



UNDERSTANDING THE COMPLEX RELATIONSHIP BETWEEN AUTISM, ADHD AND ANXIETY

Written by Cindy Lentz, based on an
interview with Dan Shapiro, MD

Three of the most common developmental differences in pediatrics are attention deficit hyperactivity disorder (ADHD), anxiety, and autism spectrum disorders (ASD). Research has shown that these conditions have exceptional genetic overlap.¹ In some studies, up to 80 percent of children with autism also have ADHD.² In addition, at least 40 percent of children with autism also have anxiety.³ Individuals with any or all of these conditions may show impairments in self-regulation, which involves knowing when to initiate, sustain and shift activities and thoughts. They may also show other impairments in executive functioning, involving planning, strategizing, and organizing. Although autism, ADHD and anxiety have significant overlap, it is important to understand their differences as these will guide functional and pharmacological treatments.

ADHD

The core features of ADHD are poor impulse control and difficulties with attention. Those with ADHD can generally be divided into two categories. The first category is comprised of hyperactive and impulsive individuals who predominantly exhibit excessive motor activity and talking, and who have difficulty being able to stop and think. The second group is made up of individuals who predominantly have difficulty with attention, are easily distracted, have a short attention span and may have difficulty finishing a task. It is common for children to fall into both groups as they can be hyperactive, impulsive and easily distracted.

ANXIETY

Anxiety is a feeling of fear or apprehension. There are many different subtypes of anxiety, such as specific fears and phobias, separation anxiety, fear of crowds, and post-traumatic stress disorder. The type of anxiety that individuals experience can shift from one type to another as they go through different developmental phases. Anxiety is not always as obvious as other developmental differences because it is an internal challenge. Given this fact, children and adults often present anxiety in less conspicuous ways. Some common symptoms of anxiety are a feeling of internal distress, headaches, throat discomfort, breathing problems, tummy aches, and bowel or bladder changes. The most common symptom of anxiety is avoidance of the anxiety trigger. For example, an individual who is afraid of dogs would avoid dogs at all costs. If the individual is successful in avoiding the trigger, anxiety symptoms may be hidden, but the anxiety is no less real or impairing.

AUTISM

Autism represents a very broad spectrum of developmental differences. The core features include social skill deficits and repetitive or ritualized behaviors. Social skill deficits result in differences with peer interaction, difficulties with shared engagement and differences in play and conversation. Repetitive behaviors include doing the same thing over and over, and inflexibility in thinking, talking and pursuing interests.

The Co-occurrence of ASD, ADHD and Anxiety

ADHD, anxiety and autism have features and characteristics that may just represent normal human variation. We are all different. One person might be scared of spiders, while another might be unable to sit still. The difference between “human variation” and a “disorder” is in the level of impairment. If an individual simply has some hyperactivity, impulsivity, anxiety, social differences or restricted interests but is not *impaired* by these features, that person wouldn't be considered as having a disorder. In general, professionals label such features a disorder if there is distress or a significantly negative effect on a person's quality of life. It is also worth noting that, too often, an individual is impaired, at least in part, because of insufficient support. This is a “disorder of society.”

Research shows that if there is developmental variation of one kind in an individual, such as ADHD, other family members are more likely to have similar developmental variation. It has also been shown that family members are more likely to have other kinds of developmental differences. For example, individuals with ASD often have family members with ADHD or mood regulation problems, such as anxiety and depression. People with ADHD often have family members with anxiety or ASD. The more we learn about the genetics of these three conditions, the more we realize that they cannot always be divided into clear or distinct categories. There's a mixture of developmental differences within individuals and within families, and there is much more overlap than previously expected.

The Importance of a Diagnosis

There are three different types of assessments used by developmental specialists in diagnosing disorders.

Categorical Assessment

For diagnostic categories, professionals rely on the Diagnostic and Statistical Manual of Mental Disorders (DSM), the International Classification of Diseases (ICD), or World Health Organization (WHO). It is important to note that a categorical diagnosis will open doors to children receiving services, including those funded by health insurance. These can be services in the school system or the community, or through the federal government. A categorical diagnosis aids in the communication among clinicians, parents and teachers. It serves as a common language and helps professionals, family and friends understand why your child has differences. A diagnosis or label might also give your child a sense of belonging and can even bring people together for purposes of activism and social change.

Etiological Assessment

This assessment evaluates the genetic, metabolic or environmental cause, if any, of a condition. Some conditions, such as phenylketonuria (PKU) which can cause intellectual disability, hyperactivity and seizures, have a specific treatment. A special diet can effectively prevent brain damage. However, PKU is an exception. In the world of developmental differences, very few etiological diagnoses guide management.

