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The Assessment of Autism Spectrum Disorders in Adulthood: The Use of the 'Autism Rating Scale for Adults' (ARSA)

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ABSTRACT

Autism spectrum disorder (ASD) is a neurodevelopmental disorder involving a set of alterations in brain development that vary from one individual to another. The term 'spectrum' indicates precisely the wide variability of manifestations in terms of type and severity.

Unlike clinical assessment, rating scales have a standardised procedure and qualitative, normative scores. Therefore, they can be assessed according to psychometric parameters. Starting from these considerations, the present work intends to subject the 'Autism Rating Scale For Adults' (ARSA), designed and constructed by one of the authors (G.M.G.), to some statistical evaluations.

The aim is to determine the scale's accuracy in identifying subjects, adolescents and adults, previously diagnosed as autistic, bearing in mind that the forms of autism, already very diversified on a clinical level, present themselves differently about age: in adolescents and young adults, for example, peculiar symptomatological characteristics are highlighted, with the exacerbation of symptoms especially at times of change (end of school) and in the management of free time.

Keywords

Autism spectrum disorder (ASD), Autism assessment in adulthood, Diagnostic assessment, Psychometric parameters.

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder involving a set of alterations in brain development that vary from one individual to another. The term 'spectrum' indicates precisely the wide variability of manifestations in terms of type and severity. The international classification system [1] emphasises that, within a broad spectrum, a subject can manifest the disorder's different features (deficits in social communication and cognitive flexibility, restricted interests and repetitive behaviour) in a more or less marked manner. Each subject with autism differs from the others; some can integrate into social life and have more or less satisfying relationships [2].

Historically, the diagnosis of autism was left to the judgment of

clinicians. In most cases, the task was carried out by psychiatrists and/or psychologists with a lot of clinical experience with this type of disorder. Over the last thirty years, more efficient and less costly methods for identifying autism have been developed. In particular, for early diagnosis, a large number of Interviews (more or less structured), Evaluation Sheets and Check-lists have been created; for example: the ABC 'Autistic Behaviour Checklist' [3], the CARS 'Childhood Autism Rating Scale' [4,5], the ADOS-2 'Autism Diagnostic Observation Schedule-Generic. Second Edition' [6], which represents the international "Gold Standard" for autism diagnosis, and the ADI-R 'Autistic Diagnostic Interview-Revised [7], to name but a few. The advantage of these instruments is that they allow a considerable amount of information to be collected and can often also be used by parents, teachers and other professionals who may typically have little knowledge of the diagnostic process. However, especially for adolescent and adult subjects, the final judgement is left to the clinician who collects and uses information from the rating scales and direct observations.

Unlike clinical assessment, rating scales have a standard procedure and qualitative, normative scores. It is therefore possible to assess them according to psychometric parameters. Starting from these considerations, the present work intends to subject the 'Autism Rating Scale For Adults' (ARSA; in Appendix), conceived and designed by one of the authors (GMG), to some statistical evaluations. The aim is to determine the scale's accuracy in identifying subjects, adolescents and adults, previously diagnosed as autistic, bearing in mind that the forms of autism, already very diversified on a clinical level, present themselves differently about age: in adolescence, for example, there are peculiar symptomatological characteristics, which we also find in young adults, with exacerbation of symptoms especially at times of change (end of school) and with more significant difficulties in managing free time. In addition, they exhibit: lack of understanding of metaphors, social isolation, poor independence, idiosyncratic language, lack of reciprocity, restricted topics, inadequate awareness of group rules, proximity, knowledge of non-verbal communication and imagination. They often express themselves with repetitive and ritualistic behaviour, and unusual reactions to sensory stimuli [8].

Methodology Participants

Participants

The sample taken for this preliminary study consisted of 179 subjects, all diagnosed with autism in public facilities.

The subjects' ages ranged from 16.4 to 28.6 years (M = 22.5 years). The sample included 136 males and 43 females, with a ratio of approximately 4:1, which is within the range of studies in the literature. Almost all participants (153/179) attended Rehabilitation Centres for six hours daily; the observations all occurred within structured environments without excessive stimulation.

