

## **Autistic Spectrum Disorders – Explanatory Theories, Diagnostic Symptomatology and Prevalence. Case Studies**

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**Abstract:** The tremendous incidence of autism worldwide, but also in Romania, raised questions concerning the etiology, early diagnosis and effective therapeutic intervention. Due to the dramatic deteriorations induced by autism, it is considered a polyhandicap, in most cases of maximum severity. The ASD person is assisted for life, the quality and complexity of this support depending on conjectural social politics. Our range of support services provided (medical, rehabilitation, social) is not adapted to the special needs of the autistic person and their family. Consequently, academic and social integration of children/people with ASD is difficult and most often doomed to failure.

**Keywords:** autistic spectrum disorders - ASD: (autism, Kanner type autism/classic/typical infantile autism, Asperger syndrome); diagnosis and prevalence of ASD; symptoms: hypergraphia, spatial hypermnesia

### **1. History of a Concept: autism - from Symptoms to Syndrome. Explanatory Theories of Autism Spectrum Disorders**

Initially understood as a child psychosis, the history of evolution of the concept of “autism” and explanatory theories knows three periods: “prehistoric”, “historic” and the “deconstruction”.

During “prehistoric”, the forms of schizophrenia are investigated clinically relative to the adult model: dementia praecox (Sante De Sanctis, 1905), childhood dementia (Heller, 1908). In his *Treatise*, Swiss psychiatrist Eugen Bleuler (1911) described the characteristics of this disorder as it being a symptom of schizophrenia, saying

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“This detachment from reality with the relative and absolute predominance of the inner life, we term autism” (Marcelli, 2003, pp. 305-306).

Greek etymon *αυτισμός* (autos, himself/herself) reflects the main symptomatological feature, i.e. extreme introversion. Following that, the disorder is approached as a schizophrenia of the child (Potter, 1933; Bender 1937). At this stage in the knowledge of child psychopathology, the scope of idiocy included the concept of childhood psychosis. However the scarcity of delirium in children, as the reference symptom in the schizophrenic adult, as well as the concept of inoperable child dementia, (we are reminded here of Esquirol who said: “The demented is like the person who is deprived from his property after he has been able to enjoy it; is a rich person who became poor; the idiot has always been poor and miserable”) cause uncertainties about the assimilation of forms of schizophrenia.

The psychopath had barely had his chains taken...

The “historic” period begins with a description of autism. Leo Kanner took over the psychiatric term of autism and used it to denote a specific behavioral pattern observed in a group of 11 autistic children who showed a combination of speech deficiencies marked by abnormal social interaction and a tendency towards stereotyped, repetitive and restricted behavior. These were the first children diagnosed with childhood autism, case reported in the article “Autistic Disturbances of Affective Contact” (*Nervous Child*, 2, 1943, pp. 217-250).

That same year, in the U.S., Kanner also leads the first World Congress of Pediatric Psychiatry, with the merit of introducing for the first time in the medical field the concept of *childhood autism*.

Kanner assumed that these disorders are present from the first days of life, but that the intellectual skills of these children are actually intact, an assumption disproved by later research. He considers autism as a deficit in the innate aptitudes of the child: “We have to believe that these children have come into the world with an inability to relate themselves in the ordinary way to people and to situations from the beginning of life” (Muresan, 2007).

Austrian physician Hans Asperger studied independently the same category of children. In the article “Die im Autistischen Psychopathen Kindsalter”. (*Archive fur Psychiatrie und Nervenkrankheiten*, 1944, pp. 76 –136), he describes a pathology similar to his American colleague, but insists upon the, sometimes paradoxical, skills of his patients. According to his belief, these higher skills,

properly cultivated, could be used in the social department. The Viennese author defines autism as? “An original way of thinking and experience, which can lead to exceptional successes during life.”? Asperger’s syndrome is considered, in current international classifications, as a lessened form of autism characterized by the preservation of intellectual aptitudes. Many of those who suffer from this syndrome have shown extraordinary abilities. Some proved to be geniuses, who managed to intervene decisively on the course of history, culture and civilization. Names like Mozart, Beethoven, Isaac Newton, Marie Curie, Einstein, etc. should be mentioned here. These highly functional autistic people, called as such as because they have Asperger’s syndrome, were more intelligent than average and could collect and process large amounts of information.

