | | | | |
| | **2** | 9,75 | 7,50 | 8,90 | 8,10 | 6,70 | 8,50 | **8.24** |
| | **0** | | | | | | | |
| | **2** | 9,75 | 7,75 | 9,50 | 8,50 | 8,25 | 8,68 | **8.74** |
| | **5** | | | | | | | |
| | **3** | 9,75 | 7,75 | 9,67 | 9,20 | 8,75 | 8,75 | **8.98** |
| | **0** | | | | | | | |
| | **3** | 9,75 | 7,75 | 9,75 | 9,50 | 8,75 | 8,75 | **9.04** |
| | **5** | | | | | | | |
| | **4** | 9,75 | 8,35 | 9,75 | 9,50 | 8,75 | 8,75 | **9.30** |
| | **0** | | | | | | | |
| | **4** | 9,75 | 9,30 | 9,75 | 9,50 | 8,75 | 8,75 | **9.46** |
| | **5** | | | | | | | |
| | **5** | 9,75 | 9,75 | 9,75 | 9,50 | 8,75 | 9,25 | **9.61** |
| | **0** | | | | | | | |
| | **5** | 9,75 | 9,75 | 9,75 | 9,50 | 9,20 | 9,75 | **9.71** |
| | **5** | | | | | | | |
| | **6** | 9,75 | 9,75 | 9,75 | 9,50 | 9,75 | 9,75 | **9.71** |
| | **0** | | | | | | | |
| | **6** | 9,75 | 9,75 | 9,75 | 9,50 | 9,75 | 9,75 | **9.72** |
| | **5** | | | | | | | |
| | **7** | 9,75 | 9,75 | 9,75 | 9,57 | 9,75 | 9,75 | **9.75** |
| | **0** | | | | | | | |
| | **7** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** |
| | **5** | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **80** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** | **ASD LEVEL- 3 (n: 18)** |
| **85** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** | |
| **90** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** | |
| **95** | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | 9,75 | **9.75** | |

## ANNEX 5

**Table 24:**

| *DIMENSIONS μ* | | | | | | *ASD LEVEL DIAGNOSTIC* |
|---|---|---|---|---|---|---|
| ***DEVELOPING*** | ***COMMUNICATION*** | ***INTERACTION*** | ***BEHAVIOR*** | ***ATTENTION*** | ***COGNICIÓN*** | |
| 9.06- 9.54 | 5.12- 6.84 | 4.61- 8.17 | 5.48- 7.66 | 5.33- 7.62 | 5.04- 7.47 | ASD LEVEL-1 |
| 9.55- 9.67 | 6.85- 8.69 | 8.19- 9.17 | 7.67- 8.89 | 7.63- 8.69 | 7.48- 8.96 | ASD LEVEL-2 |
| ≥9.68 | ≥ 8.70 | ≥ 9.18 | ≥ 8.90 | ≥ 8.70 | ≥ 8.97 | ASD LEVEL-3 |