Materials

The 'Autism Rating Scale For Adults' (ARSA; in Appendix) is a checklist comprising 72 items divided into six main areas: Sensory Area, Communicative Area, Socio-Relational Area, Cognitive Area, Affective-Emotional Area and Behavioural Area. Each item can, in turn be rated on a 5-point scale ranging from 0 to 4 (Never, Seldom, Sometimes, Often, Always). At the end of the compilation, the scores obtained for the items must be added together. The sum of the scores is then divided by 288 (which represents the maximum score obtainable) and multiplied by one hundred to obtain the ARSA score as a percentage, which indicates the relevance of Autism in the subject and their degree of functioning. A higher score indicates a greater degree of the disorder. The scale also offers the possibility of assessing subjects according to the three levels of the DSM-5: $ASD \le 20 = No$ signs of Autism are present; if the score falls in the range 20-45 $[20 \le$ $ASD \ge 45$] the subject presents the signs highlighted by DSM-5 Level 1; if the score falls in the range 45-75 $[45 \le ASD \ge 75]$ the subject presents the signs highlighted by DSM-5 Level 2; finally, if the score falls in the range 75-100 $[75 \le ASD = 100]$ the subject presents the signs highlighted by DSM-5 Level 3.

Procedure

Criterion ratings, such as the 'Autism Rating Scale For Adults' (ARSA), differ from normative ratings in that they indicate a subject's level of performance against a criterion. In other words, in these measurements, it is essential to know whether the performance assessment is the same in two different situations (repetition of the evaluation at a distance) and whether the scores obtained are consistent. Thus, whereas normative procedures are based on the variability of scores in the sample of subjects, criterion procedures are based on the percentage of subjects rated the same in two successive administrations [9].

The ARSA is an instrument for assessing signs of autism in adolescents and adults. In the various administrations conducted to test its effectiveness, it has proved very reliable.

Reliability indicates the degree of accuracy and precision of a measurement procedure. Thus, a test is reliable when the scores obtained by a group of subjects are consistent, stable over time and constant after several administrations in the absence of noticeable changes (personal and/or environmental variations) in the persons taking the test [10,11]. Thus, the reliability of the ARSA, i.e. the ability not to be unduly affected by internal factors (ambiguity in the wording of the questions or variability of the phenomenon to be observed) or external factors (time of administration or characteristics of the examiner), has been calculated through two methods: 1) agreement between independent observers and 2) test-retest [12,13].

Agreement between Independent Observers

Agreement between independent observers corresponds to the degree to which two observers produce similar coding results when observing the same phenomenon. It can be interpreted as the degree to which the two observers can be considered interchangeable and indicates how free the data are from random and systematic error related to the coding performed by the observers. As it is a hetero rating scale, this method is particularly important to reassure the instrument's relative independence from the evaluator's characteristics.

This reliability varies widely depending on the complexity of the test and improves with common experience and uniformity in the interpretation of reference standards. In clinical studies using qualitative evaluations of multiple assessors, it is expected that the judgements made by the assessors are consistent with each other and constant throughout the study period. Therefore, a periodic review of the agreement between observers should be part of the quality control of clinical studies. In any case, even in the presence of two or more mutually independent observers, some of the agreement in the judgments expressed could be due to chance. To overcome this drawback, instead of using the generally used formula (i.e. dividing the total number of agreements by the total number of agreements plus disagreements multiplied by 100), Pearson's correlation coefficient was used. The Pearson correlation coefficient is a specific measure to quantify the strength of the linear relationship between two variables. It is denoted by the letter r and calculated using the following formula [14]:

$$r = \frac{\Sigma x y}{\sqrt{(\Sigma x^2) \cdot (\Sigma y^2)}}$$

Where $\sum xy$ denotes the sum of the standard deviation of each score of variable x and variable y; and $\sqrt{(\sum x^2) \cdot (\sum y^2)}$ represents the square root of the sum of the standard deviation of each variable x and variable y squared. It is calculated on the two score distributions and directly represents the reliability coefficient of the test. The value of the coefficient can vary from +1 to -1 passing through zero: when the value approaches +1 (when one variable increases, the other one also increases) or -1 (when one variable increases, the other one decreases), it indicates an almost perfect correlation, while when it approaches zero, it indicates no correlation between the two variables: the higher the coefficient, the more reliable the test will be.

