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## THEORETICAL AND PEDAGOGICAL BACKGROUNDS TO CHILDREN'S ASPERGER SYNDROME DEFINITION

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## ТЕОРЕТИКО-ПЕДАГОГІЧНІ ЗАСАДИ ВИЗНАЧЕННЯ ПОНЯТТЯ ДИТЯЧОГО СИНДРОМУ АСПЕРГЕРА

The article is dedicated to the study of theoretical and pedagogical principles of studying the concept of childhood Asperger's syndrome in order to improve the quality of education. It has been stated that Asperger syndrome refers to diffuse developmental disorders and was classified as a separate disorder first in ICD – 10 (*World Health Organization, 1992*) and then in DSM – IV (*American Psychiatric Organization, 1994*). The aim of the study is to outline the theoretical preconditions for the definition of childhood Asperger's syndrome. In order to achieve the goal they have been guided by the theoretical and bibliographic method, for the study,

generalization of scientific and educational literature. In order to systematize, specify the basic concepts of the study, identify features of Asperger's syndrome in the educational environment, the interpretive method has been used to rethink the role of children with Asperger's syndrome by social institutions in the educational environment, as well as to form a comprehensive understanding of this subgroup.

It has been defined that Asperger's syndrome is a subset of the pervasive developmental disorder that is characterized by autism spectrum disorders, difficulty communicating and interacting, and stereotyping. A review of the literature showed that people with Asperger syndrome experience

great difficulties in basic social behaviors, such as failure to develop and build friendships or to seek fun activities with others. They also have difficulty understanding non-verbal communication (body language) and facial expressions, postures and eye contact. The early recognition of Asperger syndrome is imperative, with the ultimate goal of continuous information and awareness of all health professionals, in the light of the interdisciplinary approach and the public towards it.

It has been concluded that Asperger's syndrome is defined by a group of symptoms related to low performance in social interaction and communication skills, as well as increased stereotypical action in differ-

ent activities and interests. Moreover, Asperger's syndrome has some common with autism symptoms, such as unique peculiarities mainly in the linguistic and social fields.

**Key words:** Asperger syndrome, autism, diffuse developmental disorders, stereotypical behavior, emotional difficulties, social dysfunction, non-verbal communication.

**Анотація.** Стаття присвячена дослідженню теоретико-педагогічних засад вивчення поняття дитячого синдрому аспергера з метою покращення якості освіти. Зазначено, що синдром аспергера належить до дифузних розладів розвитку і класифікується як окремий розлад спочатку в ICD-10 (*Всесвітня організація охорони здоров'я, 1992*), а потім у DSM-IV (Американська психіатрична організація, 1994 р.). Автором окреслено теоретичні передумови визначення дитячого синдрому аспергера, а також використано теоретично-бібліографічний метод, для вивчення, узагальнення наукової і навчально-методичної літератури; з метою систематизації, конкретизації основних понять дослідження, виявлення особливостей синдрому аспергера в освітньому середовищі інтерпретаційний метод застосований для переосмислення ролі дітей із синдромом аспергера соціальними інститутами в освітньому середовищі, а також для формування комплексного розуміння особливостей цієї підгрупи осіб.

Встановлено, що синдром аспергера – це підгрупа поширеного розладу розвитку, який характеризується розладами спектра аутизму, труднощами у спілкуванні, взаємодії та стереотипізації. Зазначено, що люди з синдромом аспергера відчувають справді великі труднощі в базовій соціальній поведінці, такі як неспроможність налагоджувати дружні контакти або ж здатність шукати цікаві заняття з іншими. Вони також відчувають труднощі в розумінні невербального спілкування (мова тіла) та міміки,

пози та зорового контакту.

Зроблено висновок, що синдром аспергера визначається групою симптомів, пов'язаних з низькою ефективністю у соціальній взаємодії та навичками спілкування, посиленням стереотипних дій у різних видах діяльності та інтересах. Доведено що, синдром аспергера має деякі спільні ознаки із симптомами аутизму.

**Ключові слова:** синдром аспергера, аутизм, дифузні порушення розвитку, стереотипна поведінка, емоційні труднощі, соціальна дисфункція, невербальне спілкування.

**Introduction.** Recently, Asperger's has been differentiated from other diffuse developmental disorders and classified as a distinct disorder first in ICD-10 (*World Health Organization, 1992*) (*American..., 2000*) and then in DSM-IV (*American Psychiatric Organization, 1994*) (*Asperger, 1991*) based on its unique characteristics and more favorable developments in the field of linguistics and cognition.