Unfortunately, H. Asperger did not synthesize in the manner of L. Kanner, the essential diagnostic criteria for the syndrome described, which merely encouraged the proliferation of ambiguities and distinctions of details. He also died before he could be recognized for this nosological category (1990). After Uta Frith (1991), it is the opinion of many researchers that Asperger syndrome should be treated as a distinct clinical entity, not just as a simple variety of autism. Starting in 1943, in the civilized countries of the world, child and adolescent psychiatry has become a distinct medical specialty, with important links to other areas like: psychology, psychopedagogy, social work, philosophy, anthropology (Ținică, 2004, p. 11).

Autism becomes a “princeps” concept that circumscribes the spectrum of childhood psychosis, removed from underneath the adult schizophrenia model. In the 50s, in the U.S. there begins a time when psychoanalysis experiences a major development. The hypothesis that autism does not affect the cognitive processes, will allow a psychoanalytical approach as the method of intervention with the clear purpose of “extracting the I from the autistic nucleus” and helping it open to the world.

M. Mahler’s and B. Bettelheim’s theories about autism try to discover a relationship between inadequate parental behavior and the pathology of the autistic child (the “mother of ice” hypothesis, where the mother failed to stimulate the child during the critical period, mothers who induce deep anxiety in the child towards the outside world and that the child perceives as a threat to him).

The results of psychoanalytic therapy have yet to appear.

In 1964, Bernard Rimland father a child with autism, published the book “Autism” in which he criticizes the psychogenic theory of autism citing evidence suggestive of organic etiology, and changing the point of view of childhood autism etiology from the psychogenic to the neurobiological and genetic. One of the personalities in the field, who founded the Autism Society of America and Autism Research Institute, proved through his research to the entire medical community that autism is not caused by the “cold parents”, but is in fact a biological disorder.

In 1965, Michael Rutter reported a tracking study of 63 prepubertal children who received a diagnosis of childhood psychosis; in time, their development was different, which made it possible to differentiate them as: autistics, schizophrenics, mentally retarded or autistics with a cerebral organic disorder, thus demonstrating the etiological spectrum of autistic symptomatology.

Behavioral techniques developed for behaviorism bring improvements to the autistic condition, because they truly have the advantage of structuring the environment, of developing motivation, and even though they don't lead to a cure, they cause a reduction in the anxiety of the autistic person and consequent improvement of the disorder.

The period of “deconstruction” begins around the '70s, when systematic works confirm that the personality of the parents or the educational method do not represent the origin of childhood autism, returning in fact to the initial findings of Leo Kanner namely, a deficit to the native capabilities.

B. Hermelin, N. O'Connor and Lorna Wing (1970) have revolutionized research on autism. They propose a rethinking of the phenomenon of autism in terms of abnormalities in developmental processes and not in terms of symptoms of the mental illness or psychosis acquired. Hermelin and N. O'Connor (Hermelin & O'Connor, 1970) emphasized in autism, the role of deficits in sequencing, abstracting and understanding of meanings. Clearly, such deficits had major implications in social functioning, but it was not clear how could they explain social deterioration. In this regard, several influential cognitive theories have been proposed, namely: theory of weak central coherence, theory of cognitive deficit (or executive functions) and theory of mind, this last currently being the most influential theory.

In 1978, numerous nosographical debates took place. Lorna Wing and Judy Gould (Wing & Gould, 1979, pp. 11–29) speak about the autistic syndrome and not the

autistic disease, highlighting their heterogeneous etiology of autism, which they consider as a “final stage” caused by various factors.

In the years 1970 - 1978, Rutter M (Rutter, 2000, pp. 3-14) makes a distinction between childhood autism and schizophrenic psychosis, elaborating on four diagnostic criteria:

- onset before 30 months;
- lack of ability to develop deep social relationships;
- language delay or deviant language development which affects understanding;
- need for stereotypes, rituals and compulsions.

He defined *autism* as having an important role in introducing this condition of mental disorder in DSM-IV. Peter Hobson (Wimpory, Hobson, & Nash, 2007, pp. 564-573), Developmental Psychopathology professor at University College London has the merit of being first since 1981, to conduct a systematic investigation of socio-emotional deficits associated with autism and draw attention to the need to study the socio-cognitive processes.

In 1993, Lorna Wing formulates the “triad of damage” which represents, even today, the main areas in autistic disorder. This “triad of damage” is based on: damage/disorders of social interaction, communication and imagination, and often a limited repertoire of interests and behaviors (the presence of a highly obsessive, repetitive or routine behavior).

The behavioral description of autism spectrum disorders in the two main classification systems, International Classification of Diseases - ICD (1977, 1992) and Diagnostic and Statistical Manual of Mental Disorders - DSM (1980, 1987, 1994) is almost identical and is based on the “triad of damage”/ “triad of impairments” formulated by Lorna Wing. Therefore, there is no symptom, or unique feature that could lead to the diagnosis of autism. Typical of autism is the existence of disorder in all three aforementioned areas of development, with a variable intensity from case to case, subscribing to a spectrum of autistic disorders (ASD).