With the corresponding instructions, the questionnaire was given to two different (pre-trained) operators who filled it in by observing the same subject, but at various times and without consulting each other. The inter-observer reliability, measured using the correlation coefficient between the total scores on the Questionnaire, was 0.83 (p<0.01), confirming the good structuring of the instrument (both in terms of the clarity of the questions and the objectivity of the observer). The correlations for the corresponding areas are shown in Table 1.

Test-retest

The procedure consisted of administering the instrument to the same group of subjects twice at a predetermined time interval, detecting whether or not the performance in the two different situations was consistent. The degree of reliability was always expressed with Pearson's correlation coefficient.

The operators filled out the Questionnaire again twelve months after the first administration and the calculation of the Pearson correlation on the total score on the Questionnaires, between the first and second measurement, was 0.84 (p<0.01), demonstrating, again, the good reliability of the instrument (little influence from the time of filling out). The correlations for the age ranges and the corresponding areas are shown in Table 1.

Table 1: Correlations between Test-Retest (T-R) and Independent Observer Agreement (IOA) scores and corresponding Areas investigated, M = Male, F = Female (p<0,01).

| No. Subj | Subjects T AREAS INVESTIGATE | A DE A S INVESTICATED | тр | 104 | |
|----------|------------------------------|-----------------------|--------------------------|------|------|
| М | F | 1 | AKEAS INVESTIGATED | 1-K | IUA |
| | | | Sensory | 0.84 | 0.85 |
| | | | Communication | 0.83 | 0.82 |
| 126 | 43 179 | Social and Relational | 0.85 | 0.84 | |
| 150 | 43 | 1/9 | Cognitive | 0.83 | 0.81 |
| | | | Affetctive and Emotional | 0.86 | 0.83 |
| | | | Behavioural | 0.85 | 0.84 |
| Tot. | | 179 | | 0.84 | 0.83 |

Procedure

The authors completed all evaluation forms for all subjects in cooperation with ten educators with many years of experience with subjects with ASD and administering the ARSA. All educators in the study were aware of the subjects' conditions but not of the official diagnosis. All scales were completed within twelve months.

To verify the reliability between independent observers, all subjects were subjected to direct observation following the ARSA assessment procedure. The compilers (the second author, three psychologists and eight educators) observed the subjects simultaneously for a fortnight (three times and an average observation duration of 40 minutes). In addition, test-retest reliability was assessed for all 179 subjects over an average of 15 months. After data collection, the results were processed.

Results

Internal consistency, i.e., the degree of coherence between the test items, was assessed for the test areas (Sensory, Communicative, Social and Relational, Cognitive, Affective and Emotional Behavioural) using Cronbach's a. Values between .83 and .86 were obtained, with an average of .84. Finally, two independent obserevers assessed the reliability index.

The data on the 72 items of the ARSA for each participant were compared with Cohen's Kappa. Moreover, being ordinal (or approximate) codes, the Weighted Kappa was also evaluated, which allows some disagreements (e.g., a score given by the two evaluators of 1 and 4, respectively) to be considered more serious than others (e.g., 3 and 4, respectively). The data entered in a 6-coded scatter matrix indicates a good index of agreement (k = .71, K_{wt} = .73).

Conclusions

The present work proposes to investigate and assess some psychometric qualities of the 'Autism Rating Scale For Adults' (ARSA) (Guazzo, 1998, 2003). The goal is to offer a report on the validity and reliability of the instrument and provide greater assurance to all practitioners who wish to use it in regular assessment.