The reviews in the literature review can only focus on two great personalities who are considered stations in the investigation of Diffuse Developmental Disorders. Leo Kanner and Hans Asperger were both born in Austria and studied in Vienna. Kanner left for America in 1924 and took over the John Hopkins Clinic in Baltimore. Then, in 1943, he described autism for the first time, stating that people with autism have normal intelligence (*Diagnostic...; Fombonne, 2005*).

However, it was later observed that a significant percentage of children with autism have "mental retardation" and severe learning difficulties as well as language and often speech disorders. Initially, he talked about "parents' refrigerators", something that he later denied and of course, we know today that it does not apply (*Fombonne, 2005, p. 5*).

Pediatrician Hans Asperger, unaware of Kanner's work, described in 1944 a class of children who showed a significant reduction in their nonverbal behavior, social and emotional in-

teraction with others, which he called "autistic psychopathy" and later took the Asperger syndrome (*Fombonne, 2005, p. 6*). In this work, Asperger writes, "We are convinced that people with autism have their own place in the body of public society. They fulfill their role quite well, perhaps better than anyone else, and we can say that we are referring to people who had the greatest difficulties as children and caused untold worries to their guardians" with autistic disorders but high functionality and with an IQ of marginal to normal and good language skills (*Fombonne, 2005, p. 7*). Asperger's syndrome acquired its own diagnostic criteria in 1992, when it was included in the tenth edition of the World Health Organization International Classification of Diseases diagnostic manual. Then, almost a decade after 2008, it was added to the fourth edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders.

The aim of this study is to outline the theoretical backgrounds to children's Asperger syndrome definition.

Material and methodology is to provide a descriptive review of the literature on the epidemiology, differential diagnosis of autism, etiology, diagnosis, therapeutic approaches and the difficulty of adapting the family environment to the investigation of Asperger syndrome. The methodology followed included specialized online search for Asperger's syndrome in children, using specific keywords.

Discussion. Autism, or autism, and Asperger's syndrome are among the most common developmental disorders and are characterized by the same underlying difficulties in the areas of social interaction, communication, and stereotyping. However, these difficulties are milder in people with Asperger's syndrome who have normal or high mental skills. The significant difference between the two disorders is considered the absence of speech development delay in people with Asperger syndrome. However, some children with typical autism at an early age develop speech and other skills later in life and show signs of Asperger syndrome<sup>4</sup> in adolescence.

The characteristics of people with this syndrome according to DSM – IV are the following:

– Linguistic field – they: do not show significant speech delay up to the first 3 years; use speech with idiosyncrasies and repetitions; resort to unproductive and sterile discussions (bad rhythm, tone and emotion in oral speech); have a tendency to talk or avoid talking at all speak; are obsessed with certain topics of discussion.

– Social and emotional spheres – they: show interest in entering into a relationship; express desire for conversation; avoid exchanging with peers or younger children; find it difficult to make deeper social relationships; do not express their feelings; do not understand the feelings of others.

– Cognitive functions – they: do not show mental retardation.

– Motor functions – they: show difficulties in the writing-motor sector; awkwardness of body movements.

– General behavior – they: have sleep disorders; show increased stress; have limited interests; do not adapt easily to changes (*Asperger, 1991*).

People with Asperger syndrome have normal or high mental skills and realize their significant social – communication difficulties, but do not know how to deal with them. It has been observed that these people, show special skills that are associated with the features of the syndrome such as excellent memorization ability (e.g. numerators), special skill in construction and use of computers.

Asperger's disorder occurs or is detected at a relatively older age than autistic disorder. The peculiarities of these children are perceived in the context of school, as they are usually overlooked by the family environment. The incidence of the syndrome is higher in males than in females in a ratio of 9 to 1. A review of epidemiological studies in 2003 showed that the incidence varies from 0.03 to 4.84 per 1000 births, while the proportion of autism Asperger's incidence is 1.5: 1 to 16: 111. According to recent epidemiological research, the prevalence of

Asperger syndrome is estimated at around 0.26 per 1000 births (*Fombonne & Tidmarsh, 2003, p. 12*).