## 2. Diagnosis and Prevalence

*Diagnosis* Precisely because of the complexity of the affected functions, of how they integrate at the neurological and biochemical level and are reflected in conduct, autism spectrum disorders are particularly difficult to diagnose and treat.

The controversies raised by the diagnosis and treatment of autism are reduced to four explanation more special:

- The autism condition is one of the most complex, where the variety of psychological symptoms occur against the background of a relatively specific diversity of cytoarhitectonic structure;
- Autism has been the subject of specialists from different fields (special psychopedagogy, psychology, psychiatry, education, clinical psychology, etc.), which created an approach centered on the characteristic phenomenology of a particular type of assessment and intervention with the purpose of recovery;
- Due to the etiological diversity and the existence of harmful factors present in other forms of disabilities, delimiting autism and highlighting its specificity requires rigorous investigations, some of which are limited given the current stage of science;
- The behavioral evolution and the structuring of mental activity, with progression and regression influenced by educational-recuperative processes, are so complicated and different, on a case by case basis, that it makes giving a psychodiagnosis and prognosis very difficult (Verza, 1996, p. 126).

The symptomatological complexities of the autism disorder, make it a *poyihandicap, a pathological condition that can be improved but not cured.*

***Comprehensive diagnostic assessment - initial and essential function of the intervention team.*** Prematurity and complexity of autism spectrum disorders require an initial assessment made by a multidisciplinary team of experienced professionals, which meets criteria internationally accepted and uses validated tests, and which represents the basis for individualized intervention. Assessment requires teamwork, active participation and the accountability of all involved specialists (psychologists, doctors, teachers, educators, social workers, speech therapists, physical therapists). Within the team, the social worker may be the case manager (Gherguț, 2007, p. 387), who is the professional responsible for all the

planning, coordination and monitoring of interventions and services to the child and family, established by the multidisciplinary team, as described in the plan of personalized services and as stipulated in the family contract.

Within this multidisciplinary team of specialists, the family serves as co-therapist. The importance of family is essential to recovery. In turn, family is the first “subject” of the intervention by informing, counseling, guiding and integrating it into “support groups”.

The actual *diagnosis* begins with a physical examination and growth development. Also, to identify possible causes of the symptoms, other tests are needed, such as blood tests, CT scan (computer tomography) and MRI (magnetic resonance) of the brain and EEG (electroencephalogram).

The *clinical evaluation* for establishing the diagnosis is based on a detailed historical record of all signs that worry the parents, a track of the child's development, paying attention to all levels and areas of development, and an inventory of all the diseases the child had. Attention is paid to all the signs which may be important in the differential diagnosis.

When recording family history (restricted and extended) there should be done a genetic vulnerability assessment of the family, paying attention to factors such as autism, “minor” variants of autism, mental retardation, fragile X chromosome, tuberous sclerosis.

It is very important that the diagnosis be made as early as possible, therefore, scientists have tried creating tools/tests that can diagnose the early presence of autism spectrum disorders (around 18 months old). Besides observations, the clinical interview consists of essential methods in obtaining the data needed for the diagnostic evaluation. To this end, parents/guardians, who are present in the child's life since birth, are the main source of information, so many of these probes are sent to them. Some of the most important diagnostic scales and questionnaires are:

- The Checklist for Autism in Toddlers (CHAT), author Eric Schopler, is a tool used by physicians to detect autism in children 18 months old;
- The Autism Diagnostic Interview (ADI) and diagnostic algorithm that comes with it, can determine the presence of autism in children 2 years old;
- The Scale for diagnosis and observation of autism (Autism Diagnostic Observation Scales/ADOS);
- Childhood Autism Rating Scale (Childhood Autism Rating Scale/CARS);

- Diagnostic Questionnaire Rimland E2, by the doctor with the same name, himself, father of a child with autism;
- Portage Guide/charts with role both in diagnosis and as a therapeutic guide.

Diagnosis should not aim to “label” children, but to give the earliest access possible to rehabilitation services.

#### *Prevalence*

In recent years, reported frequencies for autism spectrum disorder across U.S. and non-U.S. countries have approached 1% of the population, with similar estimates in child and adult samples. It remains unclear whether higher rates reflect an expansion of the diagnostic criteria of DSM-IV to include subthreshold cases, increased awareness, differences in study methodology, or a true increase in the frequency of autism spectrum disorder. Specifically, if in 2000 one in 150 people had autism, in 2010, one in 68 children was touched by an autistic spectrum disorder, according to CDC Atlanta - United States.

