About Autism

Our Section provides scientifically sound background information about Autism, such as what causes it, and what the different diagnoses mean.

Background about Autism:

Causes of Autism

What does the diagnosis “Autism” mean?

Diagnosis and Applied Behavior Analysis

Causes and Etiology of Autism

Autism and the other disorders in the autism spectrum are behaviorally defined syndromes that are now generally regarded to be of neurobiological origin.

Autism is not caused by inappropriate parenting or other psychosocial variables in the home life of the developing child.

The specific underlying psychological or neuro-physiological mechanisms are simply not known. Although a number of different theories have been put forward, none has withstood closer scrutiny. Probably several causes and etiological pathways lead to disorders in the autism spectrum. There is no reason to suppose there is only one pathway. The search must continue.

How can Neurobiological Disorders be Treated by Behavioral Methods?

It’s wrong to believe that if a condition is biological in origin, there is nothing that can be done.

Persons with biological differences need specially-designed opportunities to maximize their potentials. The worst effects of autism can be prevented in many cases. It is now known that early, intensive behavioral programs can eliminate completely the symptoms of autism in some children and greatly improve the lives of many others.


Niemann (1996) writes:

“Fortunately, recent discoveries in the way the brain develops, from the moment of conception and during the early years, provide greater insights into the construction timetable of the human brain and the capacities and limitations imposed on behavioural and other interventions. Rather than being seen as a static event, it is important to keep in mind that the development of the brain is a dynamic process that is constantly evolving and changing in concert with the environment in which the child is placed. The limiting factors are both the biological structure of the brain as well as the environment. Limiting either one will compromise human potential. Conversely, enriching both will enhance the road to developing an individual’s full potential.” (p. 7)
The purpose of Niemann's article is to compare what is known about neurodevelopment, neurodevelopment of children with autism and the development of memory with the results of behavioral research showing dramatic changes in the behavior of young autistic children. He finds them to be compatible. He finds that early intensive behavioral programs that begin with many repetitions and frequent reinforcement and then move on to higher order skills follow the course of brain development. There’s much more to be learned of course.

In his recent discussion of nature-nurture, Rutter (1997) considers the development of anti-social behavior. He, too, joins what appears a growing consensus that environment and biology operate interdependently, that maturation is influenced greatly by the stimulation received from the environment, and that research and discussion should be collaborative rather than antagonistic.

People who do not actively interact with other people are deprived of learning from social experiences. People who focus all of their attention on the same things and activities are not optimizing their chances for development and learning. People who do these things most of the time are called “autistic.” Therefore, they need specially prepared programs that will teach them to learn from their parents, siblings, peers and others. These are the initial aims of behavioral interventions.

Although the most dramatic results have been achieved with pre-school children, programs in teaching social skills and learning by observation (imitation) are also applicable to

- school age children,
- adolescents, and
- adults.

**What Does the Diagnosis "Autism" Mean?**

Autism is also called “early infantile autism,” “childhood autism,” “Kanner’s syndrome,” and “classical autism.” Technically it is “autistic disorder” and it is classified as a Pervasive Developmental Disorder in the *Diagnostic and Statistical Manual (DSM IV)* (1994).

There are 5 Pervasive Developmental Disorders –

- [Autistic Disorder](#)
- [Rett's Syndrome](#)
- [Childhood Disintegrative Disorder](#)
- [Asperger's Disorder](#)
- [Pervasive Developmental Disorder (PDD) Not Otherwise Specified (NOS)](#)

At the present time, there are no genetic, neurological or other physical markers that can be used to distinguish a person with autism from persons with similar behavioral characteristics. Instead, the diagnosis of autism is applied to persons who meet specified behavioral criteria. The problems should be evident before age 3.

[Read more](#) about the diagnosis and the degree to which it influences behavior analytic treatment.
Autistic Disorder

In summary, the behavioral characteristics associated with autism are:

1. significant difficulties with social interactions – does not pay attention to other people; does not play with other children; does not reciprocate
2. significant difficulties in verbal and nonverbal communication – grabs what is wanted or leads to get what is wanted; copies or parrots words (echolalia); if has words, does not converse
3. significant difficulties in the development of play – uses only parts of toys; lines up or stacks objects; no imaginative play
4. highly restricted, repetitive and stereotyped patterns of behavior and interests. May talk continuously about one topic or repeat the same questions; may spin and stare at objects; may flap fingers or pieces of string; mouth or hit self
5. highly resistant to even slight changes in routines

Rett's Disorder

differs from autism primarily in that it is associated with loss of previously acquired hand skills between ages 5 months and 30 months and onset of severe or profound mental retardation. Motor skills are replaced with repetitive movements of the hands.

Childhood Disintegrative Disorder

is diagnosed when a child shows significant losses in social behavior, language, play and adaptive behavior after development was apparently normal for at least the first 2 years and before 10 years of age.

Both Rett's Disorder and Childhood Disintegrative Disorder appear to be very rare. Little behavioral research has been conducted with persons with these diagnoses.

Asperger's Disorder

differs from Autistic Disorder in that impairment is primarily within the domain of social interactions. Development of other adaptive behavior, cognition, and language are not significantly delayed. Repetitive patterns of behavior or rituals must also be present. This disorder tends to be recognized and diagnosed later, usually after 3 years of age. Whether this is because the characteristics are less noticeable or the disorder has a later age of onset is not known.
Another matter of controversy is whether Asperger's Disorder is a milder form of Autistic Disorder or a distinct disorder.

Although Asperger described this syndrome in 1945, only one year after Kanner's original article, the diagnosis was not included in DSM prior to the 1994 Edition.

Presently there is no behavioral research devoted specifically to persons with Asperger’s Disorder. The most relevant work to date in the behavioral literature would be studies that included persons with autism characterized as "high functioning" or persons referred specifically because of problems in social interaction, or labeled "with autistic features" or PDD NOS.

For more information, go to the Family Village web site on this topic.

Pervasive Developmental Disorder Not Otherwise Specified ("PDD NOS")

This label is used when severe impairments in reciprocal social interaction or communication skills are present or when stereotyped and restricted activities and interests are exhibited, but the criteria listed above for disorders in the spectrum are not met completely. It is a borderline category and sometimes by the Quebec Society for Autism.

Diagnosis and Applied Behavior Analysis

Behavioral investigations and therapeutic programs have developed independently of issues and disputes about diagnosis. This is so because behavior analysis starts with a detailed investigation of the individual's current strengths, needs, and life circumstances. ABA uses basic principles of learning and behavioral development that cut across diagnoses.

Prior to 1980, autism was classified as a childhood psychosis or a variant of childhood schizophrenia. Thus, early work about autism will be found under these labels. Readers will have to look at the descriptions of the participants in earlier work to determine if they would have been classed as autistic by current criteria.

Because many persons diagnosed as autistic also meet the criteria for the diagnosis, mental retardation, the mental retardation literature is also a good source of information about programs for behavior management, education, community integration and so on.

Although not required by behavior analysts for planning and implementing intervention programs, a diagnosis based on complete neurophysiological and psychological examinations is essential.

- to learn about causes and etiology
- to learn about signs that will permit earlier detection of children at risk for autism
- to obtain educational and other special benefits