Recent research in the UK has shown that the incidence of all forms of developmental disorders is around 30 per 10,000 births, but recent research suggests that this number may be as high as 60 per 10,000 births. However, the incidence of Asperger syndrome is not entirely clear and at present, we can speak of 2.5 per 10,000 births (*Fombonne, 2003, p. 89*). The results of a study conducted in the United States and specifically in California in 2009 show that the incidence of autism has increased in recent years. Among children diagnosed in their first 5 years, the incidence was found to increase from 6.2 in 1990 to 42.5 for births in 2001. The age factor at diagnosis, changes in diagnostic criteria and the inclusion of even milder cases in the population under consideration necessitates further epidemiological research in order to thoroughly investigate the reasons for the increased incidence of the syndrome (*Fombonne, 2003, p. 91*).

Unfortunately, in Greece no epidemiological study has been conducted yet regarding the rate of occurrence of Asperger syndrome with the result that our country does not have the necessary data to carry out comparative studies with other countries.

Hans Asperger, through his research, claims that Asperger syndrome is due to genetic factors. Proof of his view of the genetic basis of the syndrome is the fact that in addition to children who develop it, their parents or other relatives in the immediate family environment have similar but milder symptoms (e. g. minor difficulties in social interaction). However, no specific gene has been found to be responsible for its expression. Most research suggests that diffuse developmental disorders are mainly due to genetic mechanisms, while for Asperger syndrome the genetic factor may play a more dominant role in its occurrence. After Asperger, there are reports of familial onset of the disorder. The indication of the contribution of genetic factors is the appearance of the disease in triplets.

In addition to the genetic factors responsible for the onset of the syndrome, neurophysiological and neuroanatomical factors are also considered, as 6 out of 21 children examined in the study by Gillberg & Steffenburg (1987) had abnormalities on the electroencephalogram while 3 in 18 children had mild or moderate atrophy (*Gillberg C. Asperger, 1989*).

Therefore, it is necessary to carry out many more studies, based on clinical studies on the etiology of Asperger syndrome, since the existing work can not lead us with certainty to a clear conclusion. There are a variety of specific therapeutic interventions and educational approaches aimed at enhancing functionality, learning social, and communication skills for children with Asperger's syndrome or other pervasive developmental disorders.

The TEACCH (Treatment and Education of Autistic Communication Handicapped Children) program is a North Carolina-based government program founded by Eric Schopler and Robert Riechler and to date led by Dr. Gary Mesibov. This program is dedicated to improving the autonomy and behavior of children with communication disorders (*Kanner, 2010*). TEACCH is a comprehensive program that includes clinical services, counseling, research, diagnosis and training programs for parents and health professionals. The educational strategies on which it is built are based on important psychoeducational assessment tools for children and adults. Specifically, the use of the Psycho Educational Profile (PEP) tool helps to identify the difficulties that the child shows in various areas of development, as well as the capabilities of each child. This is followed by the design of an individualized intervention program based on the respective needs and difficulties. Each individualized program is based on the idea of accepting the diversity and uniqueness of children with pervasive developmental disorders and improving their functionality. The five different areas of TEACCH training are: building and organizing the natural environment, the individual schedule,

work system, routines and visual construction.

The most commonly accepted therapeutic approach that helps a lot in the issues of developmental disorders is behavioral psychotherapy (Behavioural approaches, applied behavior analysis (ABA). According to Angeliki Gena (2006), "Applied Behavior Analysis (EAS) is the an approach that provides a comprehensive treatment proposal for all children with autism, regardless of the severity of their disorder ... does not promise miracles and rapid development like other scientific approaches but instead proposes long, strictly structured and early psychoeducational intervention, which is not limited to the contribution of experienced experts, but also presupposes the active contribution of the family" (Neumarker, 2003, p. 63).

The Theory of Applied Behavior Analysis and in particular the effective form of learning is based on the principles of behavior and its core briefly focuses on the negative and positive reinforcement of behavior with the aim of reducing or increasing the occurrence of a behaviour respectively. In addition, social adaptation stories are a therapeutic tool for children with Asperger syndrome, as it improves the development of their social skills. Carol Gray, who has dealt with children with pervasive developmental disorders for many years and teaches at Jenison Public School in Michigan, USA, argues that "stories of daily practice and social life describe what the rest of us take for granted and observe." the world through the eyes of a child with pervasive developmental disorder. Such a story can inform, reassure, guide, comfort, support and suggest ways to correct behavior both in children with Diffuse Developmental Disorder and in the professionals who work with them" (Vital, Ronald, Wallace & Happe, 2009, p. 32).