Reliability, i.e. the degree to which an instrument provides measures that are independent of random errors, was tested against distinct sources of error; errors in the sampling of items (*internal consistency*), errors intrinsic to the administration situation (*test-retest reliability*) and errors related to physical and personality characteristics of the compiler (*inter-compiler reliability*).

Cronbach's alpha and Cohen's K (.83, .73) estimate good testretest reliability. The test-retest reliability (r = .84) was also good.

In conclusion, despite the methodological and sample limitations and the caution in generalising the results, the present work's data indicate that the ARSA is a reliable and valid instrument to assess adult autism. It is necessary for further studies to be carried out and for the sample to be enlarged to demonstrate even more 'convincingly' what is stated in the present work.

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Appendix

AUTISM RATING SCALE FOR ADULT (ARSA)

Giovanni Maria Guazzo – Consiglia Nappo

| Name: | | Age: |
|----------------------|-----------|------|
| Date of observation: | Examiner: | |

The *items* contained in the form allow information to be recorded in several areas that are significant for the assessment of autism in adults aged 16 years and older: 1) Sensory, 2) Communication, 3) Social-relational, 4) Cognitive, 5) Affective-emotional and 6) Behavioural, and assess observable behaviours. Each item is rated on a scale from 0 to 4: '0' indicates that the behaviour or performance NEVER occurs; '1' indicates that the behaviour or performance RARELY occurs; '2' indicates that the behaviour or performance SOMETIMES occurs; '3' indicates that the behaviour or performance OFTEN occurs; and '4' means that the behaviour or performance ALWAYS occurs.

| 1. SENSORY AREA | | | | | | |
|---|---|---|---|---|---|--|
| 1.01 Brings objects to the mouth | 0 | 1 | 2 | 3 | 4 | |
| 1.02 Shows indifference to changes in ambient temperature | 0 | 1 | 2 | 3 | 4 | |
| 1.03 Cannot tolerate (closes or covers eyes, lowers gaze, etc.) very bright light | 0 | 1 | 2 | 3 | 4 | |
| 1.04 Focuses attention on isolated sensory inputs (ticking of a clock, dripping, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 1.05 Cannot tolerate strong smells | 0 | 1 | 2 | 3 | 4 | |
| 1.06 Shows no sensitivity to pain (if they fall, cut themselves, prick themselves, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 1.07 Always prefers the same foods and drinks | 0 | 1 | 2 | 3 | 4 | |
| 1.08 Makes sounds with various types of objects and/or with their mouth | 0 | 1 | 2 | 3 | 4 | |
| 1.09 Isolates themselves in very confined spaces (corners of rooms, bathrooms, closets, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 1.10 Prefers (spends more than ten minutes) with shiny or noisy objects | 0 | 1 | 2 | 3 | 4 | |
| 1.11 Moves in a repetitive and stereotypical manner (rocking, going back and forth, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 1.12 Does not tolerate physical contact (hugs, caresses, hand on the shoulder, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 2. COMMUNICATION AREA | | | | | | |
| 2.01 Talks for more than 10 minutes on the same topic without worrying about the interest of others | 0 | 1 | 2 | 3 | 4 | |
| 2.02 Uses verbs in the third person when talking about themselves or replaces the pronoun 'I' with their name | 0 | 1 | 2 | 3 | 4 | |
| 2.03 Does not respond when asked questions | 0 | 1 | 2 | 3 | 4 | |
| 2.04 Does not initiate or maintain conversation with others | 0 | 1 | 2 | 3 | 4 | |
| 2.05 Does not take turns in communication | 0 | 1 | 2 | 3 | 4 | |
| 2.06 Spontaneously uses fewer than 20 phrases | 0 | 1 | 2 | 3 | 4 | |
| 2.07 Attributes literal meaning to words or expressions ('have a straw tail', etc.) | 0 | 1 | 2 | 3 | 4 | |
| 2.08 Does not understand the facial expressions of others | 0 | 1 | 2 | 3 | 4 | |
| 2.09 Does not answer the telephone, even when it is heard ringing | 0 | 1 | 2 | 3 | 4 | |
| 2.10 Expresses themselves without prosody (rhythm, tone, volume, pauses, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 2.11 Does not use social niceties (greetings, introductions, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 2.12 He makes statements that are factually true but socially inappropriate | 0 | 1 | 2 | 3 | 4 | |
| 3. SOCIAL AND RELATIONAL AREA | | | | | | |
| 3.01 Does not respond to social stimuli (smiles, greetings, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 3.02 Does not ask for help (verbally or gesturally) when in difficulty | 0 | 1 | 2 | 3 | 4 | |
| 3.03 Does not tolerate the closeness of other people | 0 | 1 | 2 | 3 | 4 | |
| 3.04 Is indifferent or adopts maladaptive behaviour in frustrating situations (rejection, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 3.05 Remains attached to certain objects or activities for an hour or more | 0 | 1 | 2 | 3 | 4 | |
| 3.06 Does not cooperate with others in occupational or learning activities | 0 | 1 | 2 | 3 | 4 | |
| 3.07 Does not understand social norms (not shouting, taking turns, speaking quietly, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 3.08 Shows discomfort in social situations (answering questions, introducing oneself, etc.) | 0 | 1 | 2 | 3 | 4 | |
| 3.09 Shows little interest in what is going on around them | 0 | 1 | 2 | 3 | 4 | |
| 3.10 Does not look at the eyes or face of people with whom they interact | 0 | 1 | 2 | 3 | 4 | |
| 3.11 Does not initiate or accept interaction (conversation, activity, etc.) with others | 0 | 1 | 2 | 3 | 4 | |
| 3.12 Is indifferent or displays inappropriate behaviour in response to requests | 0 | 1 | 2 | 3 | 4 | |