Functional Assessment

In most cases, this assessment is what guides symptom management. A functional assessment covers all the child's different developmental domains: temperament, sensory processing, language, learning profile, motor functioning, adaptive behavior, environmental factors, and more. The developmental clinician will determine the child's current, or baseline, level of functioning, then set realistic goals, and create a plan for the child to meet his or her developmental potential.

Under- and Over-Inhibition

One specific type of functional assessment relates to under-inhibition and over-inhibition, a factor which plays a major role in autism, ADHD and anxiety. The excitatory systems in the brain, for example, allow someone to follow directions, initiate work on a task or dodge oncoming vehicles. The inhibitory systems in the brain allow people to wait, pause, stop and think. ADHD can be thought of as a difficulty with *too little* inhibition, while anxiety is viewed as a difficulty with *too much* inhibition. Autism can include a combination of these tendencies. Some of autism's typical features include rigid and repetitive patterns of behaviors which are examples of over-inhibition. Within an individual, however, the level of inhibition can change depending on the task or setting. For example, a child might be hyper-focused when playing with building blocks, a visual-motor activity. However, the same child might be easily distracted and unfocused in “circle time,” an auditory-verbal activity.

ADHD



Anxiety/Autism

under-inhibition

distractibility, poor focus

brakes too loose

gears shift too easily

impulsive, prefer novelty

leap before looking, dangerous

too much in the moment, here and now

focus on too many things rather than concentrate on one

over-inhibition

perseveration, hyperfocus

brakes too tight

stuck in one gear

inflexible, prefer repetition and ritual

step back, avoid, shut down, safe

too much in the past and/or future

focus on one thing exclusively

Management

Since many individuals have autism, ADHD and anxiety, management can be complex. Indeed, some patients need treatment for both under-inhibition (ADHD) and over-inhibition (anxiety), even though treatment for one would seem to go counter to the other. Practitioners often determine what is the **core** problem across most settings and what is causing the most impairment. This allows them to begin with a treatment for the core problem.

Medication is considered the first-line treatment for **ADHD**. Medications can manage the under-inhibition and can dampen the excitatory neurons. In contrast, cognitive behavioral therapy (CBT) is considered the first-line treatment for **anxiety**. If an individual cannot access such therapy, if it isn't proving to be effective, or if the anxiety is severe, medications may also be used. Many patients require treatment for both ADHD and anxiety. It is important to note that there is no medication for the core symptoms of **autism**, which are social impairment and repetitive behaviors.

Effective treatment involves doing something *with* the child, not *to* the child. Children need to understand their own developmental differences and know that their feelings and perspectives are being heard. If you speak the language of a child's developmental age, he or she can be included in care conversations at surprisingly young ages. If your child has ADHD, you can speak about "stop and think" medicines, and ask questions like, "Is it a little hard to focus, really hard to focus, or not hard at all?" For those who suffer from anxiety, you can introduce them to the "worry monster." You can use puppets and toy figures for very young children. As children get older, the conversations and evaluations can become more sophisticated.

Final Thoughts

There is no perfect treatment. Each child is unique and complex, especially if he or she has multiple co-occurring conditions. We absolutely want to relieve the distress children experience and remove some of the hurdles in the road ahead. A combination of early and accurate diagnosis, as well as early evidence-based treatments, can make a significant difference in your children's success and happiness. However, it is at least as important to accept your children for who they are, appreciate their differences and broaden your view of success in life.



KEY POINTS

ADHD can be defined as living too much in the moment. These individuals often focus on too many things at once rather than concentrating on just one.

Autism/Anxiety is often characterized by living too much in the past or future. These individuals will frequently focus on one thing to the exclusion of others.

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Dr. Dan Shapiro, M.D., came from his hometown of East Lansing, Michigan, to attend medical school at George Washington University in D.C. His Pediatric Residency training was at Children's Hospital in D.C. Then he practiced Pediatric and Adolescent Medicine in Silver Spring, Maryland, for 13 years before shifting his focus to Developmental and Behavioral Pediatrics. Dr. Dan enjoys seeing children and consulting with parents in his home office. He also observes children and collaborates with educators at dozens of area schools. He developed the Parent Child Journey and Excursions Programs, offering these behavior management training courses throughout Greater Washington and internationally online. He is the author of numerous articles and three books: *Parent Child Journey: An Individualized Approach to Raising Your Challenging Child*, *Parent Child Excursions: ADHD, Anxiety and Autism* and *Raph's Tale*, a children's book on developmental difference. He is a Fellow of the American Academy of Pediatrics and a member of the Society for Developmental and Behavioral Pediatrics. He is married with 4 children and 2 grandchildren- all wonderfully different. His hobbies include music, reading and floating down the Potomac in a kayak.

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