In Romania, there is still no statistics on the prevalence of TSA cases.

### **3. Psychopathological Profile of the Child with ASD. Case Study: Hipergraphia and Spatial Hypermnesia:**

**F. Silviu** - specific syndrome: hipergraphia, spatial hypermnesia.

Date of birth - 16.09.2005

*History. Diagnosis.* Born through caesarian section with perinatal trauma (cyanotic, unconscious 1 hour after birth), afterwards diagnosed neurologically with hydrocephalus, had a favorable evolution under medical treatment and primarily because of the family’s constant and attentive concerns.

Until 5-6 years old showed a pronounced hyperkinetic syndrome with autistic elements:

- Restless nights, sleep filled with nightmares which translated into tears and continuous screaming;
- The inability to relate to others beside the mother, whom he developed a pathological addiction to;
- Complete lack of personal autonomy.



The autistic elements that complete child's psychopathological profile are: echolalia, walking on the tips of the toes, oppositional behavior, stereotypes and fixations, lack of initiative, interested in only a few things. Silviu, now almost 13 years old, is in a state of quasinormalcy. Aggressive outbursts manifest increasingly rare, at least in the presence of his mother who has gained complete control over him.

Later diagnosed with childhood autism (after 5 years old), diagnosis is maintained, according to the medical certificate No. 57 of 16.03.2010, issued by the Psychiatric Hospital, Socola, Iasi. Based on the complex diagnostic given by the Committee of expertise (Braila), obtained the "accentuated" degree of disability, with continued attendance in regular school, specially prepared curricula, teacher support and specific therapies (school counseling and speech therapy).

*Symptoms. School route - academic and social integration. Specific therapies*

After kindergarten, where he was spending several hours with the mother, or sitting alone in the bedroom, he is enrolled in first class at the Waldorf School, considered a student with SEN (special educational needs).

In the first year of school he was able to learn the alphabet, to read and write by syllables. But even with monosyllabic or common words, they remained for him as graphic symbols, that he did not give any meaning to. He was so involved in achieving the graphic shape, the writing, that he could not break this task and understand that these signs carry meaning. Mathematics was even more complicated...

Although he received only drug therapy (Rispolept, Strater, Actovegin, Risatarun, etc.) and the regular education, where he was integrated with support services, he made obvious progress.

He asks many questions, starting first thing in the morning until bedtime. He asks about what he would like to do to get approval, then barely puts them into practice. He still does not understand well the purpose of using the toilet each day and is trying to overcome his fear of these physiological processes. He also does not have the concept of hour, minute, does not know the clock, although he is always concerned about time, being on time, and ask what he has to do in an hour, or until evening, as if he would like to structure his schedule, or his day ... He acts as if he lacks a biological clock both in the physiological processes and in the rhythm of his daily activities. This aggravates the background anxiety of the syndrome.

Events and new things unsettle him. If in the program for that day there are given tasks and things that he doesn't like (go to the doctor) or did not understand, he comments restlessly all day and wants more details, asking anxiously questions.

He has his favorite dishes, he doesn't like something else nor can he eat because he is allergic to many foods. He is still not sleeping alone, afraid of the dark, storms, but he likes rain – sits for long minutes with an empty look, fascinated by the sounds of rain droplets.

Apologizes for the slightest thing he does with clumsiness, for the slightest mistake.

He is still anxious when it comes to doing homework at home, but doesn't put up as much resistance and once seated at work there are no problems. For subjects he likes, he does the homework passionately and requests the most help, to be sure it is well done. He check his own spelling thoroughly and feels nice and satisfied. The subjects he does not like and doesn't understand are math and grammar. Here problems arise even with the calculation of a simple operation or recognizing a part of speech in the sentence. He gets into the "mute" position, frets on the chair, becomes anxious and very difficult to communicate with. Hi mathematics performance reached division with remainders, with a maximum of two digit numbers, but is very difficult, and sometimes recognizes the subject in grammar. He reads with delays and pauses - sometimes by syllables, and understands of what he reads only 2-3 words, if in easy context. Writes with very nice calligraphy and has very neat and clean notebooks.

#### *Difficulties with school integration*

At school he learns after an adapt school curricula and receives teacher support having ESC certificate. He also receives psychological counseling and speech therapy, services provided one hour per week.

In class he is resistant to any activity that is required and is difficult when working with the teacher support. "I don't want to do!" "Why should I do?" Are the answers he gives, he gets angry and starts to cry if forced or scolded.