| A COCNITIVE ADEA | | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|--|--|
| | 0 | 1 | 2 | 2 | 4 | | + | | | |
| 4.01 Easily linds a simple snape (diamond, circle, etc.) in a more complex one | 0 | 1 | 2 | 2 | 4 | | - | | | |
| 4.02 Focuses attention on stimuli that are not relevant to the task at hand | 0 | 1 | 2 | 3 | 4 | | - | | | |
| 4.03 Cannot follow instructions with two or more subordinate actions | 0 | 1 | 2 | 3 | 4 | | _ | | | |
| 4.04 Shows no imagination (persists in non-functional activities for more than 30 minutes if not interrupted) | 0 | 1 | 2 | 3 | 4 | | - | | | |
| 4.05 Easily forgets instructions for performing a task (e.g., rules of a game). | 0 | 1 | 2 | 3 | 4 | | _ | | | |
| 4.06 Shows difficulty in retrieving stored information (dates, telephone numbers, etc.). | 0 | 1 | 2 | 3 | 4 | | _ | | | |
| 4.07 Does not understand that another person has a different point of view from their own. | 0 | 1 | 2 | 3 | 4 | | _ | | | |
| 4.08 Performs specific calculations in their head (determines the day of the week for a given date, etc.) 0 1 2 3 4 | | | | | | | | | | |
| 4.09 Remembers a large amount of information that is not relevant to the task (train timetables, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 4.10 Has difficulty interpreting a map (locating an object, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 4.11 Has difficulty controlling voluntary movements (screwing or unscrewing a cap, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 4.12 Cannot place four pictures in the correct position in an empty 4x4 matrix | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5. AFFECTIVE AND EMOTIONAL AREA | | | | | | | | | | |
| 5.01 Does not respond to emotional expressions (caresses, kisses, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.02 Has difficulty maintaining a stable emotional response for at least 30 seconds | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.03 Does not show joy (smiling, etc.) when a wish is fulfilled (going out, travelling, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.04 Is unable to convey emotions | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.05 Repeats the same actions or phrases more than five times | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.06 Cannot interpret the emotions of others (fear, anger, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.07 Does not show attachment (smiles, approaches, caresses, etc.) towards peers | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.08 Does not show affection (kisses, caresses, etc.) towards family members | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.09 Immediately stops a task when encountering difficulties | 0 | 1 | 2 | 3 | 4 | | | | | |
| 5.10 Seeks out pleasant events and/or objects in the environment 0 1 2 3 4 | | | | | | | | | | |
| 6.11 Always responds 'NO' to every request | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.12 Touches their genitals continuously for more than five minutes | 0 | 1 | 2 | 3 | 4 | - | | | | |
| 6. BEHAVIOURAL AREA | | | | | | | | | | |
| 6.01 Always answers 'NO' to every request | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.02 Eats and/or drinks continuously | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.03 Self-stimulates (rocks back and forth, repeats the same expressions, etc.) for at least 10 minutes | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.04 Has difficulty falling asleep or wakes up frequently during the night | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.05 Moves (fidgets with hands and arms, walks on tiptoes, etc.) in an unusual and repetitive manner | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.06 Displays emotional excesses (anger, rage, etc.) for no apparent reason | 0 | 1 | 2 | 3 | 4 | | + | | | |
| 6.07 Destroys objects, materials, household items, furniture | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.08 Self-injures (bites hands, hits self, bangs head, etc.) | 0 | 1 | 2 | 3 | 4 | | | | | |
| 6.09 Cannot tolerate waiting more than three minutes when doing something of interest | 0 | 1 | 2 | 3 | 4 | | + | | | |
| 6.10 Does not accept (reacts with screaming, anger, agitation, etc.) 'NO' or refusals to requests | 0 | 1 | 2 | 3 | 4 | | + | | | |
| 6.11 Always follows the same rituals and routines (performs specific actions in a certain order) | 0 | 1 | 2 | 3 | 4 | | - | | | |
| 6.12 Touches their genitals continuously for more than five minutes | 0 | 1 | 2 | 3 | 4 | - | | | | |
| one reaction and general continuously for more than interminutes | 0 | 1 | 2 | 5 | 1 | | | | | |