This didactic strategy of social stories is structured in three areas:

- "I am learning to take care of myself" which describes activities such as using the toilet, washing hands, etc;
- "At home" where various situations are described and explained that

can be stressful for the child such as sudden noises, the barking of a dog, etc;

- "Going to different places" which describes activities that take place outside the home so that the child gains knowledge of the world around him (Vital, Ronald, Wallace & Happe, 2009).

Other special therapeutic interventions used related to the kinesiological part are occupational therapy and dance therapy. These interventions are necessary so that we can reduce the motor awkwardness of children with Asperger's syndrome and control their balance and physical momentum. At the same time, speech therapy is recommended for those children who present from small to large difficulties in their oral expression and communication. Speech therapy helps children with Asperger's Syndrome to develop everyday, simple communication skills (Vital, Ronald, Wallace & Happe, 2009, p. 105).

Communication skills are assisted in parallel with special educational interventions such as PECS (Picture Exchange Communication System) and MAKATON. Initially, PECS was an image exchange of communication program. The training protocol is based on the book of B. F. Skinner "Understanding Verbal Behavior", aimed at the development of autonomous communication. In particular, the student learns to exchange an image with his instructor to obtain a desired object and then immediately the instructor responds through another image. The teaching of the system continues with the distinction of the images and then with the correct placement of the images for the creation of sentences. The ultimate goal is to create spontaneous speech and the child's response to various questions of the instructor.

Apart from PECS, a multi-sensory, alternative program for the development of communication is MAKATON, which has been widely implemented in Greece since 1992. The "Pam-makaristos" foundation has undertaken the training and promotion of this program. MAKATON is suitable for people who have diffuse developmen-

tal disorders as it is based on the use of meanings or graphic symbols that accompany oral speech. His teaching approach focuses, at the first level, on the acquisition of basic communication skills and on a long-term level, on the acquisition of reading and writing.

The presence of Asperger's syndrome in the family environment seems to affect emotionally all other members of the family and especially those who take care of this child. The difficulty of adapting the family to this developmental disorder that the child of the family exhibits can be the central core of a long-term emotional stress. A long-term study by Benson & Karlof showed that anger and the constant increase in stress in parents of children with Asperger's syndrome co-exist with their child's developmental disorder and escalate according to its development. The results also showed that even informal social support for these people caring for children with pervasive developmental disorder seems to help greatly in reducing depressive symptoms. Remarkable are the results of different studies on parental stress in Japan in a sample of 193 families divided into two groups: families with children with Asperger's syndrome and families with children with autism. This study, which confirms the results of similar studies, points out that parents of children with Asperger syndrome have a higher degree of anxiety and emotional tension. As for the consequences for the rest of the family, it seems that siblings of children with Asperger's Syndrome or other autistic disorder have more behavioral problems in their relationships than children living in a family without such developmental disabilities. disorders. However, little is known about what exactly is responsible for this phenomenon.

Finally, children with the syndrome themselves experience high levels of social anxiety and worry, as well as less pleasure and competition during their interpersonal relationships. These children are often the target of comments and teasing from their peers, which is why their constant psychological support is necessary throughout their childhood and adult

life. It is worth noting that we can not talk about a complete cure for Asperger's syndrome and developmental disorders observed in children, but only for functional treatment of their symptoms. In adulthood, people with Asperger's can cope differently, but they seem to need psychological support and encouragement to be able to maintain a more independent life.

**Conclusions.** So, Asperger's syndrome is characterized by a group of symptoms related to poor performance in social interaction and communication skills, as well as increased stereotypical behavior in various activities and interests. Although Asperger's syndrome has symptoms in common with autism, it is distinguished by unique peculiarities mainly in the linguistic and social fields.

Diagnoses of children with Asperger syndrome are constantly increasing around the world. It is important to note that sometimes the diagnosis is delayed or even never made. Therefore, there is an urgent need for continuous information and awareness of all health professionals and the public, in the face of this "new" syndrome, with the aim of its optimal treatment.

It is encouraging that on 9 May 1996 the members of the European Parliament, including the Greek MEPs, signed the Declaration of the Rights of Persons with Autism, which emphasizes that people with autism must

have the same rights as those with autism all other citizens of the states of the European Union. However, these rights are to be enforced by appropriate legislation in each Member State of the European Union separately, with a view to their best and most reliable application.

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