After initial denial, he tries to carry out the task "Okay, I'll do it, I'll do it..." but at the slightest error or obstacle encountered, he gives up. Negativity and oppositional behavior manifest through bouts of anger, so the teachers leave him alone, most times, to not disrupt the lesson.

He addresses the teachers, adults, authority persons in general, by using the second-person singular pronoun, not understanding why he should use the established respectful formulas, even though his conduct is respectful.

He is easily distracted by the other children and disrupts the lesson with comments.

Participates happily in the home economics classes, when sewing by hand, but when required to do something else, he vehemently refuses.

During music lessons he never shows any desire to sing with the other children, just sits and listens, although he seems to be musically inclined. Musical interest could be a way to educate his biological rhythm.

At class shows he was only given once a role, where he said a few lines in a whisper, other than that he stays in line with the other children, absently look left and right and waits expectantly for the show to end quickly to go home.

He does not understand his own behavior, doesn't understand why he has to be good in school and not cry for everything ... During breaks he doesn't go out in the yard unless it is to ask the teachers if it's warm or cold outside. He wants to play ball with the children in the school yard but they don't let him because he gets in the way of the others and does not adjust to the game rules. So he retreats to the sideline and watches without commenting or being upset.

He is highly sensitive to jokes and criticism from classmates and becomes angry and sometimes aggressive. For example, because he cannot copy quickly off the board, he had a violent reaction against a child who called him "lazy". He rose from the bench and rushed the child with his fists. He was stopped and taken out in the hall by the teacher, trying to calm him, but he could hardly calm for the rest of the day, being marked by offense made by the child.

He also has a keen sense of justice and moral conduct, as much as he can understand this. For example, in sports class, he accidentally stepped on a table tennis ball, and broke it. He apologized to the teacher and at home asked his mother to give him a ball to replace the one from school. Contacting the sports teacher proved that no one had claimed this, but he felt guilty.

*Mother's role - hyper protective and hyper possessive*

He is still taken to and brought back from the school. He panics and starts crying if the mother or other family members are not there on time to pick him up.

The lack of initiative and quasitotal dependency on his mother, who seems complacent and refuses to let him grow, are largely a consequence of her hyper protective manner. In turn, depressive and neurotic, the mother as a self-reward exploits the secondary benefits of her son's state. She likes encouraging his "oddities" and developed a personal analytical style she uses to speak "expertly" about him. At the same time she is scared when Silviu, at 12 years old, manifests an early puberty, with bouts of independence, that she fears she will not be able to control in him. She is trying to keep him as a child, saying she wants to go to Iasi to a doctor to give him some pills to delay his evolution, development.

*Symptoms - hypergraphia; specific therapy: converting the symptom to competence - social stories method*

In comparison/contradiction to the temporal orientation disorder, he developed a spatial hypermnesia capable of structuring and graphically returning information. He has good spatial orientation, doesn't get lost and memorizes landmark features accurately.

S., though he goes to school and does his homework, during classes, most often, he disregard what is being taught and the class work and ... draws.

The subjects of his drawings ranged from cars, to parking lots, supermarkets, crossroads with commercial buildings - hospitals, to maps.

At home he drew all over the yard all the roads and streets in Braila, starting from his street and until close to leaving the city, with traffic signs, pedestrian crossings, traffic lights, buildings with windows and blinds, cars, trams ... He built in his room, on the carpet, a true city of Lego pieces. Everything is thoroughly represented in "City of Lights" down to the smallest details and he notes, when coming to school if anything was disturbed, even an inch ... (Appendix – hypergraphia, spatial hypermnesia).

*Specific therapy - social stories method: converting the symptom to competence*

We start from his own drawings and ask him to please comment on them. We virtually expand as much as possible the plain of the drawing, following with imagined images the invisible path of a police car drawn in the picture and what happens to the patient just brought by the Ambulance .... "Let us pretend that we are the drivers of the police car. You are the policeman and I am your aide ...."

“You are the doctor and I am the stretcher bearer, who carries the patient stretcher...”

Because many of his drawings have in them the “hospital” theme and knowing from the mother that everything connected to the medical field causes bouts of panic and auto aggressive behavior, we tried to expend upon this topic, he is so sensitive to. Through the pictures, the story and the comments, it can be generated the initiation and awareness of certain desirable behaviors, but also the desensitizing to the topic of hospitals and medical interventions. Together we have tried to become “friends” with the Doctor and even to visit more often ... with dolls. As such symptoms can be converted into competencies, using their potential energy and reinvesting it in representations and socially acceptable behaviors.

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