DATA COLLECTION AND PROCESSING GRIDS

| AUTISM SPECTRUM DISORDER | | | |
|--------------------------|--------|------|-------|
| Areas | ∑items | ∑PMO | ASD % |
| Sensory | | | |
| Communication | | | |
| Social and Relational | | | |
| Cognitive | | | |
| Affetctive and Emotional | | | |
| Behavioural | | | |
| TOT. | | 288 | |

The first column (Areas) shows the six areas of observation; the second column (Σ items) shows the sum of the scores obtained in each areas; the third column (Σ PMO) shows the sum of the maximum scores obtainable (PMO, in the TOTALS row); the last column (ASD%) shows the percentage score for the *presence of ASD signs* in the subject [åitems/åPMO x 100].

In the following *matrix*, the squares to be blackened represent, as a percentage, the presence of ASD in the subject [*ASD* = (Score Obtained/Maximum Score Obtainable) x 100]. The area delimited by a thicker vertical line represents the different degrees of *Presence*: $ASD \le 20 = No$ signs of autism are present; if the score falls in the range 20-45 [$20 \le ASD \ge 45$], the subject presents the signs highlighted in Level 1 of the DSM-5; if the score falls in the range 45-75 [$45 \le ASD \ge 75$], the subject presents the signs highlighted

by Level 2 of the DSM-5; finally, if the score falls in the range 75-100 [$75 \le ASD \le 100$], the subject presents the signs highlighted by Level 3 of the DSM-5.

N.B.: Due to the variability of autism signs from both a qualitative and quantitative point of view, all cut-offs (20, 45 and 75) are understood to have a variability of \pm 5.

| | | | 5 | AS | D | PF | RES | SEI | NC | E | | | | | | | | | | |
|--------------|--------|----|----|----|---------|----|-----|-----|----|---------|----|----|----|----|----|---------|----|----|----|-----|
| C | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| Scores in % | No ASD | | | | Level 1 | | | | | Level 2 | | | | | Т | Level 3 | | | | |
| ASD Presence | | | | | | | | | | | | | | | | | | | | |
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |

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